



## Board of Directors

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**Meeting Date**

**June 26, 2020**



## **Board of Directors**

**Lonnie Reed**

Chair

**Binu Chandy**

Deputy Director  
DECD

**Michael Li**

Connecticut Department of Energy and  
Environmental Protection (DEEP)

**Shawn Wooden**

Treasurer  
State of Connecticut

**Thomas Flynn**

Managing Member  
Coral Drive Partners

**Matthew Ranelli**

Partner  
Shipman & Goodwin

**Eric Brown**

Vice President  
CT Business and Industry Association

**Kevin Walsh**

Senior Operating Partner  
Stonepeak Infrastructure Partners

**John Harrity**

Chair  
CT Roundtable on Climate and Jobs

**Brenda Watson**

Executive Director  
Operation Fuel

845 Brook Street, Rocky Hill, CT 06067  
T 860.563.0015  
ctgreenbank.com



June 19, 2020

Dear Connecticut Green Bank Board of Directors:

We hope that everyone is continuing to stay safe in these precarious times that we all find ourselves in.

We have our regular year-end meeting of the Board of Directors scheduled on **Friday, June 26, 2020 from 9:00-11:00 a.m.** where we will be taking up a number of items, including the FY 2021 targets, budget, and plan.

Please take note that this will be an online meeting only! Given the need to continue to maintain “social distancing” in the face of COVID-19, we are holding this meeting online only.

Also, there are A LOT of materials! My suggestion would be to focus on the memos when you review the materials. Beyond the memos are redline documents, draft agreements, and various attachments.

We have an extensive agenda, including the following:

- **Consent Agenda** – approval of meeting minutes for April 24, 2020 and IPC progress to targets through Q3 of FY 2020.
- **Update on COVID-19 Restructurings and Write-Offs** – an update on how our borrowers are responding to the impacts of COVID-19 following on the revisions to the Loan Loss Decision Framework and Process for transactions impacted by the pandemic.
- **Committee Recommendations** – a number of recommendations and updates from the Committees, including:
  1. **Loan Loss Decision Framework and Process for Subsidiaries** – Audit, Compliance, and Governance (ACG) Committee and Deployment Committee recommendation to approve of the framework as it applies to Green Bank subsidiaries [Note – the proposed framework and process is no different that what is currently being practiced for the Green Bank.]
  2. **Bylaws** – ACG Committee recommendation to approve proposed revisions to the Bylaws to incorporate lessons learned from other quasi-publics.
  3. **Employee Handbook** – ACG Committee recommendation to approve proposed revisions to the Employee Handbook.

4. **FY 2021 Targets and Budget** – Budget & Operations (B&O) Committee recommendation to approve the proposed FY 2021 targets, budget and investments.
  5. **Comprehensive Plan** – recommendation to approve the proposed redline revisions to the Comprehensive Plan for FY 2021.
- **Financing Programs** – recommendation on the following:
    1. **C-PACE Guidelines** – proposed revisions to the C-PACE guidelines to continue to improve the program. Several of the key documents will be ready to be distributed prior to the close of business on Wednesday, June 24<sup>th</sup>.
  - **Investments** – recommendations on the following:
    1. **Financing Indenture** – we are ready to issue the Green Liberty Bonds with the support of the Special Capital Reserve Fund (SCFR) by the Office of the Treasurer and the Office of Policy and Management. Several of the key documents will be ready to be distributed prior to the close of business on Wednesday, June 24<sup>th</sup>.
    2. **Canton Hydropower Project** – proposed revisions to the Canton Hydropower Project Virtual Net Metering (VNM) project given delays caused by COVID-19. Several of the key documents will be ready to be distributed prior to the close of business on Wednesday, June 24<sup>th</sup>.
  - **Executive Session** – we will go into executive session for real estate negotiation reasons to visit the B&O Committee recommendation to approve the proposed new office spaces for the Green Bank in Hartford and Stamford. The memo will be ready to be distributed prior to the close of business on Wednesday, June 24<sup>th</sup>.
  - **Other Business** – if there is time, updates on any other business outstanding.

We have a lot to work through for this meeting, but we can do it!

If you have any questions, comments or concerns, please feel free to contact me at any time.

Until then, continue to be safe, be well, and enjoy the upcoming weekend!

Sincerely,

A handwritten signature in blue ink, appearing to read 'B. Garcia', with a long horizontal flourish extending to the right.

Bryan Garcia  
President and CEO



## **AGENDA**

Board of Directors of the  
Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067

Friday, June 26, 2020  
9:00-11:00 a.m.

Dial (669) 224-3412  
Access Code: 576-060-461

Staff Invited: Mackey Dykes, Brian Farnen, Bryan Garcia, Bert Hunter, Jane Murphy, Eric Shrago, and Selya Price

1. Call to order
2. Public Comments – 5 minutes
3. Consent Agenda – 5 minutes
4. Update on COVID-19 Restructurings and Write-Offs – 10 minutes
5. Committee Recommendations and Updates – 75 minutes
  - a. Audit, Compliance, and Governance and Deployment Committees – 15 minutes
    - i. Proposed Loan Loss Decision Framework and Process – Subsidiaries
  - b. Audit, Compliance, and Governance Committee – 15 minutes
    - i. Proposed Revisions to Bylaws
    - ii. Proposed Revisions to Employee Handbook
  - c. Budget and Operations Committee – 45 minutes
    - i. Proposed FY 2021 Targets, Budget, and Investments
    - ii. Comprehensive Plan – Proposed Revisions
6. Financing Programs Recommendations – 15 minutes
  - a. C-PACE Guidelines (Proposed Revisions)
7. Investment Recommendations – 15 minutes

- a. Financing Indenture – Green Liberty Bonds: Series 2020
  - b. Restructuring of Canton Hydro VNM Project – COVID-19 Impact
  - c. Amalgamated Bank Line of Credit
8. Executive Session – Real Estate Negotiations – 5 minutes
  9. Other Business – 5 minutes
  10. Adjourn

Join the meeting online at <https://global.gotomeeting.com/join/576060461>

Or call in using your telephone:

Dial (669) 224-3412

Access Code: 576-060-461

Next Regular Meeting: Friday, July 24, 2020 from 9:00-11:00 a.m.  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT



## **RESOLUTIONS**

Board of Directors of the  
Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067

Friday, June 26, 2020  
9:00-11:00 a.m.

Dial (669) 224-3412  
Access Code: 576-060-461

Staff Invited: Mackey Dykes, Brian Farnen, Bryan Garcia, Bert Hunter, Jane Murphy, Eric Shrago, and Selya Price

1. Call to order
2. Public Comments – 5 minutes
3. Consent Agenda – 5 minutes

### **Resolution #1**

Motion to approve the meeting minutes of the Board of Directors for April 24, 2020.

4. Update on COVID-19 Restructurings and Write-Offs – 10 minutes
5. Committee Recommendations and Updates – 75 minutes
  - a. Audit, Compliance, and Governance and Deployment Committees – 15 minutes
    - i. Proposed Loan Loss Decision Framework and Process – Subsidiaries

### **Resolution #2**

**WHEREAS**, on October 20, 2017, the Green Bank Board of Directors approved of a recommendation brought forth by both the ACG Committee and Deployment Committee to approve the authorization to amend the Staff Approval Policy to increase program funding requests for Projects Under \$300,000 to \$500,000 with an aggregate amount limit of \$1,000,000 from the date of the last Deployment Committee meeting; and

**WHEREAS**, based on a recommendation brought forth by the Deployment and ACG Committees, the Board approved and authorized the Green Bank staff to implement the Loan Loss Decision Framework and Process for managing assets requiring restructuring or write-off

from the Green Bank's balance sheet and consistent with the memorandum to the Board dated June 13, 2018 ("Loan Loss Decision Framework and Process ") and for a similar framework to be developed at a future date for the Green Bank's special purpose vehicles (i.e., subsidiaries); and

**WHEREAS**, in response to the COVID-19 pandemic, the staff of the Green Bank proposed a modification to the Loan Loss Decision Framework and Process with regards to restructuring transactions, as well as the Green Bank's provision for loan losses, in order to help families and businesses manage through this public health crisis, which the Board approved on April 24, 2020.

**WHEREAS**, on May 19, 2020, the Audit, Compliance and Governance Committee, and on May 27, 2020, the Deployment Committee, recommended that the Board of Directors approve of the Staff proposed Loan Loss Decision Framework and Process for Subsidiaries for managing assets requiring restructuring or write-off from the Green Bank's balance sheet and consistent with the memorandums presented to the committees May 12, 2020, and May 20, 2020, respectively.

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors approve of the Staff proposed Loan Loss Decision Framework and Process for Subsidiaries for managing assets requiring restructuring or write-off from the Green Bank's balance sheet and consistent with the memorandum dated June 26, 2020.

b. Audit, Compliance, and Governance Committee – 15 minutes

i. Proposed Revisions to Bylaws

### **Resolution #3**

**WHEREAS**, pursuant to Section 5.2.1 of the Connecticut Green Bank ("Green Bank") Bylaws, the Audit, Compliance & Governance (ACG) Committee is charged with the review and approval of, and in its discretion recommendations to the Board of Directors ("Board") regarding, all governance and administrative matters affecting the Green Bank, including but not limited to matters of corporate governance and corporate governance policies;

**WHEREAS**, the Audit, Compliance and Governance Committee recommends to the Board for approval the proposed draft revisions to the Green Bank Bylaws.

**NOW**, therefore be it:

**RESOLVED**, that the Board hereby approves the attached revised Green Bank By-Laws dated April 24, 2020. Second. Discussion. Vote

ii. Proposed Revisions to Employee Handbook

### **Resolution #4**

**WHEREAS**, pursuant to Section 5.2.1 of the Connecticut Green Bank (Green Bank) Bylaws, the Audit, Compliance & Governance (ACG) Committee has recommended that the Board of Directors (Board) approve of certain revisions to the Green Bank Employee Handbook;



**NOW**, therefore be it:

RESOLVED, that the Green Bank Board hereby approves of the revisions to the Green Bank Employee Handbook presented on June 26, 2020. Second. Discussion. Vote

- c. Budget and Operations Committee – 45 minutes
  - i. Proposed FY 2021 Targets, Budget, and Investments

**Resolution #5**

**WHEREAS**, the Connecticut Green Bank’s (Green Bank) Budget and Operations Committee recommends that the Green Bank Board of Directors approve the Fiscal Year 2021 Targets and Budget;

**RESOLVED**, the Budget and Operations Committee recommends that the Board of Directors authorizes Green Bank staff to extend the professional services agreements (PSAs) currently in place with the following, contingent upon a competitive bid process having occurred in the last three years (except Alter Domus (formerly Cortland), Sustainable Connecticut, Adnet Technologies, Sustainable Environmental Associates, and Inclusive Prosperity Capital):

- I. Adnet Technologies, LLC
- II. Clean Power Research, LLC
- III. Alter Domus (formerly Cortland)
- IV. CSW, LLC.
- V. Inclusive Prosperity Capital
- VI. Locus Energy LLC
- VII. ReCurve Analytics
- VIII. ERS
- IX. BlumShapiro
- X. Guidehouse (aka Navigant)
- XI. Sustainable CT
- XII. GO, LLC
- XIII. Adams & Knight
- XIV. Environmental Control, Inc., d.b.a ENCON
- XV. Sustainable Environmental Associates

For fiscal year 2021 with the amounts of each PSA not to exceed the applicable approved budget line item;

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board hereby approves: (1) the FY 2021 Targets and Budget, and (2) the PSAs with the 15 strategic partners listed above.

- ii. Comprehensive Plan – Proposed Revisions

**Resolution #6**

**WHEREAS**, in July of 2011, the Connecticut General Assembly passed Public Act 11-80 (the Act), “AN ACT CONCERNING THE ESTABLISHMENT OF THE DEPARTMENT OF

ENERGY AND ENVIRONMENTAL PROTECTION AND PLANNING FOR CONNECTICUT'S ENERGY FUTURE," which created the Connecticut Green Bank (the "Green Bank") to develop programs to finance and otherwise support clean energy investment per the definition of clean energy in Connecticut General Statutes Section 16-245n(a);

**WHEREAS**, the Act directs the Green Bank to develop a comprehensive plan to foster the growth, development and commercialization of clean energy sources, related enterprises and stimulate demand clean energy and deployment of clean energy sources that serve end use customers in this state;

**WHEREAS**, Article V of the Green Bank Operating Procedures requires the Green Bank Board of Directors (the "Board") to adopt an Annual Plan for each forthcoming fiscal year;

**WHEREAS**, the Board of Directors reviewed and approved the FY 2021 targets and budget on July 18, 2019 and June 26, 2020, which together with the Comprehensive Plan, are effectively the Annual Plan;

**NOW**, therefore be it:

**RESOLVED**, that the Board approves of the revised changes to the Comprehensive Plan for FY 2020 and Beyond as presented to the Board on June 26, 2020, and subject to nonmaterial modifications made by the officers.

6. Financing Programs Recommendations – 15 minutes
  - a. C-PACE Guidelines (Proposed Revisions)

#### **Resolution #7**

**WHEREAS**, Conn. Gen. Stat. Section 16a-40g (the "Authorizing Statute") authorizes what has come to be known as the Commercial Property Assessed Clean Energy Program ("C-PACE"), the Authorizing Statute designates the Connecticut Green Bank ("CGB") as the state-wide administrator of the program; and

**WHEREAS**, the Authorizing Statute charges CGB to develop program guidelines governing the terms and conditions under which state and third-party financing may be made available to C-PACE.

**NOW**, therefore be it:

**RESOLVED**, the CGB Board of Directors (the "Board") approves the updated C-PACE program guidelines (the "Program Guidelines"), substantially in the form of attached to that certain memo to the Board dated June 19, 2020. The Program Guidelines shall then go through a thirty-day public comment period in accordance with Conn. Gen. Stat. Section 1-120 et seq.

**RESOLVED**, If, after the expiration of public comment period, CGB staff considers that significant changes are needed to the Program Guidelines as currently drafted, then CGB staff will seek an updated approval from the Board. If no significant changes result from the public comment process, then the final form of the Program Guidelines, as may be edited by CGB staff, shall be deemed approved by the Board and CGB staff will proceed with implementation of such Program Guidelines.

7. Investment Recommendations – 15 minutes

a. Financing Indenture – Green Liberty Bonds: Series 2020

**Resolution #8**

**WHEREAS**, Connecticut Green Bank (“Green Bank”) is authorized pursuant to Sections 16-245n and 16-245kk through 16-245mm of the Connecticut General Statutes (the “Act”), to finance and support financing or other expenditures that promote investment in sources of clean energy, as defined in the Act, by issuing its bonds, notes or other obligations in accordance with the Act; and

**WHEREAS**, pursuant to the Act, the Green Bank Board of Directors (the “Board”), at its March 25, 2020 meeting (the “Prior Meeting”) approved a resolution authorizing the issuance of Bonds, to be titled Green Liberty Bonds, in an amount not to exceed \$25,000,000 to finance the SHREC Receivables for SHREC Tranche 3 and to fund cost recovery under the RSIP and provide for long-term financing of the SHRECs (the “Prior Resolution”), which Prior Resolution (containing certain capitalized defined terms therein and as further used herein) also provided, in part, that:

- i) Green Bank enter into a Master Trust Indenture to provide the structure and mechanism for financing Green Bank’s programs; and
- ii) Green Bank enter into an Indenture of Trust to finance the SHREC Receivables; and
- iii) the Findings of Self Sufficiency Report presented to the Board at the Prior Meeting be approved and adopted, with Authorized Officers of Green Bank authorized to make certain revisions to said Report; and
- iv) the Preliminary Official Statement dated on or about April 9, 2020 as presented to the Board at the Prior Meeting be approved, with Authorized Officers of Green Bank authorized to make certain revisions to said the Preliminary Official Statement.

**WHEREAS**, Green Bank has determined that, in order to obtain approval of the SCRF for the Bonds, Green Bank shall not enter into the Master Trust Indenture at this time, but shall, in lieu thereof, enter into a Project Support Agreement or other agreement as determined by an Green Bank and acceptable to the State Treasurer’s Office and the Office of Policy and Management to further support the issuance of the Bonds; and

**WHEREAS**, the Indenture of Trust has been revised and updated to provide for a Project Support Agreement or other agreement in lieu of the Master Trust Indenture; and

**WHEREAS**, the Findings of Self Sufficiency Report have been revised and updated to provide additional information regarding SHREC Tranche 3 and the Bonds.

**NOW, THEREFORE, BE IT RESOLVED**, that the actions taken and included in the Prior Resolution adopted by the Board at the Prior Meeting are hereby ratified and confirmed in all respects, except as otherwise revised or amended by this Resolution, and

**FURTHER RESOLVED**, that Green Bank not enter into a Master Trust Indenture at this

time as provided in the Prior Resolution, but shall, in lieu thereof, enter into a Project Support Agreement or other agreement with such terms as determined by the President and any Officer of Green Bank (each, an “Authorized Representative”) and acceptable to the State Treasurer’s Office and the Office of Policy and Management to further support the issuance of the Bonds; and

**FURTHER RESOLVED**, that the revised Indenture of Trust, substantially in the form presented to this meeting, is hereby approved, with such changes to the form, terms and provisions thereof as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds; and

**FURTHER RESOLVED**, that the revised and updated Findings of Self Sufficiency Report (the “Revised Report”), as presented to the Board at this meeting, including each of the Findings and the Determination included therein, is hereby approved and adopted, and an Authorized Representative is (a) authorized to make any additional revisions to the Report, provided such revisions do not materially change the Findings and Determination contained therein, and such Report as revised shall be and is hereby deemed approved by the Board, and (b) authorized to take appropriate actions to secure the SCRF for the Bonds when and if he or she determines, in his or her discretion, that it is in the best interests of Green Bank to secure the SCRF in connection with the issuance of the Bonds, and provided Green Bank complies with all statutory requirements for the SCRF, which will require among other things (1) State of Connecticut Office of Policy and Management approval, and (2) approval by the Office of the State Treasurer and other documentation required under the Act; and

**FURTHER RESOLVED**, that the form, terms and provisions of the revised and updated Preliminary Official Statement for the Bonds dated on or about June 29, 2020 as presented to the Board at this meeting be, and is hereby approved; with such changes to the form, terms and provisions thereof as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds; and

**FURTHER RESOLVED**, that, as provided in the Prior Resolution, in connection with the Bonds, any Authorized Representative be, and each of them acting individually hereby is, authorized and directed in the name and on behalf of Green Bank, to prepare and deliver, or cause to be prepared and delivered, a final Official Statement relating to the Bonds, including any revisions thereof and amendments and supplements thereto, to execute and deliver the Bonds, the Indenture of Trust, the Purchase Contract, the Continuing Disclosure Agreement, and any other documents or instruments, with such changes, insertions and omissions as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds (collectively, the “Financing Documents”) and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Resolution or the Prior Resolution; and

**FURTHER RESOLVED**, that, to the extent that any act, action, filing, undertaking, execution or delivery authorized or contemplated by this Resolution or the Prior Resolution has been previously accomplished, all of the same are hereby ratified, confirmed, accepted, approved and adopted by the Board as if such actions had been presented to the Board for its approval before any such action’s being taken, agreement being executed and delivered, or filing being effected.

- b. Restructuring of Canton Hydro VNM Project – COVID-19 Impact

## **Resolution #9**

**WHEREAS**, in accordance with (1) the statutory mandate of the Connecticut Green Bank (“Green Bank”) to foster the growth, development, and deployment of clean energy sources that serve end-use customers in the State of Connecticut, (2) the State’s Comprehensive Energy Strategy and (3) Green Bank’s Comprehensive Plan for Fiscal Years 2015 and 2016 (the “Comprehensive Plan”), Green Bank continuously aims to develop financing tools to further drive private capital investment into clean energy projects;

**WHEREAS**, Canton Hydro, LLC (“Developers”) was awarded exclusivity by the Town of Canton to redevelop a 1 MW hydroelectric facility located at the Upper Collinsville Dam (“Dam”), on the Farmington River, in Canton, Connecticut (the “Project”) and the Green Bank Board approved approve subordinate debt financing in an amount to exceed \$1,200,000 (the “Loan”) along with an unfunded guaranty, in an amount not to exceed \$500,000 to support the Project;

**WHEREAS**, Developer has requested a \$100,000 increase in the Loan due to delays associated with COVID, for a total not to exceed amount of \$1,300,000;

**WHEREAS**, the Green Bank Deployment Committee (“Deployment Committee”) and the Audit, Compliance and Governance Committee (“ACG Committee”) recommended approval of the Proposed Loan Loss Decision Framework and Process, set forth in that certain memo to the Board of Directors dated June 8, 2018 as modified on April 24, 2020 (the “Loss Process”) for their consideration and subsequent approval; and

**WHEREAS**, in accordance with Loss Process, Green Bank staff seeks the approval to restructure the Loan by providing forbearance of quarterly interest payments during construction (the “Restructured Loan”), as more particularly described in the memorandum submitted to the Board on June 23, 2020.

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank is authorized to execute and deliver the Restructured Loan with terms and conditions consistent with the memorandum submitted to the Board on June 8, 2020, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from the date of the Board approval of the Loss Process; and

**RESOLVED**, that the Green Bank Board of Directors hereby authorize staff to execute amend the Loan agreement materially based on the terms and conditions set forth in this board memo dated June 22, 2020 for an increase in Green Bank’s financial support in an amount not to exceed \$1,300,000;

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to affect the above-mentioned legal instruments.

c. Amalgamated Bank Line of Credit

## **Resolution #10**

**WHEREAS**, Connecticut Green Bank (“Green Bank”) staff has submitted to the Green Bank Board of Directors (“Board”) a proposal for Green Bank to enter into an agreement with Amalgamated Bank (“Amalgamated”) to amend an existing (“Original Revolving Credit Facility”)

\$5,000,000 secured revolving line of credit (“Amended Revolving Credit Facility”) whereby the Amended Revolving Credit Facility would be used in order to meet the Green Bank’s short-term liquidity and working capital needs; and

**WHEREAS**, the selection of Amalgamated as the provider of the Original Revolving Credit Facility followed the completion of a Request for Proposals (“RFP”) process in accordance with Green Bank operating procedures that closed October 19, 2018 and was approved by the Board at a meeting held December 14, 2018;

**WHEREAS**, along with a general repayment obligation by the Green Bank, Amalgamated would be secured by a Guaranty of two subsidiaries: CT Solar Lease 1 (the guarantor of the Original Revolving Credit Facility) and CT Solar Loan 1 LLC (the “Guarantees”), as well as first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Lease 1 Notes portfolio as well as additional collateral, being a first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Loan 1 Notes portfolio (the “Collateral”); and

**WHEREAS**, Green Bank staff recommends that the Board approve the proposed Revolving Credit Facility, generally in accordance with memorandum summarizing the Revolving Credit Facility and the terms of the summary term sheet, both presented to the Board on June 26, 2020.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves Green Bank to enter into the Amended Revolving Credit Facility with Amalgamated, to issue the Guarantees and pledge the Collateral in a manner materially consistent with the memorandum to the Board dated June 19, 2020; and

**RESOLVED**, that the President, Chief Investment Officer and General Counsel of Green Bank; and any other duly authorized officer of Green Bank, is authorized to execute and deliver on behalf of Green Bank any of the definitive agreements related to the Amended Revolving Credit Facility, the Guarantees and the Collateral and any other agreement, contract, legal instrument or document as he or she shall deem necessary or appropriate and in the interests of Green Bank and the ratepayers in order to carry out the intent and accomplish the purpose of the foregoing resolutions.

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

8. Executive Session – Real Estate Negotiations – 5 minutes

#### **Resolution #11**

**WHEREAS**, the leases on the Green Bank’s offices in Rocky Hill and Stamford expire on December 31, 2020;

**WHEREAS**, staff having engaged CB Richard Ellis who have guided the organization’s search for new office space, have identified office space at:

- 75-85 Charter Oak Avenue, Hartford CT
- 700 Canal Street, Stamford, CT;

**WHEREAS**, on June 16, 2020, the Budget and Operations Committee recommended that the Board of Directors authorize Green Bank staff to negotiate and enter into leases with the owners of the aforementioned buildings provided they are consistent with the financial terms presented to this committee today in the memorandum dated June 12, 2020;

**NOW**, therefore be it:

**RESOLVED**, the Board of Directors authorizes Green Bank staff to negotiate and enter into leases with the owners of the aforementioned buildings provided that the financial terms of those leases not exceed those presented to the Board today in the memorandum dated June 19, 2020.

9. Other Business – 5 minutes

10. Adjourn

Join the meeting online at <https://global.gotomeeting.com/join/576060461>

Or call in using your telephone:

Dial (669) 224-3412

Access Code: 576-060-461

Next Regular Meeting: Friday, July 24, 2020 from 9:00-11:00 a.m.  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT

# ANNOUNCEMENTS

- **Mute Microphone** – in order to prevent background noise that disturbs the meeting, if you aren't talking, please mute your microphone or phone.
- **Chat Box** – if you aren't being heard, please use the chat box to raise your hand and ask a question.
- **Recording Meeting** – per Executive Order 7B (i.e., suspension of in-person open meeting requirements), we need to record and post this board meeting.
- **State Your Name** – for those talking, please state your name for the record.
- **Executive Session** – please see e-mail for dial-in instructions





CONNECTICUT  
**GREEN BANK**<sup>SM</sup>

# Board of Directors Meeting

June 26, 2020

**Online Meeting**

# Board of Directors

## Agenda Item #1

### Call to Order

Board of Directors  
Agenda Item #2  
Public Comments

Board of Directors  
Agenda Item #3  
Consent Agenda

# Introduction

## New Member of the Board of Directors



**Steve Meier**

Assistant Treasurer – Cash Management  
and Senior Principal Investment Officer  
(Designee for Treasurer Wooden)

# Consent Agenda

## Resolution #1



1. **Meeting Minutes** – approve meeting minutes of April 24, 2020
  - **IPC Progress to Targets** – provided IPC progress to targets through Q3 of FY 2020 (Note – making excellent progress on FY targets)

# Board of Directors

## Agenda Item #4

### Update on COVID-19 Restructurings and Write-Offs

# Update on COVID-19



## Restructurings and Write-Offs (Residential)

- **Smart-E Loans** – too early to tell whether any loans were charged-off due to COVID-19. Lenders move from delinquent > default > charge-offs over many months (or even years).
  - 45 loans in deferral/forbearance status across 4 lenders out of 3,752 active loans (1.1% of active loans)
  - Lenders offered up to 90-day deferrals, though some borrowers only wanted 30-days
  - C4C recent request to extend 90-day deferrals up to 180-days (which Green Bank and IPC supported) given “still out of work” borrowers.
- **CT Solar Lease 2** – 5 leases out of 1,138 active leases (0.4%) are in 90-day payment deferral
- **CT Solar Loan** – no deferral requests or noticeable trends in new delinquencies
- **PosiGen** – there has been 1 charge-off for PosiGen, but it was not COVID-19 related



# Update on COVID-19 (cont'd)



## Restructurings and Write-Offs (Commercial and Other)

- **Multifamily Loans** – there have been no restructurings or write-offs for LIME or predevelopment loans
- **C-PACE** – Nine (9) restructuring requests received to date, four (4) of which have been approved. Total outstanding balance of restructurings is \$8.01 MM
- **C-PACE with Green Bank Solar PPA** – no requests for restructuring
- **Green Bank Solar PPA** (Municipal, Housing Authority, or School District) – no requests for restructuring
- **Other(s)** – Canton Hydro VNM project to be discussed later on in the agenda

Thus far, COVID-19 has had a **limited impact** on the Green Bank investment portfolio, but we are **focused on helping borrowers manage through this crisis**

# Board of Directors

Agenda Item #5ai

Committee Recommendations and Updates

Proposed Loan Loss Decision Framework and  
Process – Subsidiaries

# Connecticut Green Bank



## Balance Sheet and Assets of Subsidiaries

- **Green Bank** – Loan Loss Decision Framework and Process has been in place since June 13, 2018 (modified for COVID-19 on April 24, 2020)
- **Subsidiaries** – Green Bank establishes subsidiaries to enable public-private partnerships to support its mission and has built \$64.6 million in principal and interest producing assets
- **Restructurings and Write-Offs** – as the Green Bank continues to invest its resources through its subsidiaries with the expectation of getting its principal and interest back over time, there will inevitably be instances when restructuring transactions and/or loan losses will occur
- **Oversight** – the Deployment Committee, per the Bylaws (i.e., Section 5.3.3(ii, iv, v, vi, viii)) has oversight over managing the assets
- **Process** – senior staff is proposing a loan loss decision framework and process for its subsidiaries for consideration by ACG Committee (May 19, 2020), Deployment Committee (May 27, 2020), and then Board of Directors (June 26, 2020)

# Loan Loss Decision Framework

## Proposed Structure for Subsidiaries



Type of Loss Anticipated	Amount of Principal Outstanding		
	<\$100,000	\$100,000-\$1,000,000	>\$1,000,000
Provisional Loss Reserve	Staff (with review and reporting from the Auditor)		
Restructuring	Staff	Deployment	BOD
Restructuring COVID-19	Staff		(1) Staff for certain program transactions (2) BOD for all other transactions
Write-Off	Staff	ACG	BOD

The proposed Loan Loss Decision Framework and Process for Subsidiaries is based exactly on current practice for the Green Bank with respect to all requirements (e.g., calculation, documentation, review and approval, reporting, and COVID-19 restructurings)

# Loan Loss Decision Framework

## Resolution #2



**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors approve of the Staff proposed Loan Loss Decision Framework and Process for Subsidiaries for managing assets requiring restructuring or write-off from the Green Bank's balance sheet and consistent with the memorandum dated June 26, 2020.

# Board of Directors

## Agenda Item #5bi

### Committee Recommendations and Updates

### Proposed Revisions to Bylaws

# Proposed Revisions to Bylaws



In response to the independent audit of the Connecticut Port Authority in 2019, we propose the following revisions to the Bylaws:

1. Adding the purpose and function of CGB;
2. Adding the position of “Treasurer” to the BOD;
3. Adding the requirement BOD members to take an oath, which is already done in practice;
4. Renaming the Budget and Operations Committee to the Budget, Operations and Compensation Committee;

# Proposed Revisions to Bylaws



5. Based on the “Loan Loss Decision Framework and Process” approved by the Board of Directors on June 13, 2018, inclusion of additional language in the bylaws to reflect the importance of the establishment and modification of such process;
6. Expanding Conflicts of Interest to include immediate family members of BOD;
7. adding “Restrictions on Directors and Employees Leaving Green Bank”; and
8. Adding “Clean Energy” to definitions.



# Bylaws

## Resolution #3



**NOW**, therefore be it:

**RESOLVED**, that the Board hereby approves the attached revised Green Bank By-Laws dated April 24, 2020.

Second. Discussion. Vote

# Board of Directors

## Agenda Item #5bii

### Committee Recommendations and Updates

### Proposed Revisions to Employee Handbook

# Employee Handbook

## 2020 Update Summary



- **Annual Review to bring in line with operations** – update titles, phone numbers, and other minor operational details.
- **Update to reflect current technology** – includes updates to technology leveraged by staff in their day to day jobs as well as the automation of forms included in the handbook
- **Ethics** – a new introduction to the ethics section was added to be in line with what is used by other Quasi-public agencies.
- **Telecommuting and Flextime** – COVID-19 full-time telecommuting has worked exceptionally well. Updated telecommuting and flextime policies to enable wider use as appropriate.

# Employee Handbook

## Resolution #4



**NOW**, therefore be it:

RESOLVED, that the Green Bank Board hereby approves of the revisions to the Green Bank Employee Handbook presented on June 26, 2020.

Second. Discussion. Vote

# Board of Directors

## Agenda Item #5ci

### Committee Recommendations and Updates

### FY 2021 Targets, Budget, and Investments

# Connecticut Green Bank



## FY 2021 Targets – Incentive Programs

Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (MW)	Annual GHG Emissions Avoided (TCO <sub>2</sub> )
Residential Solar Investment Program (RSIP)	2,824-4,706	\$85.9-\$143.2	24.0-40.0	15,107-25,178
Solar for All	177-304	\$4.3-\$7.4	1.2-2.0	-
Battery Storage (i.e., Docket No. 17-12-03)	0-400	\$0.0-\$3.5	0.0-2.0	-
Smart-E Loan	270-540	\$3.6-\$7.1	-	3,630-7,247
<b>Total</b>	<b>3,094-5,646</b>	<b>\$89.5-\$153.8</b>	<b>24-42</b>	<b>18,737-32,425</b>

In FY 2021, the Connecticut Green Bank will support **\$89.5-\$153.8 MM in investment** through Incentive Programs for **3,094-5,646 projects** that deploy **24-42 MW of clean energy** and **annually avoid 18,737-32,425 TCO<sub>2</sub>**

# Connecticut Green Bank



## FY 2021 Targets – Financing Programs

Products / Projects	Projects	Total Investment (\$MM's)	Installed Capacity (MW)	Annual GHG Emissions Avoided (TCO <sub>2</sub> )
Commercial-PACE (C-PACE)	33-48	\$15.2-\$23.3	5.3-7.1	2,624-2,965
Green Bank Solar PPA	30-58	\$4.0-\$6.8	6.2-11.7	7,129-13,392
Small Business Energy Advantage (SBEA)	1,203	\$20.4	-	-
Multifamily Predevelopment Loan	1	\$0.1	-	-
Multifamily Term Loan	2	\$0.2	0.1	68
Multifamily H&S Loan	1	\$0.1	-	-
EV Offset Program	-	-	-	17,770
Strategic Investments	3	\$7.8	-	-
<b>Total</b>	<b>1,273-1,316</b>	<b>\$47.8-\$58.7</b>	<b>11,500-18,800</b>	<b>27,591-34,195</b>

In FY 2021, the Connecticut Green Bank will support **\$47.8-\$58.7 MM in investment** through Financing Programs for **1,273 to 1,316 projects** that deploy **11-19 MW of clean energy** and **annually avoid 27,591-34,195 TCO<sub>2</sub>**

# Connecticut Green Bank

## FY 2021 Budget



- **Revenues \$2.3 Million Increase**
  - Increased REC sales, interest income, & other income offset by decrease in Utility Customer Receipts
- **Operating Expenses – Net YOY Increase of \$1.7 Million**
  - Increase in personnel opex of \$700k (\$152K for Merit from FY20, \$24K for positions added in FY20, \$380K for new positions (of which \$125K is contingent))
  - Incentive Programs non-personnel opex growth driven by battery storage and asset management platform construction, offset by savings in bond issuance costs
  - Financing Programs non-personnel opex growth driven by awareness campaign, contractor engagement, growth of Solar MAP and move.
- **Program Incentives and Grants – Net YOY increase of \$1.2 Million**
  - Increased numbers of RSIP systems means more incentives to be paid
- **Non-Operating Expenses – Net YOY decrease of \$505K**
  - Decrease due to lower interest expense and provisions for loan losses here and lower forecasts of ARRA funds used in the Smart-E special offer.



# FY 2021 Targets and Budget Resolution #5



**NOW**, therefore be it:

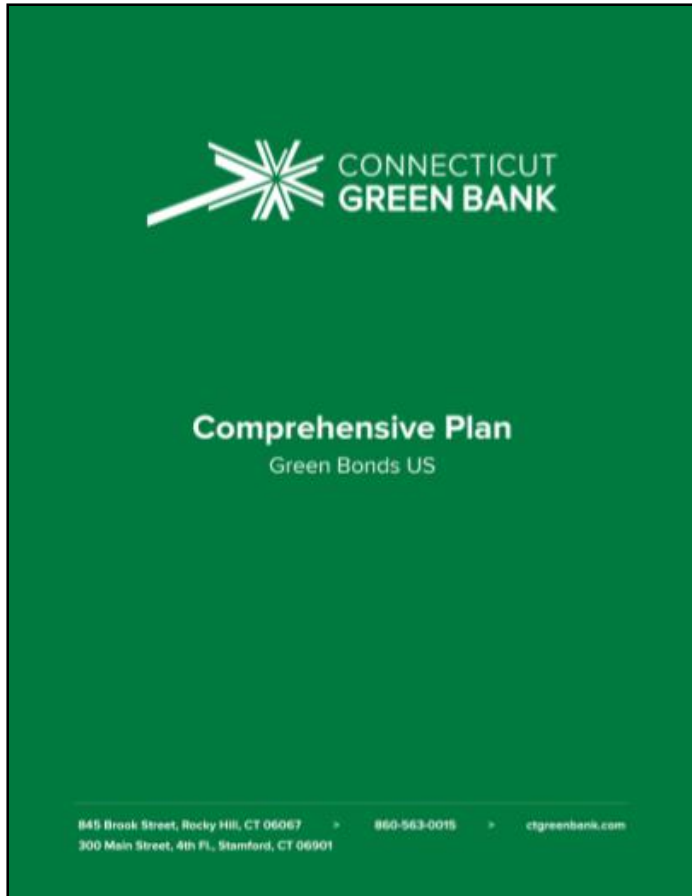
**RESOLVED**, that the Green Bank Board hereby approves: (1) the FY 2021 Targets and Budget, and (2) the PSAs with the 15 strategic partners listed above.

Second. Discussion. Vote

Board of Directors  
Agenda Item #5cii  
Committee Recommendations and Updates  
Comprehensive Plan

# Comprehensive Plan Updates

## Green Bonds US



- Setting new targets for FY 2021 – challenges resulting from COVID-19
- Various “clean ups” (e.g., footnotes, links, numerical updates)
- Program alignment with operations (e.g., Smart-E Loan in Incentive Programs vs. Financing Programs)
- Inclusion of GHG emission reductions in targets consistent with mission statement and national EV carbon offset initiative
- Continuation of battery storage efforts from EEP Program (i.e., Docket No. 18-12-35) to Equitable Modern Grid (i.e., Docket No. 17-12-03) with respect to residential solar PV
- Inclusive of Green Bond Framework supporting Green Liberty Bonds issuance

# Comprehensive Plan

## Resolution #6



**NOW**, therefore be it:

**RESOLVED**, that the Board approves of the revised changes to the Comprehensive Plan for FY 2020 and Beyond as presented to the Board on June 26, 2020, and subject to nonmaterial modifications made by the officers.

Second. Discussion. Vote

# Board of Directors

## Agenda Item #6a

### Financing Programs Recommendations

### C-PACE Guideline Revisions

# C-PACE Guidelines



## **3 substantive revisions**

1. Clarifies eligibilities for properties that contain residential dwellings;
2. Makes one-year “look-back” project eligibility based on overall project completion date rather than individual measures; and
3. Allows the capital provider/third-party owner of a solar PV project in a CPACE-backed power purchase agreement (PPA) to certify the SIR criteria is met rather than requiring an independent technical review.

## **Minor revisions**

- Clarification regarding “Qualifying Properties” being eligible across municipal lines.
- Clarification to the definition of “refinancing” for purposes of restrictions on refinancing within the C-PACE Program.
- Article 5 – Edited to reflect changing the Third-Party Capital Provider Term Sheet to a “Terms and Conditions” format (substantively the same document) which must be acknowledged and agreed to by Third-Party Capital Provider seeking to offer C-PACE financing.

# C-PACE Guidelines

## Resolution #7



**NOW**, therefore be it:

**RESOLVED**, the CGB Board of Directors (the “Board”) approves the updated C-PACE program guidelines (the “Program Guidelines”), substantially in the form of attached to that certain memo to the Board dated June 19, 2020. The Program Guidelines shall then go through a thirty-day public comment period in accordance with Conn. Gen. Stat. Section 1-120 et seq.

**RESOLVED**, If, after the expiration of public comment period, CGB staff considers that significant changes are needed to the Program Guidelines as currently drafted, then CGB staff will seek an updated approval from the Board. If no significant changes result from the public comment process, then the final form of the Program Guidelines, as may be edited by CGB staff, shall be deemed approved by the Board and CGB staff will proceed with implementation of such Program Guidelines.

Second. Discussion. Vote

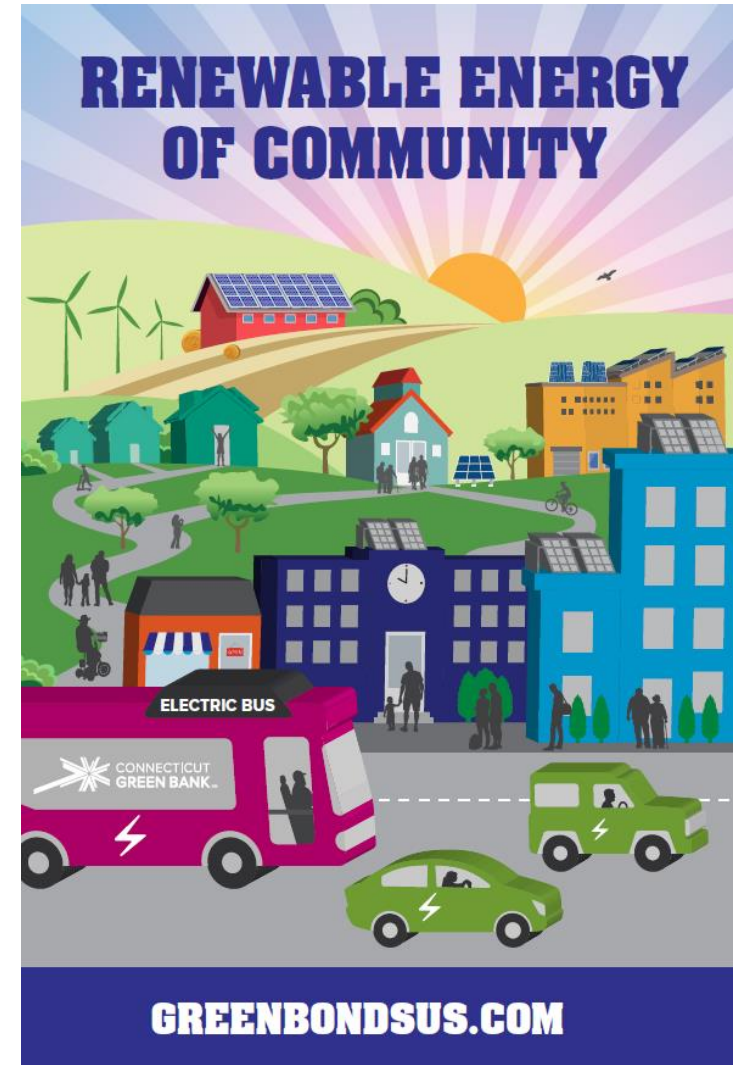
Board of Directors  
Agenda Item #7a  
Investment Recommendations  
Green Liberty Bonds



# Green Liberty Bonds

## Ready to Go to Market

- **Approval of SCRF** – sought and receiving approval of the use of the Special Capital Reserve Fund (SCRF) from OTT and OPM...no use of the MTI
- **Bond Rating** – received a bond rating of “A” by S&P as a result of the bond structure and use of SCRF with the support of the State of Connecticut
- **Market is Ready** – State of Connecticut has successfully issued \$1.75 B in bonds of late, including \$850.0 MM Transportation Infrastructure Bonds (May 29<sup>th</sup>), \$500.0 MM Taxable GO Bonds (June 11<sup>th</sup>), and \$400.0 MM GO Bonds (June 25<sup>th</sup>)



# Green Liberty Bonds

## Expected Structure



**SHREC Green Liberty Bonds, Series 2020A**  
**Preliminary, market rates as of June 19, 2020**

Bond Component	Maturity Date	Amount	Rate	Yield	Price	Takedown
Bond Component:						
	11/15/2021	1,048,000	1.837%	1.837%	100.000	6.000
	11/15/2022	1,059,000	1.937%	1.937%	100.000	6.000
	11/15/2023	1,067,000	2.068%	2.068%	100.000	6.000
	11/15/2024	1,073,000	2.226%	2.226%	100.000	6.000
	11/15/2025	1,079,000	2.376%	2.376%	100.000	6.000
	11/15/2026	1,086,000	2.532%	2.532%	100.000	6.000
	11/15/2027	1,092,000	2.632%	2.632%	100.000	6.000
	11/15/2028	1,096,000	2.751%	2.751%	100.000	6.000
	11/15/2029	1,099,000	2.851%	2.851%	100.000	6.000
	11/15/2030	1,102,000	2.951%	2.951%	100.000	6.000
		10,801,000				
Term Bond:						
	11/15/2031	1,108,000	3.551%	3.551%	100.000	6.000
	11/15/2032	1,126,000	3.551%	3.551%	100.000	6.000
	11/15/2033	1,146,000	3.551%	3.551%	100.000	6.000
	11/15/2034	1,009,000	3.551%	3.551%	100.000	6.000
	11/15/2035	875,000	3.551%	3.551%	100.000	6.000
		5,264,000				
		16,065,000				

# Green Liberty Bonds

## Resolution #8



**NOW, THEREFORE, BE IT RESOLVED**, that the actions taken and included in the Prior Resolution adopted by the Board at the Prior Meeting are hereby ratified and confirmed in all respects, except as otherwise revised or amended by this Resolution, and

**FURTHER RESOLVED**, that Green Bank not enter into a Master Trust Indenture at this time as provided in the Prior Resolution, but shall, in lieu thereof, enter into a Project Support Agreement or other agreement with such terms as determined by the President and any Officer of Green Bank (each, an “Authorized Representative”) and acceptable to the State Treasurer’s Office and the Office of Policy and Management to further support the issuance of the Bonds; and

**FURTHER RESOLVED**, that the revised Indenture of Trust, substantially in the form presented to this meeting, is hereby approved, with such changes to the form, terms and provisions thereof as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds; and

**FURTHER RESOLVED**, that the revised and updated Findings of Self Sufficiency Report (the “Revised Report”), as presented to the Board at this meeting, including each of the Findings and the Determination included therein, is hereby approved and adopted, and an Authorized Representative is (a) authorized to make any additional revisions to the Report, provided such revisions do not materially change the Findings and Determination contained therein, and such Report as revised shall be and is hereby deemed approved by the Board, and (b) authorized to take appropriate actions to secure the SCRF for the Bonds when and if he or she determines, in his or her discretion, that it is in the best interests of Green Bank to secure the SCRF in connection with the issuance of the Bonds, and provided Green Bank complies with all statutory requirements for the SCRF, which will require among other things (1) State of Connecticut Office of Policy and Management approval, and (2) approval by the Office of the State Treasurer and other documentation required under the Act; and

**FURTHER RESOLVED**, that the form, terms and provisions of the revised and updated Preliminary Official Statement for the Bonds dated on or about June 29, 2020 as presented to the Board at this meeting be, and is hereby approved; with such changes to the form, terms and provisions thereof as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds; and

**FURTHER RESOLVED**, that, as provided in the Prior Resolution, in connection with the Bonds, any Authorized Representative be, and each of them acting individually hereby is, authorized and directed in the name and on behalf of Green Bank, to prepare and deliver, or cause to be prepared and delivered, a final Official Statement relating to the Bonds, including any revisions thereof and amendments and supplements thereto, to execute and deliver the Bonds, the Indenture of Trust, the Purchase Contract, the Continuing Disclosure Agreement, and any other documents or instruments, with such changes, insertions and omissions as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds (collectively, the “Financing Documents”) and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Resolution or the Prior Resolution; and

**FURTHER RESOLVED**, that, to the extent that any act, action, filing, undertaking, execution or delivery authorized or contemplated by this Resolution or the Prior Resolution has been previously accomplished, all of the same are hereby ratified, confirmed, accepted, approved and adopted by the Board as if such actions had been presented to the Board for its approval before any such action’s being taken, agreement being executed and delivered, or filing being effected.

Board of Directors  
Agenda Item #7b  
Investment Recommendations  
Canton Hydro VNM Project

# Canton Hydro

## Update and COVID Response



- **Background:** Board approval in October 2018: \$1.2M Subordinate Loan + \$500k Guaranty (\$7.4M overall project cost)
- **Co-Finance with Provident Bank:** \$4.7M senior loan
- **Construction Progress:** “On Schedule” (but for COVID)
- **COVID Delays:** construction delays due to travel restrictions preventing Austrian engineers from equipment provider (Wasserkraft) to be on site for supervision and equipment assembly.
- Request due to COVID Delays:
  - Restructure interest payments during remaining construction period (expected to finalize by December 2020)
    - ~\$50,000 deferred with interest (no NPV impact - repaid upon completion)
  - \$100,000 increase in loan amount for expenses associated with delays (50/50 with developer cash)

# Canton Hydro

## Loan Increase & Capital Stack



### \$100k Loan Increase - Conditions

- Green Bank advances **no more than 50% of approved costs** into operating account secured by Provident Bank (the Senior Lender)
- Borrower makes an **equal match cash contribution** to same account
- Repayment of increased loan expected by year 12 given lower interest rate on Provident's Loan with a healthy 3.75 DSCR
- Updated Capital Stack:

Summary Sources vs. Uses

	Revised	Original		Revised	Original
<b>Sources Total</b>	<b>7,381,618</b>	<b>7,061,863</b>	<b>Uses Total</b>	<b>7,381,618</b>	<b>7,061,863</b>
Senior Lender - Term Note	38% 2,770,318	39% 2,770,318	Turn Key Hydro Construction, Equipment	71% 5,250,000	70% 4,950,000
Senior Lender - Time Note	26% 1,939,221	27% 1,939,221	Interconnection	3% 237,850	5% 387,850
Green Bank Loan	18% 1,300,000	17% 1,200,000	Professional services	10% 744,384	11% 748,384
Officer in-kind	4% 300,000	4% 300,000	Insurance	1% 85,000	1% 55,000
Officer contribution	15% 1,072,079	12% 852,324	Financing	6% 420,506	5% 350,805
			Miscellaneous	0.5% 36,440	0.5% 33,440
			Escrow Funds	8% 607,438	8% 536,384

# Canton Hydro Resolutions



**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank is authorized to execute and deliver the Restructured Loan with terms and conditions consistent with the memorandum submitted to the Board on June 8, 2020, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from the date of the Board approval of the Loss Process; and

**RESOLVED**, that the Green Bank Board of Directors hereby authorize staff to execute amend the Loan agreement materially based on the terms and conditions set forth in this board memo dated June 22, 2020 for an increase in Green Bank's financial support in an amount not to exceed \$1,300,000;

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to affect the above-mentioned legal instruments.

Board of Directors  
Agenda Item #7c  
Investment Recommendations  
Amalgamated Bank Line of Credit



# Amalgamated Bank LOC



- 1-year renewal of Line of Credit that was entered into May 2019
- Maximum borrowing limit: \$5,000,000, decreasing \$300k quarterly
- Interest rate: [To Be Discussed]
- Front End Fee: [To Be Discussed]
- Unused Fee: [To Be Discussed]
- Collateral:
  - Absolute assignment of revenues associated with Solar Lease 1 Notes and Solar Loan 1 collateral
  - General repayment obligation of CGB
- Minimum 2.0x Debt Service Coverage Ratio, tested quarterly at borrower level (CGB)

# Amalgamated Bank LOC

## Resolution #10



**NOW**, therefore be it:

**RESOLVED**, that the Board approves Green Bank to enter into the Amended Revolving Credit Facility with Amalgamated, to issue the Guarantees and pledge the Collateral in a manner materially consistent with the memorandum to the Board dated June 19, 2020; and

**RESOLVED**, that the President, Chief Investment Officer and General Counsel of Green Bank; and any other duly authorized officer of Green Bank, is authorized to execute and deliver on behalf of Green Bank any of the definitive agreements related to the Amended Revolving Credit Facility, the Guarantees and the Collateral and any other agreement, contract, legal instrument or document as he or she shall deem necessary or appropriate and in the interests of Green Bank and the ratepayers in order to carry out the intent and accomplish the purpose of the foregoing resolutions.

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

Board of Directors  
Agenda Item #8  
Executive Session  
Real Estate Negotiations

# Office Space Resolution #11



**NOW**, therefore be it:

**RESOLVED**, the Board of Directors authorizes Green Bank staff to negotiate and enter into leases with the owners of the aforementioned buildings provided that the financial terms of those leases not exceed those presented to the Board today in the memorandum dated June 19, 2020.

# Board of Directors

## Agenda Item #9

### Other Business

Board of Directors  
Agenda Item #10  
Adjourn



**BOARD OF DIRECTORS OF THE  
CONNECTICUT GREEN BANK**

Regular Meeting Minutes

Friday, April 24, 2020  
9:00 a.m. – 11:00 a.m.

A regular meeting of the Board of Directors of the **Connecticut Green Bank (the “Green Bank”)** was held on April 24, 2020.

**Due to COVID-19, all participants joined via the conference call.**

Board Members Present: Bettina Bronisz, Eric Brown, Binu Chandry, John Harrity, Michael Li, Matt Ranelli, Lonnie Reed, Kevin Walsh

Board Members Absent: Brenda Watson and Tom Flynn

Staff Attending: Brian Farnen, Louise Della Pesca, Mackey Dykes, Bryan Garcia, Bert Hunter, Jane Murphy, Selya Price, Cheryl Samuels, Eric Shrago, Ariel Schneider, Mariana Trief, Michael Yu, Nicholas Zuba

Others present: Kerry O’Neill and Joe Buonannata from IPC

**1. Call to Order**

- Lonnie Reed called the meeting to order at 9:07 am.

**2. Public Comments**

- No public comments.

**3. Consent Agenda**

- Bryan Garcia summarized some progress to targets that were provided to the Board members. Prior to COVID-19, the Green Bank was looking good going into Q3. He stated it may be possible to meet targets despite COVID-19 due to earlier progress. He also noted a correction to the memo that will be sent.
- Bryan Garcia stressed that the Green Bank is communicating updates following the guidance of the Governor.

## Subject to Changes and Deletions

### **Resolution #1**

Motion to approve the meeting minute of the Board of Directors for March 25, 2020.

**Upon a motion made by Binu Chandry and seconded by John Harrity, the Board of Directors voted to approve Resolution 1. None opposed or abstained. Motion approved unanimously.**

#### **4. Financing Programs Recommendations**

##### **a. Update on COVID-19 Impacts to Financing Programs**

- Mackey Dykes summarized the COVID-19 impact on financing programs, starting with CPACE. July payment deferrals are available at customer request and attestation that they are impacted by the COVID-19 situation for Green Bank funded projects. Executive Order 7S creates relief options for property taxes and tax assessments including CPACE. Once the Green Bank knows which towns have opted in, the Green Bank can begin following up with borrowers and capital providers.
- The SBEA program has been shut down by the utilities.
- Kerry O'Neill from IPC summarized the update for PPAs, Solar Lease 1, Solar Lease 2, and CT Solar Loan. CT Solar Loan is small by comparison, but they have not received any interest in payment deferrals yet.
  - Multifamily programs are offering a 90-day payment deferral upon request and attestation that they are impacted by the COVID-19 situation, and a few requests were received. The pipeline is at a standstill however and it is expected to be for quite some time.
- Mackey Dykes summarized preliminary survey findings related to SBEA and Commercial Solarcontractors. For SBEA, the impact has been severe with new business down, existing projects affected, and almost 100% of respondents have laid off, furloughed, or reduced hours for employees. For Commercial Solar, projects are stalled due to customers not ready to make investments. 75% of solar contractors say it will take at least 6 months after reopening for their business to recover. The Green Bank took action with PURA on ZREC relief and also asked for additional time in the Year 9 ZREC auction and a grace period for ZREC Delivery Term Start Dates (DTSD). PURA extended the ZREC auction and gave relief on ZREC termination dates, but not for DTSD extensions, but it is still in discussions.
  - Bettina Bronisz asked if ZREC relief affects cash flows that support outstanding bonds. Mackey Dykes said no but it could affect State projects.
  - John Harrity asked if the public comments and similar communications have an impact on PURA's decision making. Mackey Dykes said yes, absolutely, and when the request was filed there were also several communications to contractors to make their voice heard on the issue. John Harrity asked if there was any way to expand it and suggested reaching the environmental community. Mackey Dykes agreed but said while some decisions are final, the portions they are still considering are a bit unclear.
  - Kevin Walsh urged caution about communications outside State mandated recommendations. Mackey Dykes noted that PURA was hesitant to give DTSD flexibility due to the precedent it would set, but are looking into extending the start date.



## Subject to Changes and Deletions

- Eric Brown asked if the down sense is based on economic pressure or if anything comes from work restrictions such as essential worker status. Mackey Dykes clarified that construction workers and solar contractors are designated as essential. However, while the construction side of the industry wants to make progress overall and keep going, many requirements are more difficult currently to achieve which result in delays in actual construction. As well, the customer's decisions whether to move forward or not due to COVID-19 uncertainty is a huge factor.
- Lonnie Reed noted she is hearing much from municipal teams about concerns due to CPACE. Mackey Dykes noted that he hasn't heard many CPACE related issues from municipalities but would like to know that information if it's available so it can be addressed.

### **b. Green Bank Solar PPA – Lead by Example**

- Mackey Dykes summarized the progress on the Solar Pilot Portfolio of 11 projects totaling 11 MW of Solar PV. The Green Bank is currently in contract negotiations with the Engineering Procurement and Construction (EPC) contractor, which have gone a bit longer than expected, but are close to finishing. Due to timing, the Green Bank is recommending to the Board for the Green Bank to continue its development role. The goal is to get contracts executed and beginning construction while evaluating potential ownership structures to prevent construction delay.
  - Kevin Walsh asked to expand on how risks are being reduced and what returns are being seen to note a good exit strategy. Mackey Dykes noted the original plan was to develop ownership through financing RFP and to just recoup costs, but the Green Bank is now playing more of a facilitation role to break long-term barriers to develop more solar projects. He hopes it can realize revenues from the debt side but also hopes it will help the State PPA price. Kevin Walsh said he understands the objective, but also expressed concern at the amount of risk being taken on. He asked if the customer interest is secure. Mackey Dykes said yes, and that because of that, the risk is fairly limited and constantly being worked on to be reduced further. Bert Hunter noted that there is no expectation that the Green Bank will provide any meaningful funds beyond what is needed for the ZRECs; but until there is an assurance from the State, he was under the understanding that the Green Bank is not required to commit without a customer (the State) committed under PPAs. Mackey Dykes confirmed. Kevin Walsh agreed that it is a good risk mitigation approach and seemed pleased with the assurances from staff.
  - Matt Ranelli asked when the Green Bank would be doing an RFP for financing, if it would be before or after the PPAs are signed. Mackey Dykes stated there is uncertainty due to the possibility for new funding mechanisms due to COVID stimulus, but staff is currently focusing on getting work started for now. The aim is to get the projects started, evaluate which financing opportunities are available and proceed from there. Bettina Bronisz commented that the State is looking for the best possible pricing, and Bert Hunter agreed, saying that the Green Bank is doing its best to be foster a competitive process to get the State the best financing arrangement. Lonnie Reed also noted that there are many interactions and oversight along the way, so there shouldn't be any hidden or unnecessary fees.

## Subject to Changes and Deletions

- Kevin Walsh noted that the Resolution should include the authority to revise the timing of the project as needed. Mackey Dykes agreed and suggested providing update to timeline at future Board meetings.

Kevin Walsh left the meeting after voting on Resolution 2.

### **Resolution #2**

**WHEREAS**, Connecticut Green Bank (“Green Bank”) staff has been working with State of Connecticut (“State”) agencies to develop certain pilot solar projects (“State Pilot Projects”) identified in the Memorandums dated October 18, 2019 and April 17, 2020 (the “State Solar Memos”) and submitted to the Green Bank Board of Directors (the “Board”);

**WHEREAS**, Green Bank has been providing assistance in site feasibility analysis, ZREC procurement, and facilitating a procurement process for construction and financing of the State Pilot Projects; and

**WHEREAS**, Green Bank desires to make temporary advances of costs associated with the Pilot Projects and reimburse itself in the future by the issuance of bonds, other obligations or other term financing to repay the temporary advances.

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors approved funding, in a total not-to-exceed amount of \$19,500,000 in new credit for the continued development of the State Pilot Projects, to be utilized for the following purposes:

1. Development capital; and
2. Construction financing.

**RESOLVED**, that the Green bank Board of Directors hereby declares the Green Bank’s official intent that payment of Project construction and financing costs may be made from temporary advances of other available funds of the Green bank, and that the Green Bank reasonably expects to reimburse such advances from the bonds or other obligation in an amount not to exceed \$19,500,000;

**RESOLVED**, that the President of Green bank; and any other duly appointed officer of Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to continue to develop and finance the State Pilot Projects materially consistent with the memoranda submitted to the Board on October 18, 2019 and April 17, 2020; and

**RESOLVED**, that the proper Green bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to affect the above-mentioned legal instruments.

**Upon a motion made by Kevin Walsh and seconded by John Harrity, the Board of Directors voted to approve Resolution 2. None opposed or abstained. Motion approved unanimously.**

Agenda Items 6c, 6a, and 6b were discussed before 5a and 5b.

**5. Incentive Programs Recommendations and Updates**

**a. Update on COVID-19 Impacts to Incentive Programs**

- Selya Price summarized the RSIP Incentive projects status. The Green Bank reached 320 MW and 40,000+ projects and has seen recent decline in projects as reflected in difficulty in gaining new projects due to COVID-19 uncertainty. She noted the Green Bank is already close to its fiscal year target due to high volume earlier in the fiscal year.
- Kerry O'Neill from Inclusive Prosperity Capital gave an update to the Smart-E loans and Solar for All. They have seen a decrease; EE program is on hold and HVAC and Solar are slowed significantly. Lenders are doing 90-day payment deferrals upon request. The Solar for All projects have also decreased in line with the overall solar market. Future municipal campaigns have been placed on hold. Some towns are holding virtual webinars to inform customers and citizens for once the market reopens however.
- Selya summarized the preliminary survey findings. The contractors have moved to 100% virtual sales but have seen a significant reduction in new and current business as customers hesitate. Although most of the work can be done outside, there are slow downs due to planning and safety around limitations entering homes and permitting. Again, most businesses have said they'd need 6 months to recover after resuming, and some have said up to a year. Contractors have been applying to the Paycheck Protection Program for cash support, but only one company had received funds so far.
  - Matt Ranelli asked if businesses taking the PPP money would put them in a position where they'd have to pay prevailing wage. Brian Farnen said no, it is not a requirement.
- Bryan Garcia noted today is the final day to respond to the survey and then the data will be processed. The goal is to reduce survey time but make it recurring each month to track changes over time.

**b. Residential Solar Investment Program**

- Bryan Garcia summarized the requested changes to RSIP and Public Policy. Currently there is a Declining Incentive Block Structure, an increasing Capacity Target to help with economic development to ensure long term marketplace stability. In previous legislative sessions, the Green Bank argued for battery storage incentive instead of additional RSIP incentives, but now due to COVID-19, the Green Bank has fundamentally changed its position of stability of the local solar industry. The Green Bank is proposing the policy to ensure its economic development objective is maintained, the transition industry from net metering to a tariff is smooth, and has drafted modifications developed with PURA. The goal is to align the net metering end date and the tariff start date, increasing the RSIP capacity target by 100 MW to 450 MW to help stabilize the market, and included cover recovery and policy clean up objectives.
- Bryan Garcia stated the Green Bank is looking to the Board for guidance and feedback as the next legislative session is unclear when it will be held.
  - Eric Brown asked for more explanation about the delay in implementing the tariff and COVID-19 impacts, and what the drivers for the delay are. Bryan Garcia explained the overall slow down in the market is the driving force for that. He reinforced that the Green Bank believes the tariff is the right choice going forward, but just needs to make sure the market is stable and secure.
  - John Harrity noted that he feels the Green Bank is losing ground on the issue of climate change, and despite all the benefits from the reduction in travel and

## Subject to Changes and Deletions

manufacturing across the country, but he supports these policy changes to gain momentum back once things resume. Bryan Garcia agreed, noting the importance of the V-shaped recovery and the goal to see the clean energy industry come back strong.

- Lonnie Reed asked if the old tariff deadline was a set date, since there was supposed to be a PURA docket to discuss it. Bryan Garcia said yes, but the docket is to actually set the tariff date. However, Eversource doesn't have a structure in place to evaluate the metering or billing structure for customers. United Illuminating is ready but Eversource is not, which is why the docket language was changed to be aware of delays.
- Eric Brown noted his discomfort with the tariff date changes. Selya Price clarified the statute is to begin the tariff in 2022 and the exact timing will depend on the readiness of the utility metering and billing infrastructure, not RSIP. The RSIP extension would just help bridge the time period until the tariff is ready.

### **Resolution #3**

**WHEREAS**, the Connecticut Green bank, per CGS Section 16-245ff, is responsible for implementing the Residential Solar Investment Program (RSIP) to administer a declining incentive schedule that support the deployment of no more than three-hundred and fifty megawatts of new residential solar PV, while fostering the sustained orderly development of a local solar industry;

**WHEREAS**, the Department of Energy and Environmental Protection plays an important role in the implementation of the RSIP by reviewing and approving the schedule of incentives;

**WHEREAS**, the Public Utilities Regulatory Authority plays an important role in the implementation of the RSIP by reviewing and approve that systems are qualified as Class I renewable energy sources, approving the Master Purchase Agreement between the utilities and the Connecticut Green Bank for the sale of renewable energy certificates; and for transitioning the market from net metering to a tariff through CGS 16-243h and 16-244z;

**WHEREAS**, the Connecticut Green Bank, provided verbal and written testimony before the Energy & Technology Committee on March 5, 2020 expressing a position that extending the RSIP was not necessary, but that instead support for a battery storage incentive program was more important in term of fostering the sustained orderly development of a local solar industry as the market transitions from net metering to a tariff-based compensation structure;

**WHEREAS**, the Connecticut Green Bank, provided the Energy & Technology Committee on March 10, 2020 with additional written testimony in response to public comments made on March 5, 2020, acknowledging that the market risk of COVID-19 presents a potentially serious external risk to destabilizing the market and therefore preventing the achievement of the policy objective of fostering the sustained orderly development of a local solar industry; and

**WHEREAS**, of the date of this memo, the COVID-19 crisis has had extreme deleterious impacts on public health and the destabilization of the economy, including the residential solar PV industry in Connecticut.

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors support the recommendation of the staff of the

## Subject to Changes and Deletions

Connecticut Green Bank, in light of the COVID-19 crisis, to propose an increase in the RSIP of one-hundred megawatts for a total of four-hundred and fifty megawatts in order to revitalize, recover and stabilize the local solar industry prior to its transition from net metering to a tariff per the changes proposed in Appendix A of the memo presented to the Board of Directors on April 24, 2020.

**Upon a motion made by John Harrity and seconded by Matt Ranelli and Binu Chandry, the Board of Directors voted to approve Resolution 3. None opposed or abstained. Motion approved unanimously.**

Eric Brown wanted it noted that the Tariff System should be implemented as soon as possible. And it should be noted that Michael Li of DEEP was not longer at the meeting to vote.

### **c. Investment Recommendations**

- Bryan Garcia summarized update to grid modernization docket (Docket 17-12-03 (RE01-RE06)). He summarized individual Green Bank staff roles in each reopener.

## **6. Investment Recommendations**

### **a. Update on COVID-19 Impacts on Investments**

### **b. Loan Loss Decision Framework**

- Agenda Items 6a and 6b was discussed before Agenda Items 5a and 5b but after 6c.
- Bryan Garcia summarized the Loan Loss Decision Framework proposal.
- Bert Hunter stated that the Green Bank looked at the near-term maximum cash impact for April to July 2020 as a severe assumption and noted the results could total to a \$4.1 million impact, and that each additional month would add \$600,000. However, the Green Bank has more than adequate resources to manage the cash and balance sheet impacts should the worst happen.
- In terms of Residential Loan or Lease Restructuring, any payment rescheduling would be adjusted by 3 months of current payments, canceling those payments, and add them on to the end of the contact. The impact is that cash would be reduced now but would be received later. When commercial restructurings are done, time value is considered, and it pushes out the maturity with an extra payment or so which allows the Green Bank to retain the time value of money.
- Bert Hunter noted that with staff expected to be inundated with requests, staff is seeking adjustment to the approval process to have authority to approve up to \$1,000,000 without needing to involve the Board or the Deployment Committee – so long as they fit the criteria explained in the memorandum for COVID-19 circumstances. As well, seeking approval for authority for an unlimited amount for specific projects under certain conditions as listed in the presentation (essentially CPACE and municipal projects).
- Matt Ranelli asked if Deployment Committee Review was sound policy earlier, if this Resolution was just changing due to the volume of review, if in the end it will look unfavorable to auditors. Is the motivator a volume increase and timeframe reduction? Bert Hunter said yes, and that staff are containing what is being done given the situation, it's not a blanket authority or core structure change. Also – each commercial transaction gets an underwriting review by staff.
- John Harrity asked if there is a point where the cumulative effect reaches a tipping point that the Board should know about. Bert Hunter replied that there could be a threshold of

## Subject to Changes and Deletions

reporting developed but currently reporting is quarterly, so there will be updates regularly. John Harrity noted that due to the deep recession the country seems to be headed into, he expressed concern for the impact on the Green Bank. Bert Hunter noted that the Green Bank is well secured and has considerable financial support in terms of financing resources and net assets – so staff believes that the Green Bank will be able to withstand the current situation – but there could be financial impairment (which is the reason for the addition of \$4.1 million to the provision for loan losses). Bryan Garcia noted that the Green Bank is trying to develop a foundation to help customers weather the worst of things but still maintain its structure of sustainability.

### **Resolution #4**

**WHEREAS**, pursuant to Section 5.3.1 of the Connecticut Green Bank (Green Bank) Bylaws, the Audit, Compliance & Governance (ACG) Committee is charged with the review and approval of, and in its discretion recommendations to the Board regarding, all governance and administrative matters affecting the Green Bank, including but not limited to matters of corporate governance and corporate governance policies;

**WHEREAS**, the Board of Directors authorized Green Bank staff to evaluate and approve funding requests less than \$500,000 which are pursuant to an established formal approval process requiring the signature of a Green Bank officer, consistent with the Green Bank Comprehensive Plan, approved within Green Bank's fiscal budget and in an aggregate amount not to exceed \$1,000,000 from the date of the last Deployment Committee meeting;

**WHEREAS**, the Board approved and authorized the Green Bank staff to implement the Loan Loss Decision Framework and Process for managing assets requiring restructuring or write-off from the Green Bank's balance sheet and consistent with the memorandum to the Board dated June 13, 2018 ("Loan Loss Decision Framework and Process "); and

**WHEREAS**, in response to the COVID-19 pandemic, the staff of the Green Bank are proposing a modification to the Loan Loss Decision Framework and Process with regards to restructuring transactions, as well as the Green Bank's provision for loan losses, in order to help families and businesses manage through this public health crisis.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves of the Staff proposed changes to the Loan Loss Decision Framework and Process as more described in the memorandum to the Board dated April 24, 2020;

**RESOLVED**, that the Board approved of the Staff proposed increase to the Provision of Loan Losses by \$4.1 million;

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to affect the above-mentioned legal instruments.

**Upon a motion made by Matthew Ranelli and seconded by John Harrity, the Board of Directors voted to approve Resolution 4. None opposed or abstained. Motion approved unanimously.**

## Subject to Changes and Deletions

### c. Skyview Ventures – Update

- This Agenda Item was discussed before 6a and 6b. Due to a conflict, Matt Ranelli excused himself from the discussion and vote.
- Louise Della Pesca summarized the update since the last Board meeting. Skyview Ventures has provided additional opportunities to deploy debt based on the same terms, resulting in an increased transaction size which. The transaction will be secured with additional projects. Some positives that have come of this opportunity to expand the transaction size are that the additional projects improve the 'stress scenario' debt service coverage ratios, and the weighted average life of the contracted cashflows of the projects used as collateral for the debt is now longer because the additional projects are newer.

### **Resolution #5**

**WHEREAS**, the Connecticut Green Bank ("Green Bank") has significant experience in the development and financing of commercial solar PPA projects in Connecticut;

**WHEREAS**, the Green Bank continually seeks new ways to work with private sector partners to meet the demonstrated need for flexible capital to continue expanding access to financing for commercial-scale customers looking to access solar and savings via a PPA;

**WHEREAS**, the Green Bank has established a working relationship with a private sector Connecticut solar developer, Skyview Ventures ("Skyview"), and through that relationship the Green Bank has an opportunity to deploy capital for the development of clean energy in Connecticut;

**WHEREAS**, the Green Bank is implementing a Sustainability Plan that invests in various clean energy projects and products to generate a return to support its sustainability in the coming years;

**WHEREAS**, the based on diligences of Green Bank staff of the proposed senior secured loan facility ("Term Loan") in an amount not to exceed \$3.5M to a Special Purpose Vehicle ("SPV") wholly owned by Skyview confirming that the Term Loan transaction meets Green Bank underwriting criteria, the Green Bank Deployment Committee (the "Deployment Committee") passed resolutions at its meeting held on February 27, 2020 to recommend to the Green Bank Board of Directors (the "Board") the approval of the Term Loan transaction in an amount not to exceed \$2.3M as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII; and

**WHEREAS**, the Board passed resolutions at its meeting held on March 25, 2020 to approve the Term Loan transaction in an amount not to exceed \$2.3M as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, uniqueness, strategic importance, urgency and timeliness, and multi-phase characteristics of the Term Loan transaction.

**NOW**, therefore be it:

**RESOLVED**, that the Board hereby amends and restated its approval of the Term Loan transaction as described in the Project Qualification memo submitted by the state to the Board

## Subject to Changes and Deletions

and dated April 17, 2020 (the “Memorandum”) and on terms and conditions substantially consistent with those described in the Memorandum as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, uniqueness, strategic importance, urgency and timeliness, and multi-phase characteristics of the Term Loan transaction; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to affect this Resolution.

**Upon a motion made by Bettina Bronisz and seconded by John Harrity, Board of Directors voted to approve Resolution 5. None opposed but Matthew Ranelli abstained. Motion approved.**

### **7. Committee Recommendations and Updates**

#### **a. Audit, Compliance, and Governance Committee**

##### **i. Proposed Revisions to Bylaws**

- Brian Farnen noted to amend the bylaws, there needs to be a 2/3 vote of all Board members, not just those present. Recommended to skip 7ai due to that limitations. Recommendation approved.

### **Resolution #6**

**WHEREAS**, pursuant to Section 5.2.1 of the Connecticut Green Bank (“Green Bank”) Bylaws, the Audit, Compliance & Governance (ACG) Committee is charged with the review and approval of, and in its discretion recommendations to the Board of Directors (“Board”) regarding, all governance and administrative matters affecting the Green Bank, including but not limited to matters of corporate governance and corporate governance policies;

**WHEREAS**, the Audit, Compliance and Governance Committee recommends to the Board for approval the proposed draft revisions to the Green Bank Bylaws.

**NOW**, therefore be it:

**RESOLVED**, that the Board hereby approves the attached revised Green Bank By-Laws dated April 24, 2020.

**Resolution 6 was not voted on due to a lack of 2/3 of the total Board members being present. This will be addressed at a future meeting.**

##### **ii. Proposed Revisions to Ethics Policies**

- Brian Farnen summarized the revision proposed to include potential consequences to violating ethics policies. Also added an acknowledgement section for all Directors to sign going forward.

### **Resolution #7**



## Subject to Changes and Deletions

**WHEREAS**, pursuant to Section 5.2.1 of the Connecticut Green Bank (“Green Bank”) Bylaws, the Audit, Compliance & Governance (ACG) Committee is charged with the review and approval of, and in its discretion recommendations to the Board of Directors (“Board”) regarding, all governance and administrative matters affecting the Green Bank, including but not limited to matters of corporate governance and corporate governance policies;

**WHEREAS**, the Audit, Compliance and Governance Committee recommends to the Board for approval the proposed draft revisions to the Board of Directors and Advisory Committee Members Ethic Conduct Policy.

**NOW**, therefore be it:

**RESOLVED**, that the Board hereby approves the attached revised Green Bank BOD Ethical Conduct Policy dated April 24, 2020.

**Upon a motion made by Matthew Ranelli and seconded by Bettina Bronisz, the Board of Directors voted to approve Resolution 7. None opposed or abstained. Motion approved unanimously.**

### 8. Other Business

- Michael Yu summarized the update to the SHREC Green Liberty Bonds. The Master Trust Indenture and Green Liberty Bond indenture are completed and were approved in March 2020 by the Board. There is a meeting set with OPM/OTT to get SCRF approval and then the Green Bank will wait for further updates from the State for disclosure requirements.
- Lonnie Reed asked if it's realistic to be ready by late June or early July 2020, and Michael noted his optimism but reassured that updates will be made available to the Board as they happen at future meetings.

### 9. Adjourn

**Upon a motion made by John Harrity and Binu Chandry and seconded by Bettina Bronisz, the Board of Directors Meeting adjourned at 11:00 am.**

Respectfully submitted,

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Lonnie Reed, Chairperson

# Memo

**To:** Bryan Garcia and Eric Shrago, Connecticut Green Bank

**From:** Inclusive Prosperity Capital Staff

**Date:** May 22, 2020

**Re:** IPC Quarterly Reporting – Q3 FY20 (January 1, 2020 – March 31, 2019)

## Progress to targets for Fiscal Year 2020, as of 3/31/2019

Product	Number Projects of Target Projects	% to Target goal	Total Financed Amount	Financed Target	% to goal	MW Installed	MW Target	% to goal	
<b>Smart-E Loan</b>	608	540	113%	\$8,315,902	\$7,182,000	116%	0.8	0.5	164%
<b>Multifamily Pre-Development</b>	4	2	200%	\$924,501	\$140,000	660%	n/a	n/a	n/a
<b>Multifamily Term</b>	13	9	144%	\$7,251,245 <sup>1</sup>	\$1,493,000	486%	0.87	0.1	870%
<b>Solar PPA</b>	2	19	11%	\$611,455	\$23,625,000	3%	0.2	10.7	2%
<b>Low income single family (PosiGen)</b>	466	615	76%	\$11,830,385	\$17,202,165	69%	2.9	4.2	70%

(report continues on next page)

<sup>1</sup> This figure represents energy financing only and excludes the \$13.3M in CT Solar Lease financing.

## PSA 5410 – Smart-E Loan

- Smart-E exceeded its FY20 target in Q3, finishing the quarter with 608 of 540 expected closed loans, equaling \$8.3M of private capital deployed across 9 lenders. Most loans continued to be for HVAC upgrades, with a smaller number of home performance (windows and insulation) and solar projects.
  - Due to impacts of COVID-19, the program delayed its plans to launch a 2.99% reduced interest rate special offer for battery storage, EV chargers and heat pumps.
  - Program staff communicated to contractors that Smart-E remains open for business during COVID-19 and worked with lenders to begin tracking 90-day deferral / forbearance requests, confirming that those accommodations would not negatively impact the lenders' loan loss reserve accounts. March volume was down ~35% year over year.
- Late in the quarter, Program Staff uncovered two errors impacting data reporting: 1) that a back-end error on the NGEN portal was causing certain loans to duplicate records, and 2) that CGB's data warehouse was pulling in all "active" status loans, rather than only those that were matched with a valid project record. Program Staff immediately began working with the NGEN's web developer, WebAscender, to implement a fix, which will be reflected in the Q4 report.
- Prior to COVID-19 closures, Program Staff honored 18 Smart-E Loan "Top Performer" contractors during a breakfast ceremony at the Rocky Hill office. Program staff, lenders, and approximately 40 contractors attended. The contractors represented the HVAC, home performance and solar industries, and completed over 300 projects in CY19 equaling \$4.1 million in closed loans. A [press release](#) followed.

## PSA 5411 – Multifamily

- Multifamily Predevelopment loans have exceeded the fiscal year targets for number of loans and capital deployed.
  - An expanded predevelopment loan for Seabury Cooperative that has been in the works for years finally closed this year in addition to energy analysis and design loans for senior living and low-income projects in Hamden and Meriden, respectively.
  - In line with limited state funding for affordable housing, new pre-development loan requests have been sparse thus far this fiscal year (with only one currently incomplete application in the queue).
- Multifamily Term Lending has exceeded the fiscal year targets for number of loans, capital deployed, and capacity.
  - The Green Bank recapitalized the LIME loan facility for Capital for Change for \$3 million allowing the program to continue lending.
  - The Green Bank continues to see a steady stream of interest in permanent financing for energy improvement projects across its product offerings. However, the onset of the COVID-19 outbreak has interrupted the immediate advancement of many projects and Capital for Change has already received requests for deferrals under the LIME Loan program. Staff is monitoring impacts across the portfolio.

## PSA 5412 – Solar PPA

- The Green Bank Solar PPA is behind targets due to timing on state solar projects. These have been in development during the first half of the year and are expected to close in the second half of the fiscal year.
- IPC staff continued developing Definitive PPA Documentation with CGB, and received board approval to enter into a construction and term loan facility with CGB for the PPA program.
- Sourced tax equity partnership with Greenprint Capital and executed a term sheet in March 2020.
- Responded to PPA pricing requests received by CGB staff.
- Began diligence on the acquisition of four construction stage C-PACE projects from CGB.
- IPC staff and CGB set launch date for outreach to CT solar developers (delayed into Q4 FY20 by COVID-19).
- Successfully migrated CGB solar PPA pricing requests onto IPC's Salesforce platform.
- Target launch of Q4 FY20 – FY21 for developers (delayed due to COVID-19)
- 

## PSA 5413 – Investment Management (LMI Solar and Green and Healthy Homes)

### PosiGen Solar for All Program Management

- PosiGen is presently 76% of the way to the FY20 target on leases and 69% on capital deployed, making up for last quarter's lag. There delay in energy efficiency installs for two months due to PosiGen's cash flow issues impacting timelines. Mid-quarter revisions were made to the sales compensation structure to increase allowances and focus on LMI sales helped reinvigorate sales efforts.
  - All four scheduled spring Solar for All campaigns are postponed indefinitely due to COVID-19, which has also impacted numerous points in the project development timeline (catching up on energy efficiency installs, scheduling municipal and utility inspections, etc.), but a transition to remote sales was successfully completed and resulted in an increase in sales. PosiGen has experienced sales appointment cancellations and is concerned about economics impacts of the pandemic on their customer base, anticipating stimulus relief going to mortgages.

### Green and Healthy Homes Project

- The Department of Social Services (DSS) informed the project team that given limited budgets and organizational capacity constraints they are not able to fund the pilot in the upcoming fiscal year as the project team had expected. The earliest they would be able to fund the pilot would be in fiscal year 2022.
- DSS remains committed to the pilot model and the strong ROI the report demonstrated.

## Investment Management

IPC staff supported Green Bank staff on the following financings:

- PosiGen:
  - Ongoing portfolio monitoring, payment verification and processing, and diligence/analysis on a refinancing with a 3<sup>rd</sup> party capital source on Green Bank collateral which will result in additional 3<sup>rd</sup> party capital being driven into PosiGen investment structures (expected to close the first calendar quarter of 2020).
  - IPC continues to monitor, administer, and support the Green Bank's investment position in PosiGen through IPC's non-controlling participation in the Green Bank financing facility.
  
- Residential SL2 and CT Soar Loan:
  - An IPC staff member assisted with training a new fulltime employee on CGB's Incentive team to assume the management of administrative SL2 and CT Solar Loan tasks.
  - The new CGB employee settled into the role quickly, allowing the IPC staff member to transition to an advisory role on subordination and lease transfer requests, and general customer service issues. The IPC staff member completely transitioned out of the SL2 O&M work with SunSystem Technology, now solely managed by the CIncentive team.
  - The IPC staff member continued to manage the relationship with Renew Financial and Assurant as both partners have new employees who need to be brought up to speed on the program servicing. The IPC staff member was also able to focus on larger SL2-related projects that had been put on hold, including tracking contractor holdback payments, Assurant invoices and PSA amendment, and UCC tracking/payments.
  - COVID-19: Program staff communicated with partners administering the CT Solar Loan and CT Solar Lease regarding allowing for 90-day deferrals for hardship upon request by customer and monitors weekly activity.

## Use of DEEP Proceeds

### Energize CT Health & Safety Revolving Loan Fund

- In Q1, funds for pilot asbestos remediation of 5 Success Village Association buildings were drawn equaling \$95,307.60 of an authorized \$165,000. Success Village has indicated that the remediation for these 5 buildings is complete and, in Q2, IPC converted the loan to in repayment.
- No new loan approvals and closings were affected through Q3.

### \$5M Capital Grant

- In Q1, IPC's Board approved a \$1.2M investment in Capital for Change to provide liquidity under its successful LIME Loan program offered in partnership with the Connecticut Green Bank. Although the transaction was expected to close in February 2020 under a master facility construct with CGB, in the wake of the COVID-19 outbreak, CGB funded the entirety of the LIME recapitalization in IPC's stead.

## General Updates

Below are updates for the third fiscal quarter of FY20:

- Capital raising:
  - Closed a \$25M credit facility with New York Green Bank, the first credit facility that will access the Kresge Guarantee
  - Began diligence with the next set of capital providers, including impact investors and tax equity for the solar ownership platform.
- Business/Product Development of interest to Connecticut:
  - Developed a software licensing agreement for the NGEN platform and supporting policies, to support being in the software licensing business for the NGEN platform for Smart-E. Executed the licensing agreement with CT Green Bank and shared with Colorado Energy Office for approval by state contracting agency – expected close 4<sup>th</sup> fiscal quarter.
  - Continued to work with a number of green banks, local governments, etc. on leveraging IPC's products and financing strategies. Working to bring multifamily lending products to Philadelphia Energy Authority and SELF (executed MOU), working with Montgomery County Green Bank, Rhode Island Infrastructure Bank, and CGC on a variety of opportunities.

## Memo

**To:** Audit, Compliance and Governance Committee, Deployment Committee, and Board of Directors

**From:** Brian Farnen (General Counsel and CLO), Bryan Garcia (President and CEO), Jane Murphy (Vice President of Finance and Administration), and Eric Shrago (Managing Director of Operations)

**CC:** Mackey Dykes (Vice President of Financing Programs), Selya Price (Director of Incentive Programs), and Bert Hunter (Executive Vice President and CIO)

**Date:** May 12, 2020 (ACG Committee), May 20, 2020 (Deployment Committee), and June 26, 2020 (Board of Directors)

**Re:** Proposed Loan Loss Decision Framework and Process for Subsidiaries of the Connecticut Green Bank – Assets on the Green Bank’s Subsidiary Balance Sheets

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### Summary

Since its inception on July 1, 2011, the Connecticut Green Bank (Green Bank), through its subsidiaries, has invested in \$64.6 million of assets. These assets reside on the balance sheet of the Green Bank’s subsidiaries.

The following is a breakdown of the assets on the Green Bank’s blended<sup>1</sup> or discrete<sup>2</sup> subsidiary balance sheets as of the end of FY 2019 (i.e., June 30, 2019):

- **CEFIA Holdings LLC** (Blended) – LLC established to acquire and develop a portfolio of commercial and residential solar facilities to enable investment in solar photovoltaic equipment for the benefit of Connecticut homeowners, businesses, nonprofits, and municipalities (i.e., the end-users). CEFIA Holdings acquires the initial title to the solar assets and contracts with independent solar installers to complete the installation of the solar assets and arrange for leasing of the solar assets (or sale of energy under power purchase agreements). There are \$13.4 million in assets, including \$5.0 million in unrestricted cash, \$1.7 million in other receivables, \$6.6 million due from component units, and other resources. CEFIA Holdings has a net position of \$9.8 million.

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<sup>1</sup> Recording their amounts as part of the Primary Government.

<sup>2</sup> Showing their amounts separately in the reporting entity’s financial statements.

- **CT Solar Loan I LLC** (Blended) – LLC owned by CEFIA Holdings LLC established to make loans to residential property owners for the purpose of purchasing and installing solar photovoltaic equipment. There are \$3.1 million in assets, including \$0.4 million in unrestricted cash, \$0.3 million in restricted cash, \$2.2 million in program loans, and other resources. CT Solar Loan I LLC has a net position of \$0.2 million.
- **CEFIA Solar Services** (Discrete) – corporation 100% owned by CEFIA Holdings LLC, that was established to share in the ownership risks and benefits derived from the leasing of solar photovoltaic and the sale of energy under power purchase agreements as managing member of CT Solar Lease 2 LLC and CT Solar Lease 3 LLC. CEFIA Solar Services LLC is responsible for performing all management and operational functions pursuant to an Operating Agreement with CT Solar Lease 2 LLC and CT Solar Lease 3 LLC.
- **CT Solar Lease 2 LLC** (Discrete) – LLC established to acquire titles to the residential and commercial solar projects from CEFIA Holdings LLC, the developer, using capital from its members along with non-recourse funding from participating banks.
- **CT Solar Lease 3 LLC** (Discrete) – LLC established to acquire titles to commercial solar projects from CEFIA Holdings LLC, the developer, using capital from its members.
- **CGB Meriden Hydro LLC** (Blended) – LLC established to purchase a 193-kW hydroelectric facility located in Meriden, CT from the facility’s developer (i.e., Hannover Pond Hydro LLC), through a sale and leaseback agreement. Clean Renewable Energy Bonds were used to finance a portion of the total purchase price. There are \$4.4 million in assets. CGB Meriden Hydro LLC has a negative net position of \$0.5 million.
- **CGB KFC LLC** (Blended) – LLC established to hold the loan liability resulting from draws made on a \$3.0 million loan facility provided by the Kresge Foundation in support of a battery storage program in support of resiliency in coastal communities. There are \$1.0 million in assets. CGB KFC LLC has a nearly zero net position. As of January 2020, CGB transferred the \$1.0 million outstanding loan and the remaining facility to inclusive Prosperity Capital.
- **SHREC ABS 1 LLC** (Blended) – LLC established to issue \$38.6 million of bonds (i.e., securitized collateral notes from the sale of Class A and Class B notes) with revenues coming from the sale of Solar Home Renewable Energy Credits (SHRECs) in support of approximately 14,000 solar PV systems receiving incentives through the Residential Solar Investment Program (RSIP). There are \$36.3 million in assets. SHREC ABS 1 LLC has a negative net position of \$2.2 million.
- **CT Solar Lease 1 LLC** (Blended) – LLC established to hold collateral that supports a \$5.0 million guaranty on a Line of Credit with Amalgamated Bank. The Green Bank



assigned its solar lease promissory note portfolio to CT Solar Lease 1 LLC. There are \$6.4 million in assets. CT Solar Lease 1 LLC has a nearly zero net position.

The Green Bank owns nine (9) subsidiaries – six blended and three discrete component units.

For a breakdown of assets under management on the balance sheet of the Green Bank’s subsidiaries, see Table 1 below

**Table 1. Breakdown of Assets Under Management on the Connecticut Green Bank’s Subsidiary Balance Sheets**

<b>Assets</b>	<b>Current and Non-Current Assets</b>	<b>Net Position</b>
CEFIA Holdings LLC	\$13,358,031	\$9,770,267
CT Solar Loan I LLC	\$3,130,594	\$246,890
CEFIA Solar Services	-	-
CT Solar Lease 2 LLC	-	-
CT Solar Lease 3 LLC	-	-
CGB Meriden Hydro LLC	\$4,393,115	(\$472,925)
CGB KFC LLC	\$989,315	(\$10,685)
SHREC ABS 1 LLC	\$36,303,045	(\$2,211,186)
CT Solar Lease 1 LLC	\$6,381,654	\$6,879
<b>Total</b>	<b>\$64,555,754</b>	<b>\$7,329,240</b>

As the Green Bank continues to invest its resources with the expectation of getting its principal and interest back over time, there will inevitably be instances when restructuring transactions and/or loan losses will occur.

### **Governance pertaining to Subsidiaries**

The bylaws of the Green Bank provide guidance in terms of managing transactions, and their potential restructuring or write-off. Specifically, the Deployment Committee of the Board of Directors, as outlined in Section 5.3.3 is responsible for:

- “(ii) with respect to loans, loan guarantees, loan loss reserves, credit enhancements... between three hundred thousand dollars (\$300,000) and two million five hundred thousand dollars (\$2,500,000), evaluation and approval of such requests on behalf of the Board so long as such approval is within the Green Bank’s approved Operations and Program Budget,”
- “(iv) oversight of policies and practices relating to the evaluation and recommendation of initial investments, follow-on investments, *investment modifications and restructurings*, and the sale or other disposition of investments by the Authority’s professional investment staff,”
- “(v) oversight of policies and practices relating to investment management by the Authority’s professional investment staff, including implementation of investment exit strategies,”

- (vi) except to the extent of any investment powers expressly reserved to the Board itself in any resolution of the Board, to approve on behalf of the Board investments, follow-on investments, investment modifications and restructurings, and the sale or other disposition of investments,” and
- (viii) the exercise of such authority as may from time to time be delegated by the Board to the Deployment Committee within its areas of cognizance.<sup>3</sup>

The bylaws of the Green Bank serve as the foundation to establishing a loan loss decision framework and subsequent process, not only for the organization, but also its subsidiaries. Such a framework and process should be reviewed, revised (as appropriate) by the Deployment Committee, reviewed and recommended for approval by the ACG Committee, and approved by the Board of Directors of the Green Bank.

### Accounting for Subsidiaries

On an annual basis the accounting team prepares a detailed analysis of portfolio loans by program. This analysis includes a historical analysis of prior year loan write-offs, if any, by program, repayment delinquencies and inquiries of program and finance staff as to current developments with borrowers that could affect future repayments.<sup>4</sup> Based upon these inquiries the accounting team assigns a loan loss reserve percentage to the balance of loans for each program to arrive at a total loan loss reserve for the loan portfolio. Currently these percentages range from 5-20% based on the project, product, or program.

The annual loan loss reserve calculation is reviewed for reasonableness by the Green Bank’s audit firm as part of the annual audit process.

It should be noted, that prior to the date of this memo, on April 24, 2020, as a result of the COVID-19 pandemic impact on the organization, the Board of Directors of the Green Bank approved of changes to the Loan Loss Decision Framework, including (1) staff ability to restructure transactions for specific types of assets, and (2) an increase in the Provision for Loan Losses of \$4.1 million.

Here are a few examples for how loan losses are reserved for specific products and programs on the balance sheet of the Green Bank through its subsidiaries:

- **SBEA** – through an on-bill loan program administered by Eversource Energy, capital provided by Amalgamated Bank (i.e., 80-90% of the capital structure) and the Green Bank (i.e., 10-20% of the capital structure), small businesses are provided 0% interest

<sup>3</sup> The Board of Directors may also delegate certain responsibilities to the President and the other officers of the Green Bank as they believe are desirable to permit the timely performance of the functions of the Green Bank and to carry out the policies of the Board – See Green Bank Bylaws Sections 2.5 (Delegation of Powers) and 3.2 (President). For example, on October 20, 2017, per the memo dated October 13, 2017, the Board of Directors delegated the power for officers to approve transactions up to \$500,000 in value as long as they are consistent with the Comprehensive Plan and Budget.

<sup>4</sup> It should also be noted that the Comprehensive Annual Financial Review (CAFR) also includes a “high level” breakdown of delinquencies and defaults by financing product or program.

rate loans (i.e., interest rate bought down to zero to the customer). Through FY 2019, there were 4,339 loans totaling \$43.2 million (i.e., of which \$4.5 million is from the Green Bank), with an average loan size of about \$10,000 with up to 4-year terms.

These loans are protected from losses by the Conservation and Load Management Plan.

- **Solar Loan** – through a residential solar loan product in partnership with Sungage Financial, the Green Bank provided low-cost and long-term debt to financial residential rooftop solar PV. Of the \$6.0 million in assets supported through this product on nearly 300 homes, \$3.6 million have been sold to various third parties (i.e., Mosaic and The Reinvestment Fund).

These loans have no loan loss reserve.

- **Solar PPA** – through a power purchase agreement (PPA), the Green Bank provides debt into the capital structures for commercial-scale solar PV projects (e.g., municipal, schools, nonprofits, etc.). The PPA price for these projects is typically 20-30% less than the retail rate of electricity paid by the end-use customers. Through FY 2019, there were 123 projects totaling \$102.6 million (i.e., of which \$28.0 million is from the Green Bank), with an average investment of \$835,000 for 20-year PPAs.

These PPAs have no loan loss reserve.

As of June 30, 2019 the Green Bank had not written off any portfolio assets to date on the balance sheet of its subsidiaries.<sup>5</sup>

### Loan Loss Decision Framework for Subsidiaries

In order to develop processes for determining how losses will be determined with regards to transactions on the Green Bank balance sheet for its subsidiaries, there are two (2) key components – value of the modification and the type of loss anticipated that help formulate the process.

In assessing the threshold of the value of the modification, the Green Bank staff identified the following options:

- **Principal Outstanding** – the type of loss anticipated should apply to only the amount of the principal outstanding of the transaction;
- **Original Principal Value** – the type of loss anticipated should apply to the original principal value of the transaction; or
- **Value of the Modification** – the type of loss anticipated should apply only to the proposed value of the modification of the transaction.

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<sup>5</sup> In December 2019 four solar lease notes in CT Solar Lease 1 were written off for a total of \$61k.

To be consistent with the Loan Loss Decision Framework, the Green Bank staff recommends that the value of the modification to assets under its subsidiaries should apply to the principal outstanding of the transaction as opposed to the (i) value of the original principal, or (ii) value of the modification.

The Green Bank staff has identified three different types of losses anticipated, including:

- **Provisional Loss Reserve** – as determined by the Budget and Operations Committee through the annual budget and targets process and reported in the annual audited financial statements;
- **Restructuring** – a unique action or decision to modify the principal, interest, term, and/or other relevant component of a transaction; and/or
- **Write-Off** – a policy or procedural determination that an asset is impaired as a result of it being delinquent and subsequently in default where it is deemed that it is unlikely for a material recovery of the principal.

Each of these types of losses should be handled in a specific manner depending upon the value of the principal outstanding amount of the transaction, as well as whether or not the transaction was restructured as a result of the COVID-19 pandemic – see Table 2.

Table 2. Loan Loss Decision Framework based on Principal Amount Outstanding vs. Type of Loss Anticipated

Type of Loss Anticipated	Amount of Principal Outstanding		
	<\$100,000	\$100,000 – \$1,000,000	>\$1,000,000
Provisional Loss Reserve	Staff (with review and reporting from the Auditor)		
Restructuring	Staff	Deployment	Board of Directors
Restructuring – COVID-19	Staff	(1) Staff for certain program transactions (see (b) below)  (2) Board of Directors for all other transactions	Restructuring COVID-19
Write-Off	Staff	ACG	Board of Directors

The proposed amount of principal outstanding value for Staff approval of provisional, restructuring, and write-offs is intended to be overly conservative with respect to Staff authority, while appropriately reporting out any unusual activity or trends to the Deployment Committee and Board of Directors.

In between report outs, staff will only be able to review and approve in aggregate up to \$500,000 of adjustments to its subsidiaries. In other words, the Loan Loss Decision Framework and Process allows staff to review and approve of transaction modifications “Up to \$100,000 and No More in Aggregate than \$500,000” between report outs to the Deployment Committee. Given that the Deployment Committee approves of transactions greater than \$500,000 and less than \$1,000,000, and the Audit, Compliance, and Governance Committee oversees the

accounting and auditing of assets on the financial statements of the Green Bank, transactions requiring a write-off would be through the ACG Committee after legal remedies have been pursued by staff on the impaired asset in question.

It should be noted, that as a result of the COVID-19 pandemic, that transactions within subsidiaries requiring restructuring, follow this process:

- a) Notwithstanding the proposed \$1,000,000 staff approval limit above (see Table 3), given the strength and security of the asset class, staff approvals specific to the following programs can be for any amount of principal outstanding:
  - C-PACE
  - C-PACE with Green Bank PPA
  - Green Bank Solar PPA projects for municipality, housing authority or school district
  
- b) All COVID-19 staff restructurings are limited to a maximum of 6-month deferrals except in rare cases of certain towns where C-PACE assessments are collected annually – the accommodation in such cases would be for one year.

This is the Staff proposed loan loss decision framework for the Green Bank’s subsidiaries for consideration by the Deployment Committee, Audit Compliance and Governance Committee, and the Board of Directors.

**Example Transaction Application to the Loan Loss Decision Framework to Subsidiaries**

To apply the Loan Loss Decision Framework to its subsidiaries, here are a few example transactions.

Example Transaction #1 – CT Solar Loan

The first example transaction is a residential loan through the CT Solar Loan Program that is in default – see Table 3.

**Table 3. CT Solar Loan – Write-Off**

<b>Program</b>	CT Solar Loan
<b>Original Principal</b>	\$30,000
<b>Outstanding Principal</b>	\$22,500
<b>Type of Loss Anticipated</b>	Write-Off
<b>Approving Authority</b>	Staff

Since the amount of the principal outstanding is less than \$100,000, then the Staff would be approving this type of loss. In this situation, with regards to the CT Solar Loan, as long as all legal remedies have been pursued to collect the loan, then the Staff can write-off the outstanding principal amount of the transaction by paying off the loss through the use of restricted cash in the loan loss reserve account set aside for the CT Solar Loan.

Example Transaction #2 – Solar PPA Project during COVID-19 Secured by C-PACE

The second example transaction is a Solar PPA (i.e., secured by C-PACE), that requires restructuring as a result of the COVID-19 pandemic – see Table 4.

**Table 4. Solar PPA – Restructure**

<b>Program</b>	Solar PPA
<b>Original Principal</b>	\$1,250,000
<b>Outstanding Principal</b>	\$1,100,000
<b>Type of Loss Anticipated</b>	Restructuring – COVID-19
<b>Approving Authority</b>	Staff

Since this transaction has been adversely impacted by the COVID-19 pandemic, and the PPA is secured by C-PACE, then this transaction would be reviewed and approved by the Staff (i.e., instead of the Board of Directors) and reported out to the Board of Directors.

Had this transaction restructuring not been secured by C-PACE, then the review and approval of the Board of Directors would have been required.

*Example Transaction #3 – Hydroelectric PPA during COVID-19*

The third example transaction is the issuance of a Clean Renewable Energy Bond (CREB) to finance a 193-kW hydroelectric facility. In this example, the purchaser of the power is unable to pay its PPA due to the impact of COVID-19 – see Table 5.

**Table 5. Hydroelectric Facility PPA with Bond Financing – Restructuring**

<b>Program</b>	Project Finance – Bond
<b>Original Principal</b>	\$3,000,000
<b>Outstanding Principal</b>	\$2,798,331
<b>Type of Loss Anticipated</b>	Restructuring – COVID-19
<b>Approving Authority</b>	Board

Despite the town being adversely impacted by COVID-19, since the principal outstanding on the bond is greater than \$1,000,000, any restructuring of the transaction would require the review and approval of the Board of Directors. And since the bond uses the Special Capital Reserve Fund (SCRF) of the State of Connecticut, additional steps will be required to support self-sufficiency if the PPA payment is forgiven due to COVID-19.

*Example Transaction #4 – State of Connecticut PPA*

The fourth example transaction is the issuance of a CREB to finance a portfolio of solar PV projects on state facilities. In this example, the purchaser of the power is unable to pay its PPA – see Table 6.

**Table 6. Solar PV Facilities PPA with Bond Financing – Restructuring**

<b>Program</b>	Project Finance – Bond
<b>Original Principal</b>	\$9,350,000
<b>Outstanding Principal</b>	\$9,101,729
<b>Type of Loss Anticipated</b>	Restructuring
<b>Approving Authority</b>	Board of Directors

Since the principal outstanding on the bond is greater than \$1,000,000, any restructuring of the transaction would require the review and approval of the Board of Directors. And since the bond uses the Special Capital Reserve Fund (SCRF) of the State of Connecticut, additional steps will be required to support self-sufficiency if the PPA payment is forgiven.

### **Process for Applying Loan Loss Decision Framework to Subsidiaries**

The following is a breakdown of the proposed processes for using the Loan Loss Decision Framework for the Green Bank's subsidiaries:

#### **Process #1 – Provisional Loss Reserve**

On an annual basis the accounting team prepares a detailed analysis of portfolio loans by program. This analysis includes a historical analysis of prior year loan write-offs, if any, by program, repayment delinquencies and inquiries of program and finance staff as to current developments with borrowers that could affect future repayments. Based upon these inquiries the accounting team assigns a loan loss reserve percentage to the balance of loans for each program to arrive at a total loan loss reserve for the loan portfolio. Currently these percentages range from 0-20% based on the project, product, or program.

The annual loan loss reserve calculation is reviewed for reasonableness by the Green Bank's audit firm as part of the annual audit process.

On a quarterly basis, with the assistance of Program and Finance Staff, the Accounting Team would make appropriate interim adjustments to the provisional loss reserve.

#### **Process #2 – Restructuring Transactions**

A transaction undergoing a restructuring would undergo the following process:

1. **Restructuring Calculation** – staff requesting a change in a previously approved transaction, must calculate the following:
  - a. **Original Investment** – show the cash flow of expected principal and interest payments over the term of the transaction, including the calculation of the net present value of the transaction;
  - b. **Proposed Restructured Investment** – show the cash flow of expected principal and interest payments over the term of the transaction, including the calculation of the net present value of the transaction; and
  - c. **Comparison** – compare the original to the restructured investment to document any changes in cash flow and net present value.
2. **Documentation** – staff requesting a change must document in a memo the reason for the proposed modification including whether COVID-19 adversely impacted the borrower, a description of the project, the calculation showing the original and restructured investment and their comparisons, and preventative measures for avoiding such issues in the future (i.e., for COVID-19 related restructurings, rather than a

description of preventative measures for avoiding such issues in the future, the staff includes a signed letter from the borrower requesting the restructuring due to COVID-19);.

3. **Review and Approval** – the documentation must be reviewed and approved by the appropriate authority, including:
  - a. **Staff** – for principal balances less than \$100,000 (unless a COVID-19 related transaction, then up to \$1,000,000 for specific types of transactions), senior staff would review and approve and documented through the ARS process;
  - b. **Deployment Committee** – for principal balances greater or equal to \$100,000 and less than \$1,000,000, Deployment Committee would review and approve the transaction; or
  - c. **Board of Directors** – for principal balances greater than \$1,000,000, the Board of Directors would review and approve the transaction.
4. **Reporting** – if a transaction receives the approval from the appropriate authority to be restructured, then the details should be reported in a quarterly memo and made available on an ongoing basis to the Deployment Committee and/or the Board of Directors. If the restructured transaction was related to COVID-19, then staff would specifically breakout the transactions in the quarterly memo that were restructured as a result of COVID-19 for reporting and tracking purposes, and staff will report out more frequently to the Board of Directors on COVID-19 related transaction restructurings.

### **Process #3 – Write-Off Transactions**

A transaction undergoing a write-off would undergo the following process:

1. **Write-Off Calculation** – staff requesting a write-off in a previously approved transaction, must calculate the following:
  - a. **Project Finance** – the amount of outstanding principal and lost interest revenue from the original transaction.
2. **Documentation** – staff requesting a write-off must document the reason for the write-off including a description of the project, the calculation showing the value of the write-off, and preventative measures for avoiding such issues in the future.
3. **Review and Approval** – the documentation must be reviewed and approved by the appropriate authority, including:
  - a. **Staff** – for principal balances less than \$100,000, senior staff would review and approve and documented through the ARS process;
  - b. **Audit, Compliance and Governance Committee** – for principal balances greater or equal to \$100,000 and less than \$1,000,000, ACG Committee would review and approve the transaction; or



- c. **Board of Directors** – for principal balances greater than \$1,000,000, the Board of Directors would review and approve the transaction.
4. **Reporting** – if a transaction receives the approval from the appropriate authority to be written off, then the details should be reported in a quarterly memo and made available on an ongoing basis to the Deployment Committee and/or the Board of Directors, and staff will report out more frequently to the Board of Directors on COVID-19 related transaction restructurings.

### Process for Reporting

Above and beyond applying the loan loss decision framework and process to various transactions of the Green Bank’s subsidiaries, there is a need to frequently report out to the Deployment Committee and/or the Board of Directors. The following reporting on loan losses should begin in FY 2021:

- **Monthly Financial Statements** – within the monthly financial statements provided to the Board of Directors, there should be a separate section that provides an overview of the provisional loan loss reserves noted for the fiscal year, along with any transactions that have been restructured or written-off through this loan loss decision framework and process; and
- **Quarterly Reports** – provided to the Deployment Committee on a quarterly basis, this memo should provide further detail on loss transactions by program or product to assess trends, including:
  - Number of transactions lost;
  - Amount of loss;
  - Frequency of losses;
  - Percentage of losses; and
  - Thresholds of losses reached consistent with the provisional loss reserve.

Reporting is an essential aspect of the loan loss decision framework and process.

### Summary

As the Green Bank continues to invest its resources with the expectation of getting its principal and interest back over time, there will inevitably be instances when restructuring transactions and/or loan losses will occur. The Bylaws of the Green Bank offer guidance, specifically through its Deployment Committee, in terms of managing transactions, and their potential restructuring or write-off. The Loan Loss Decision Framework, in combination with the proposed Process for applying the framework, will serve as the road map for managing assets that are being restructured or written-off on the Green Bank balance sheet for its subsidiaries.

### Resolution

**WHEREAS**, on October 20, 2017, the Green Bank Board of Directors approved of a recommendation brought forth by both the ACG Committee and Deployment Committee to approve the authorization to amend the Staff Approval Policy to increase program funding

requests for Projects Under \$300,000 to \$500,000 with an aggregate amount limit of \$1,000,000 from the date of the last Deployment Committee meeting; and

**WHEREAS**, based on a recommendation brought forth by the Deployment and ACG Committees, the Board approved and authorized the Green Bank staff to implement the Loan Loss Decision Framework and Process for managing assets requiring restructuring or write-off from the Green Bank's balance sheet and consistent with the memorandum to the Board dated June 13, 2018 ("Loan Loss Decision Framework and Process ") and for a similar framework to be developed at a future date for the Green Bank's special purpose vehicles (i.e., subsidiaries); and

**WHEREAS**, in response to the COVID-19 pandemic, the staff of the Green Bank proposed a modification to the Loan Loss Decision Framework and Process with regards to restructuring transactions, as well as the Green Bank's provision for loan losses, in order to help families and businesses manage through this public health crisis, which the Board approved on April 24, 2020.

**WHEREAS**, on May 19, 2020, the Audit, Compliance and Governance Committee, and on May 27, 2020, the Deployment Committee, recommended that the Board of Directors approve of the Staff proposed Loan Loss Decision Framework and Process for Subsidiaries for managing assets requiring restructuring or write-off from the Green Bank's balance sheet and consistent with the memorandums presented to the committees May 12, 2020, and May 20, 2020, respectively.

**NOW**, therefore be it:

**RESOLVED**, that the Audit, Compliance and Governance Committee and the Deployment Committee recommend that the Board of Directors approve of the Staff proposed Loan Loss Decision Framework and Process for Subsidiaries for managing assets requiring restructuring or write-off from the Green Bank's balance sheet and consistent with the memorandum dated June 26, 2020.



## Memo

**To:** Connecticut Green Bank Board of Directors  
**From:** Bryan Garcia (President and CEO) and Brian Farnen (General Counsel and CLO)  
**CC:** Senior Staff of the Green Bank  
**Date:** April 24, 2020  
**Re:** Proposed Revisions to the Bylaws of the Connecticut Green Bank

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### Background

For the past several years, there has been growing concerns raised with respect to quasi-public agencies in Connecticut,<sup>1,2,3</sup> and the Connecticut Green Bank is certainly not immune to such criticism.<sup>4</sup> The issues that have been raised, include, but are not limited to: compensation, severance agreements, ethics, conflicts of interest, reporting, and contract agreements.

The Connecticut Green Bank will always strive to be a leader and best in class as it relates to good governance and takes these issues very seriously as evidence by its oversight, transparency, and accountability, including:

- **Appointments** – the executive and legislative branches have eleven (11) political appointments to the Board of Directors of the Green Bank, including ex officio members (i.e., three members, each from the Office of the Treasurer, Commissioner of DEEP, and Commissioner of DECD), as well as political appointments for the Governor (i.e., four appointments with expertise in finance of renewable energy, labor, and R&D or manufacturing), Speaker of the House (i.e., one appointment with expertise in low income – residential), Minority Leader of the House (i.e., one appointment with expertise in investment fund management), President Pro Tempore of the Senate (i.e., one appointment with expertise on the environment), and Minority Leader of the Senate (i.e., one appointment with expertise in financing or deploying renewable energy);
- **Public Meetings** – disclosure of all meeting agendas, minutes and materials provided to its board members on its website,<sup>5,6</sup> while inviting public comments as part of each of its meetings and frequently presenting and testifying before its committee of cognizance (i.e., Energy & Technology Committee);

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<sup>1</sup> "Big Quasi-Public Agencies Lag in Unlocking Information for Taxpayers," by Jon Lender in the Hartford Courant (October 17, 2018)

<sup>2</sup> "Momentum Grows to Curb Irregularities and Improprieties at Quasi-Public Agencies such as the CT Lottery and Port Authority," by Jon Lender in the Hartford Courant (August 1, 2019)

<sup>3</sup> "Landmark CT Harbor Deal Renews Debate Over Quasi-Public Agencies," by Keith Phaneuf in the CT Post (February 11, 2020)

<sup>4</sup> "Green Bank Audit Further Emphasizes Need for Better Control of State's Quasi-Publics" in press release from Senator Len Fasano (July 31, 2019)

<sup>5</sup> <https://ctgreenbank.com/about-us/governance/connecticut-grboard-meetings/>

<sup>6</sup> <https://ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/>

- **Governance and Operations** – access to the organization’s resolution of purpose,<sup>7</sup> bylaws,<sup>89</sup> operating procedures,<sup>10</sup> ethics statements and conduct policies,<sup>111213</sup> Comprehensive Plan<sup>14</sup> and Budget<sup>15</sup> on its website; and
- **Auditing and Reporting** – access to audited annual reports and comprehensive annual financial reports, including the Auditors of Public Account operational audits,<sup>16</sup> and links to the Comptroller’s Open Connecticut initiative where the Green Bank discloses all transactional (i.e., Open Checkbook) and compensation related information available on its website.

For the past six months, the Governor’s Office, led by Paul Mounds (Chief of Staff) with assistance from Ben Arsenault (Deputy Chief Operating Officer), have been coordinating an effort of the Presidents and CEO’s of the fourteen (14) quasi-public agencies in the State of Connecticut,<sup>17</sup> to inform each other of their respective missions, share best practices, and improve on each other’s operations.

Through this effort, each of the respective quasi-public organization leaders have learned more information and grown a greater appreciation for continuous improvement as we deliver greater value to the families, businesses, and institutions that we serve in Connecticut. For example, we learned that Governor Rell issued a report on quasi-public compensation in 2005, and we received the independent audit of the Connecticut Port Authority in 2019 – both providing instructive guidance to all quasi-publics on areas of improvement. Based on these instructive documents, we propose that the Green Bank proactively adopt many of their recommendations and insights.

### Proposed Revisions to Bylaws

In an effort to continue to improve the oversight of the Connecticut Green Bank, we are proposing that the Green Bank Board of Directors consider the following revisions to the organization’s bylaws – see attached “redline” edits for discussion and consideration:

Deleted: Audit, Compliance, and Governance Committee

- **Article I, Section 1.3** – adding the purpose and function of the Green Bank;
- **Article II, Section 2.5** – adding Treasurer to the Board of Director positions;

<sup>7</sup> <https://www.ctgreenbank.com/wp-content/uploads/2016/01/Financial-and-Gov.-CT-Green-Bank-Resolution-of-Purpose.pdf>

<sup>8</sup> [https://ctgreenbank.com/wp-content/uploads/2019/09/Green-Bank\\_BOD\\_Bylaws\\_-Revised\\_102017.pdf](https://ctgreenbank.com/wp-content/uploads/2019/09/Green-Bank_BOD_Bylaws_-Revised_102017.pdf)

<sup>9</sup> [https://www.ctgreenbank.com/wp-content/uploads/2015/12/ECMB\\_CGB\\_Joint\\_Committee\\_Bylaws\\_October\\_2014FINAL.pdf](https://www.ctgreenbank.com/wp-content/uploads/2015/12/ECMB_CGB_Joint_Committee_Bylaws_October_2014FINAL.pdf)

<sup>10</sup> <https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Operating-Procedures-sec16-245n-CTGS-r12162016.pdf>

<sup>11</sup> [https://www.ctgreenbank.com/wp-content/uploads/2017/02/Green-Bank\\_Ethics-Statement-CLEAN-REVISED-102214.pdf](https://www.ctgreenbank.com/wp-content/uploads/2017/02/Green-Bank_Ethics-Statement-CLEAN-REVISED-102214.pdf)

<sup>12</sup> [https://www.ctgreenbank.com/wp-content/uploads/2017/08/Green-Bank\\_Ethical-Conduct-Policy\\_BOD\\_CLEAN\\_REVISED-101714.pdf](https://www.ctgreenbank.com/wp-content/uploads/2017/08/Green-Bank_Ethical-Conduct-Policy_BOD_CLEAN_REVISED-101714.pdf)

<sup>13</sup> [https://www.ctgreenbank.com/wp-content/uploads/2016/01/Financial-and-Gov.\\_Staff-Ethical-Conduct-Policy.pdf](https://www.ctgreenbank.com/wp-content/uploads/2016/01/Financial-and-Gov._Staff-Ethical-Conduct-Policy.pdf)

<sup>14</sup> <https://ctgreenbank.com/strategy-impact/planning/>

<sup>15</sup> [https://ctgreenbank.com/wp-content/uploads/2019/07/4ai\\_FY20-Budget-BOD-07-15-19.pdf](https://ctgreenbank.com/wp-content/uploads/2019/07/4ai_FY20-Budget-BOD-07-15-19.pdf)

<sup>16</sup> <https://ctgreenbank.com/strategy-impact/reporting-transparency/>

<sup>17</sup> Access Health CT, Capital Region Development Authority, Connecticut Airport Authority, Connecticut Green Bank, Connecticut Health and Educational Facilities Authority, Connecticut Higher Education Supplemental Loan Authority, Connecticut Housing Finance Authority, Connecticut Innovations, Connecticut Lottery Corporation, Connecticut Port Authority, Connecticut Retirement Security Authority, Connecticut Student Loan Foundation, Materials Innovation and Recycling Authority, and Student Education Resource Center

- **Article II, Section 2.7** - adding the requirement of Board of Director members to take an oath (including a sample oath), which is practiced, but not memorialized in the bylaws;
- **Article III, Section 3.6 and Article V, Sections 5.2 & 5.2.2** – renaming the Budget and Operations Committee to the Budget, Operations, and Compensation Committee, while including additional responsibilities;
- **Article V, Section 5.2.3** – based on the “Loan Loss Decision Framework and Process” approved by the Board of Directors on June 13, 2018, inclusion of additional language in the bylaws to reflect the importance of the establishment and modification of such process;
- **Article VII, Section 7.1** - expanding Conflicts of Interest to include immediate family of the Board of Director members;
- **Article IX** – adding “Restrictions on Directors and Employees Leaving Green Bank”; and
- **Article XII, Section 12.1.4** – adding “Clean Energy” to definitions.

With these improvements to the bylaws, the Green Bank will continue its role as a leader amongst the quasi-public agencies and its commitment to the highest levels of oversight, transparency, and accountability.

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**Resolution**

**WHEREAS**, pursuant to Section 5.2.1 of the Connecticut Green Bank (“Green Bank”) Bylaws, the Audit, Compliance & Governance (ACG) Committee is charged with the review and approval of, and in its discretion recommendations to the Board of Directors (“Board”) regarding, all governance and administrative matters affecting the Green Bank, including but not limited to matters of corporate governance and corporate governance policies;

**WHEREAS**, the Audit, Compliance and Governance Committee recommends to the Board for approval the proposed draft revisions to the Green Bank Bylaws.

**NOW**, therefore be it:

**RESOLVED**, that the Board hereby approves the attached revised Green Bank By-Laws dated April 24, 2020. Second. Discussion. Vote

CONNECTICUT GREEN BANK

BYLAWS

PURSUANT TO

Section 16-245n of the  
Connecticut General Statutes

Adopted: October 17, 2015

Revised: ~~April 24, 2020~~

Deleted: October 20

Deleted: [redacted]

Deleted: 2017

**ARTICLE I**  
**NAME, PLACE OF BUSINESS**

1.1. **Name of the Green Bank.** The name of the Green Bank shall be, in accordance with the Statute, the "Connecticut Green Bank".

1.2. **Office of the Green Bank.** The office of the Green Bank shall be maintained at such place or places within the State of Connecticut as the Board may designate.

1.3. **Green Bank Purpose and Function.** As stated in its Resolution of Purpose adopted on September 29, 2011, the purpose of the Green Bank is to stimulate, support and increase the use of clean energy, investment in clean energy projects and sources, demand for clean energy, the development of technologies that support clean energy, and the development of the state's energy-related economy.

The function of the Green Bank is to achieve the foregoing objectives to the fullest extent authorized or permitted by Section 16-245n of the Connecticut General Statutes, as amended, or any other provisions of the Connecticut General Statutes pertaining to the responsibilities or activities of the Green Bank. Such functions include but are not limited to: (1) implementing the Comprehensive Plan developed by the Green Bank pursuant to Section 16-245n(c) of the Connecticut General Statutes, as amended; (2) developing programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects, and such others as the Green Bank may determine; (3) supporting financing or other expenditures that promote investment in clean energy sources to foster the growth, development, and commercialization of clean energy sources and related enterprises; and (4) stimulating

demand for clean energy and the deployment of clean energy sources within the state  
that serve end-use customers in the state.

## **ARTICLE II**

### **BOARD OF DIRECTORS**

- 2.1. **Powers.** The powers of the Green Bank are vested in and exercised by a Board of Directors which may exercise all such authority and powers of the Green Bank and do all such lawful acts and things as are necessary to carry out the Comprehensive Plan and the purposes of the Green Bank as provided in the Resolution of Purposes, or as are otherwise authorized or permitted by the Statute or other provisions of the General Statutes, including the authorization of expenditures and use of funds from the Clean Energy Fund created by Section 16-245n(c) of the General Statutes, formerly known as the Renewable Energy Investment Fund, and the Green Connecticut Loan Guaranty Fund created by Section 16a-40f(b) of the General Statutes.
- 2.2. **Chairperson.** The Chairperson of the Board shall be appointed by the Governor. The Chairperson shall perform the duties imposed by the Statute, these Bylaws, and by resolution of the Board, and shall preside at all meetings of the Board which he or she attends. At each meeting the Chairperson shall submit such recommendations and information as the Chairperson may consider appropriate concerning the business, affairs, and policies of the Green Bank. The Chairperson shall serve at the pleasure of the Governor but no longer than the term of office of the Governor or until the Chairperson's successor is appointed and qualified, whichever is longer.



2.3. **Vice Chairperson.** The Board shall elect from its members a Vice Chairperson. The Vice Chairperson shall perform the duties imposed by the Statute, these Bylaws, and by resolution of the Board. In the absence or incapacity of the Chairperson, the Vice Chairperson shall perform all the duties and responsibilities of the Chairperson. In the absence or incapacity of the Vice Chairperson, or in case of his or her resignation or death, the Board shall elect its members an acting Vice Chairperson during the time of such absence or incapacity or until such time as the Board shall elect a new Vice Chairperson. The Vice Chairperson shall serve until a successor is elected by the Board.

2.4. **Secretary.** A Secretary may be elected by the Board. The Secretary shall perform the duties imposed by the Statute, these Bylaws, and by resolution of the Board. In the absence or incapacity of the Secretary, or in case of a resignation or death, the Board shall elect from their number an acting Secretary who shall perform the duties of the Secretary during the time of such absence or incapacity or until such time as the Board shall elect a new Secretary. The Secretary shall serve until a successor is elected by the Board.

2.5. **Treasurer.** A Treasurer may be elected by the Board and shall serve as an ex officio member of the Budget, Operations and Compensation Committee and the Audit, Compliance and Governance Committee with the primary responsibility of general financial oversight of the fiscal condition of the Green Bank. The Treasurer shall perform the duties imposed by the Statute, these Bylaws, and by resolution of the Board. In the absence or incapacity of the Treasurer, or in case of a resignation or death, the Board shall elect from their number an acting Treasurer who shall perform the duties of the Treasurer during the time of such absence or incapacity or until such time as the Board

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shall elect a new Treasurer. The Treasurer shall serve until a successor is elected by the Board.

2.6. **Delegation of Powers.** The Board may, by resolution, delegate to the President or other officers of the Green Bank such powers of the Green Bank as they believe are necessary, advisable, or desirable to permit the timely performance of the functions of the Green Bank and to carry out the plans, policies, procedures, and decisions of the Board, except that such delegation shall not include any duties or responsibilities required by the Statute or these Bylaws to be performed by the Chairperson or the Board or otherwise in conflict with law.

2.7. **Directors.** The Directors shall be appointed and serve as provided in the Statute. Each prospective Director will take an oath to the Board prior to commencing service as set forth below:

GREEN BANK OFFICIAL OATH

YOU DO SOLEMNLY SWEAR THAT YOU WILL SUPPORT THE CONSTITUTION OF THE UNITED STATES, AND THE CONSTITUTION OF THE STATE OF CONNECTICUT; AND THAT YOU WILL FAITHFULLY DISCHARGE, ACCORDING TO LAW, THE DUTIES OF A DIRECTOR OF THE CONNECTICUT GREEN BANK, INCLUDING ALL GOVERNANCE AND ETHICAL OBLIGATIONS, TO THE BEST OF YOUR ABILITIES; SO HELP YOU GOD.

**ARTICLE III  
OFFICERS AND EMPLOYEES**

3.1. **Officers.** The Board shall have the power to create positions for such officers as it may deem to be in the interests of the Green Bank, and shall define the powers and duties of

all such officers. All such officers shall be subject to the orders of the Board and serve at its pleasure. Such officers shall include a President and may include a Director of Finance and Chief Investment Officer, a General Counsel and such other officers as the Board may determine to be appropriate. The Board shall be responsible for determining or approving compensation for each officer.

- 3.2. **President.** The Board shall hire a President. The President shall be the chief executive officer of the Green Bank and shall have such duties and responsibilities as may be determined by the Board, except that the duties and responsibilities of the office of President shall not include those required by the Statute or these Bylaws to be performed by the Chairperson or the Board or otherwise in conflict with law. The President shall be a non-voting, *ex officio* member of the Board pursuant to the Statute. The Board may delegate to such other person or persons all or part of the duties of the President. The President may, with the approval of the Board, assign or delegate to the officers and employees of the Green Bank any of the powers that, in the opinion of the President, may be necessary, desirable, or appropriate for the prompt and orderly transaction of the business of the Green Bank.
- 3.3. **Acting President.** The Board may, by resolution adopted by a majority vote, appoint some other person to serve as Acting President and perform the duties of the President in the event of the death, inability, absence, or refusal to act of the President. The Acting President shall be subject to all of the same restrictions placed upon the President.
- 3.4. **Chief Investment Officer.** The Board may appoint a Chief Investment Officer (CIO). The CIO shall have such duties and responsibilities as may be determined by the Board, except that the duties and responsibilities of the office of CIO shall not include those

required by the Statute or these Bylaws to be performed by the Chairperson or the Board or otherwise in conflict with law. The CIO shall not be a Director.

3.5. **General Counsel.** The Board may appoint a General Counsel. The General Counsel shall be the chief legal officer of the Green Bank and shall have such duties and responsibilities as may be determined by the Board, except that the duties and responsibilities of the office of General Counsel shall not include those required by the Statute or these Bylaws to be performed by the Chairperson or the Board or otherwise in conflict with law. The General Counsel shall not be a Director.

3.6. **Additional Officers and Other Personnel.** The Green Bank may from time to time employ such other personnel as it deems necessary to exercise its powers, duties, and functions pursuant to the Statute and any and all other laws of the State of Connecticut applicable thereto. The President shall develop a staffing plan which shall include without limitation a chart of positions and position descriptions for the Green Bank, personnel policies and procedures, and related compensation levels. Such staffing plan may provide for officers of the Green Bank in addition to those specifically provided for in these Bylaws, and the appointment of such officers shall be in the discretion of the President, except as the Board may otherwise determine. The President shall deliver the staffing plan to the Budget, Operations, and Compensation Committee for its review and approval pursuant to Article V, Section 5.3.2 hereof.

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3.7. **Signature Authority; Additional Duties.** The President and officers of the Green Bank shall have such signature authority as is provided in the Green Bank's Operating Procedures, and as may from time to time be provided by resolution of the Board. The

officers of the Green Bank shall perform such other duties and functions as may from time to time be required.

#### **ARTICLE IV BOARD MEETINGS**

- 4.1. **Regular Meetings.** Regular meetings of the Board or any Committee for the transaction of any lawful business of the Green Bank shall be held in accordance with a schedule of meetings established by the Board or such Committee, provided that the Board shall meet at least six (6) times per fiscal year through either a regularly scheduled or special meeting.
- 4.2. **Special Meetings.** The Chairperson may, when the Chairperson deems it expedient, call a special meeting of the Board for the purpose of transacting any business designated in the notice of such meeting. The Committee Chair of any Committee may, when the Committee Chair deems it expedient, call a special meeting of such Committee for the purpose of transacting any business designated in the notice of such meeting.
- 4.3. **Legal Requirements.** All meetings of the Board or any Committee shall be noticed and conducted in accordance with the applicable requirements of the Statute and the Connecticut Freedom of Information Act, including without limitation applicable requirements relating to the filing with the Secretary of the State of any schedule of regular meetings and notices of special meetings, meeting notices to Directors and Committee members, public meeting requirements, the filing and public availability of meeting agenda, the recording of votes and the posting or filing of minutes, the addition of agenda items at any regular meeting, and the holding of any executive session.

4.4. **Order of Business.** The order of business of any meeting of the Board or any Committee shall be as set forth in the agenda for such meeting, provided that the Board or Committee may vary the order of business in its discretion.

4.5. **Organization.**

4.5.1. At each meeting of the Board, the Chairperson, or in the absence of the Chairperson, the Vice Chairperson, or in the absence of both, a Director chosen by a majority of the Directors then present, shall act as Presiding Officer. The Secretary, or a staff member designated by the President, shall prepare or direct the preparation of a record of all business transacted at such meeting. Such record when adopted by the Directors at the next meeting and signed by the Chairperson or the Secretary shall be the official minutes of the meeting.

4.5.2. At each meeting of a Committee, the Committee Chair, or in the absence of the Committee Chair any other Committee member designated by the majority of the Committee members then present, shall act as Presiding Officer. The President, a staff member designated by the President, or any Committee member chosen by the Presiding Officer, shall prepare or direct the preparation of a record of the business transacted at such meeting. Such record when adopted by a majority of the Committee members in attendance at the next meeting and signed by the Committee Chair shall be the official minutes of the Committee meeting.

4.6. **Attendance.** A Director or a member of a Committee may participate in a meeting of the Board or of such Committee by means of teleconference, videoconference, or similar communications equipment enabling all Directors and Committee members participating

in the meeting to hear one another, and participation in a meeting pursuant to this Section shall constitute presence in person at such a meeting. Directors or their designees who miss more than three (3) consecutive meetings shall be asked to become more active on the Board. In the event of further absence, the Board may decide by majority vote to recommend to the appointing authority that the appointment be reconsidered.

4.7. **Quorum.**

4.7.1. A majority of the Directors then in office shall constitute a quorum for the transaction of any business or the exercise of any power of the Green Bank.

4.7.2. A majority of the Director-members of a Committee shall constitute a quorum, provided that, except in the case of an advisory committee, such quorum shall consist of a minimum of three (3) Directors, at least one (1) of which shall not be a State employee.

4.8. **Enactment.** When a quorum is present, an affirmative vote of a majority of Directors in attendance at Board or Committee meetings shall be sufficient for action, including the passage of any resolution, except as may otherwise be required by these Bylaws or applicable law. Non-Director members of any Committee may participate in the Committee's discussions and deliberations and may join in the Committee's recommendations to the Board, but shall not have a vote on any matters as to which the Committee is exercising the powers of the Board, including without limitation, any funding decisions.

4.9. **Designation of Substitutes for Directors.** If authorized by the Statute, then a Director may appoint a designee to serve as the Director's representative on the Board with full power to act and to vote on that Director's behalf. For the purposes of maintaining

consistency and efficiency in Board matters, alternating attendance between the Director and his or her designee is strongly discouraged. If not authorized by statute, then a Director may not name or act through a designee. An authorized appointment of a designee shall be made by filing with the Board a short bio of the designee, the designee's CV, and a certificate substantially similar to the following:

"Certificate of Designation

I, \_\_\_\_\_, a member of the Board of Directors of the Connecticut Green Bank, do hereby designate \_\_\_\_\_ [Name & Title] to represent me at the meetings of the Board or committees thereof with full powers to act and vote on my behalf. This designation shall be effective until expressly revoked in writing.

\_\_\_\_\_  
[Name]"

## **ARTICLE V COMMITTEES**

5.1. **Delegation Generally.** The Board may delegate any and all things necessary or convenient to carry out the purposes of the Green Bank to three (3) or more Directors, provided that at least one (1) of which shall not be a State employee, and, to the extent of powers, duties, or functions not by law reserved to the Board, to any officer or employee of the Green Bank as the Board in its discretion shall deem appropriate.

5.1.1. **Appointments; Quorum; Transaction of Business; Recordkeeping.**



5.1.2. **Appointments.** The Chairperson shall appoint all Committee Chairs. The Committee Chair need not be a Director on the Deployment Committee any *ad hoc* committee, or an advisory committee.

5.1.3. **Quorum.** If necessary to achieve a quorum at any meeting of a Committee other than an advisory committee, then the Chairperson or the Vice Chairperson may sit, participate, and vote as an alternate member of such committee at such meeting.

5.1.4. **Report of Committee Actions.** Each Committee shall report to the Board on such Committee's actions and activities at the Board meeting next following each Committee meeting.

5.1.5. **Recordkeeping.** Committee recordkeeping shall be in accordance with Article IV, Section 4.5.2 hereof.

5.2. **Standing Committees.** The Green Bank shall have four (4) Standing Committees of the Board consisting of an Audit, Compliance, and Governance Committee, a Budget, Operations, and Compensation Committee, a Deployment Committee, and a Joint Committee of the Energy Conservation Management Board and the Connecticut Green Bank. Each Standing Committee may form subcommittees in its discretion, but no such subcommittee shall exercise powers of the Board unless authorized by the Board to do so.

5.2.1. **Audit, Compliance, and Governance Committee.** The Audit, Compliance, and Governance Committee shall consist of no less than three (3) Directors appointed by the Chairperson on a biennial basis, at least one (1) of which shall not be a State employee. The principal functions, responsibilities, and areas of cognizance of the Audit, Compliance, and Governance Committee shall be as

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follows: (i) recommendation to the Board as to the selection of auditors; (ii) meetings with the auditors to review the annual audit and formulation of an appropriate report and recommendations to the Board with respect to the approval of the audit report; (iii) review of the audit and compliance findings of the Auditors of Public Accounts, and meetings with the staff auditors there as appropriate; (iv) review with the auditors, President, and senior finance staff of the adequacy of internal accounting policies, procedures and controls; (v) review of the sufficiency of financial and compliance reports required by statute; (vi) recommendation to the Board as to the selection of the Green Bank's ethics liaison and ethics compliance officer(s); (vii) review of the adequacy of employee education and training on ethics and related legal requirements; (viii) review and approval of, and in its discretion recommendations to the Board regarding, all governance and administrative matters affecting the Green Bank, including but not limited to matters of corporate governance, corporate governance policies, committee structure and membership, management qualifications and evaluation, and Board and Standing Committee self-evaluation; (ix) oversight of the Green Bank's legal compliance programs, including but not limited to compliance with state contracting and ethics requirements; (x) management succession planning; (xi) oversight of any Director conflict of interest matters; (xii) as-needed review of any staff recommendations to the Board regarding the Green Bank's regulatory or policy initiatives including but not limited to the Comprehensive Plan and other clean energy regulatory or policy evidentiary matters before the Public

Utilities Regulatory Authority and other state and federal commissions and tribunals that may affect clean energy development and/or the Green Bank's statutory mandate; (xiii) acting as a resource to the appointing authorities with respect to the identification and recruitment of qualified and interested private sector Director candidates; and (xvi) the exercise of such authority as may from time to time be delegated by the Board to the Audit, Compliance, and Governance Committee within its areas of cognizance.

5.2.2. **Budget, Operations, and Compensation Committee.** The Budget, Operations, and Compensation Committee shall consist of no less than three (3) Directors appointed by the Chairperson on a biennial basis, at least one (1) of which shall not be a State employee. Additionally, the Chairperson or the Vice Chairperson shall be a non-voting *ex officio* member of the committee, subject to the provisions of Article V, Section 5.2.2 hereof. The principal functions, responsibilities, and areas of cognizance of the Budget, Operations, and Compensation Committee shall be as follows: (i) to recommend and monitor compliance with prudent fiscal policies, procedures, and practices to assure that the Green Bank has the financial resources and financial strategy necessary to carry out its statutory responsibilities and mission, including oversight of the Green Bank's budget process, asset and liability management, asset risk management, insurance and loss prevention, and performance measurement; (ii) recommendation to the Board as to approval of the annual operating budget and plan of operation; (iii) oversight of space planning and office leases, systems, and equipment, and procedures and practices with respect to purchasing; (iv) to

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recommend the establishment of and monitor compliance with policies, programs, procedures, and practices to assure optimal organizational development, the recruitment and retention of qualified personnel and the just and fair treatment of all employees of the Green Bank, including employment policies and practices, employee training, development, evaluation and advancement, employee compensation and benefits, and matters of employee separation and severance; (v) recommend the adoption of a formal compensation philosophy; (vi) annually review compensatory time to assure compliance with Green Bank’s policy; (vii) annually review paid or reimbursable education assistance to assure compliance with Green Bank’s policy; (viii) review and approval of the Green Bank staffing plan as developed by the President; (ix) with respect to reallocation of amounts between approved budget line items in excess of ten thousand dollars (\$10,000) but not exceeding seventy-five thousand dollars (\$75,000) in total, approval of such reallocation; (x) with respect to increases to the operating budget or unbudgeted disbursements in amounts in excess of ten thousand (\$10,000) but not exceeding seventy-five thousand (\$75,000), approval of such increases; and (xi) the exercise of such authority as may from time to time be delegated by the Board to the Budget, Operations, and Compensation Committee within its areas of cognizance.

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5.2.3. **Deployment Committee.** The Deployment Committee shall consist of no more than six (6) members total, consisting of no less than three (3) Directors and up to three (3) non-Directors, all appointed by the Chairperson on a biennial basis,

and at least one (1) of the Director-members shall not be a State employee. Additionally, the State Treasurer, or her or his designee, shall be a voting *ex officio* member of the committee. Additionally, the Chairperson or the Vice Chairperson shall be a non-voting *ex officio* member of the committee, subject to the provisions of Article V, Section 5.2.2 hereof. The non-Director members of the Deployment Committee shall each have expertise in such areas as: project finance, levelized cost of clean energy, investment banking, commercial lending, tax-exempt or tax-advantaged financing or municipal banking, or clean energy policy. The principal functions, responsibilities, and areas of cognizance of the Deployment Committee shall be as follows: (i) to recommend and monitor compliance with program, project, and investment guidelines, criteria, policies, and practices supporting the Green Bank's statutory mission and management of such by the Green Bank's professional staff; (ii) with respect to loans, loan guarantees, loan loss reserves, credit enhancements, debt support programs, debt, debt-like, grants, equity, near-equity, and related measurement and verification studies and evaluation audit funding requests, including but not limited to the Residential Solar program, the Combined Heat and Power pilot program, the Anaerobic Digestion pilot program, and the Condominium Renewable Energy grant program, between five hundred thousand dollars (\$500,000) and two million five hundred thousand dollars (\$2,500,000), evaluation and approval of such requests on behalf of the Board so long as such approval is within the Green Bank's approved Operations and Program Budget; (iii) with respect to loans, loan guarantees, loan loss reserves, credit

enhancements, debt support programs, debt, debt-like, grants, equity and near-equity funding requests which exceed two million five hundred thousand dollars (\$2,500,000), evaluation of such requests and recommendation to the Board regarding such requests; (iv) oversight of policies and practices relating to the evaluation and recommendation of initial investments, follow-on investments, investment modifications and restructurings, and the sale or other disposition of investments by the Green Bank's professional investment staff; (v) oversight of policies and practices relating to investment management by the Green Bank's professional investment staff, including implementation of investment exit strategies; (vi) except to the extent of any investment powers expressly reserved to the Board itself in any resolution of the Board, to approve on behalf of the Board investments, follow-on investments, investment modifications and restructurings, and the sale or other disposition of investments; (vii) to review and recommend to the Board the issuance of bonds, notes or other obligations of the Green Bank, and upon such approval, to sell, issue and deliver such bonds, notes or obligations on behalf of the Green Bank; (viii) on a periodic basis, but not less frequently than annually, to review and recommend to the Board the establishment and modification of a provision for losses with respect to loans, loan guarantees, loan loss reserves, credit enhancements, debt support programs, debt, debt-like instruments, and any other extensions of credit or the undertaking of risk where it is determined the Green Bank (a) may not recover its investment of capital or its expected rate of return, (b) is contractually or otherwise obligated to pay or commit additional Green Bank capital to such

transactions without a reasonable expectation for the return of such capital, or  
(c) is for any other reason more likely than not to suffer a loss due to an  
investment or program and (ix) the exercise of such other authority as may from  
time to time be delegated by the Board to the Deployment Committee within its  
areas of cognizance.

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**5.2.4. Joint Committee of the Energy Conservation Management Board and the**

**Connecticut Green Bank.** The Standing Committee Related to the Joint  
Committee of the Energy Conservation Management Board and the Board of  
Directors of the Green Bank shall consist of no more than (2) voting Directors and  
(2) nonvoting members who shall be appointed by the Chairperson on a biennial  
basis to serve on both this Standing Committee and the Joint Committee. Said  
Directors of this Standing Committee shall be charged with joining with four (4)  
members, no more than (2) voting Directors and (2) nonvoting members, from the  
Energy Conservation Management Board to form the Joint Committee as required  
pursuant to 16-245m(d)(2) of the General Statutes.

5.2.4.1. The principal functions, responsibilities and areas of cognizance of this  
Standing Committee shall be as follows: (i) to work with the Joint  
Committee to examine opportunities to coordinate the programs and  
activities contained in the plan developed under section 16-245n (c) of  
the General Statutes with the programs and activities contained in the  
plan developed under section 16-245m(d)(1) of the General Statutes;  
and (ii) to work with the Joint Committee to provide financing to  
increase the benefits of programs funded by the plan developed under

section 16-245m(d)(1) of the General Statutes so as to reduce the long-term cost, environmental impacts and security risks of energy in the state.

5.2.4.2. This Standing Committee, in consultation with and upon approval of the Joint Committee, is authorized to vote and allocate funding in an amount not to exceed three hundred thousand dollars (\$300,000.00) per program or project so long as such program or project is within the Green Bank's approved Operations and Program Budget, consistent with the Green Bank's Comprehensive Plan, within an approved program of the Board or Deployment Committee and consistent with the credit and investment guidelines, criteria, policies, and practices approved by the Board. No resolution of the Joint Committee to approve an expenditure of funds may be approved without an affirmative vote of at least two (2) voting Directors of the Connecticut Green Bank.

5.2.4.3. Notwithstanding anything contained in these Bylaws to the contrary, the Joint Committee may adopt its own bylaws which shall govern the conduct and operations of the Joint Committee. If there are conflicting provisions between these Bylaws and any bylaws adopted by the Joint Committee, these Bylaws shall be controlling.

5.2.5. Additional Standing Committees or *ad hoc* committees of the Board may be formed by the Board at its discretion by resolution setting forth the purposes and responsibilities of such additional Standing Committee or *ad hoc* committee.



Each additional Standing Committee or *ad hoc* committee shall have at least three (3) members who are Directors, at least one (1) of which shall not be a State employee.

**5.3. Advisory Committees.**

- 5.3.1. The Board may form such advisory committees as the Board in its discretion may determine to be appropriate to advise and assist the Board, any Standing Committee of the Board, or management of the Green Bank in the performance of its statutory responsibilities. Such advisory committees may include as members such individuals as may be knowledgeable in the subject matter whether or not Directors or employees of the Green Bank.
- 5.3.2. Members of an advisory committee who are not Directors or employees of the Green Bank shall be considered "members of an advisory board" for purposes of the Connecticut Code of Ethics for Public Officials.
- 5.3.3. Public confidence in the recommendations and other actions of an advisory committee requires that advisory committee members avoid both actual conflicts of interest and situations that might give the appearance of a conflict of interest. It is to be expected, however, that many advisory committee members will have outside business or professional interests relating to the Green Bank's statutory mission. It is not intended that such outside business or professional interests be considered a conflict of interest, provided that an advisory committee member shall not participate in any deliberation or vote, and shall not take any other affirmative action as an advisory committee member, with respect to a matter in which such member has an interest which is in substantial

conflict with the proper discharge of the duties and responsibilities of membership on the advisory committee. For this purpose, the determination of whether an advisory committee member has an interest which is in substantial conflict with the duties and responsibilities of membership on the advisory committee shall be made in the same manner as provided in Section 1-85 of the Connecticut General Statutes for conflicting interests of public officials. In addition to disclosures required by law, the existence and nature of any such substantial conflict shall be promptly disclosed to the Committee Chair.

#### **ARTICLE VI FISCAL YEAR**

- 6.1. **Fiscal Year.** The fiscal year of the Green Bank shall extend from July 1 through the following June 30 except as the same may be otherwise determined by resolution of the Board.

#### **ARTICLE VII CONFLICTS OF INTEREST**

- 7.1. Public confidence in the recommendations and other actions of the Board and Committees requires that Directors avoid both actual conflicts of interest and situations that might give the appearance of a conflict of interest. Given the statutory qualifications for membership on the Board, it is to be expected, however, that some Directors, or Directors' immediate family members, will have outside business or professional interests relating to the Green Bank's statutory mission. It is not intended that such outside business or professional interests be considered a conflict of interest, provided that a Director shall not participate in any deliberation or vote, and shall not take any

other affirmative action as a Director or Committee member, with respect to a matter in which such Director or immediate family member has an interest which is in substantial conflict with the proper discharge of the duties and responsibilities of membership on the Board or such Committee. For this purpose, the determination of whether a Director or immediate family member has an interest which is in substantial conflict with the duties and responsibilities of membership on the Board or a Committee shall be made in the manner provided in Section 1-85 of the Connecticut General Statutes for conflicting interests of public officials. The existence and nature of any potential conflict of interest shall be promptly disclosed to the Chairperson (or, in the case of the Chairperson, to the Vice Chairperson) and otherwise as may be required by Section 1-86 of the Connecticut General Statutes.

- 7.2. With respect to potential conflicts of interest, as defined in Section 1-86(a) of the Connecticut General Statutes and pursuant thereto and pursuant to Section 1-81-30(c) of the Regulations of Connecticut State Agencies, the Member shall either (1) excuse himself or herself from participating in any deliberation or vote on the matter and may not otherwise take any affirmative action on the matter or (2) shall prepare a written statement prepared under penalty of false statement describing the matter requiring action and the nature of the potential conflict and explaining why, despite the potential conflict, such Member is able to vote and otherwise participate fairly, objectively, and in the public interest, and shall deliver a copy of such statement to the Office of State Ethics and shall enter a copy of the statement in the minutes of the Board or committee, as applicable.

7.3. In addition to the steps described in Section 7.1 and 7.2, above, a conflicted or potentially conflicted Director:

7.3.1. is strongly encouraged to leave the room during discussion and vote on the matter at hand; and

7.3.2. shall not participate in such discussion and vote; and

7.3.3. shall not have access to non-public confidential information regarding the matter at hand.

## **ARTICLE VIII COMPENSATION**

8.1. No Director or Committee member shall at any time receive or be entitled to receive any compensation for the performance of his or her duties as a Director, but may be reimbursed by the Green Bank for reasonable and necessary expenses incurred in the performance of such duties.

## **ARTICLE IX**

### **RESTRICTIONS ON DIRECTORS AND EMPLOYEES LEAVING GREEN BANK**

9.1. Green Bank Directors and employees are required to comply with the Code of Ethics provisions pertaining to post-state activity and to familiarize themselves with the statutes pertaining to post-state service restrictions which can be found at Connecticut General Statutes Sections 1-84a and 1-84b and in the *Guide to the Code of Ethics for Public Officials and State Employees.*

**ARTICLE X**  
**PARLIAMENTARY AUTHORITY**

10.1. Robert's Rules of Order, current revised edition, shall govern the proceedings of the Board when not in conflict with these Bylaws.

**ARTICLE XI**  
**AMENDMENT**

11.1. **Amendment or Repeal.** These Bylaws may be amended or repealed or new Bylaws may be adopted by the affirmative vote of a Super Majority of the Directors then in office. The Green Bank may adopt rules for the conduct of its business, and the adoption of such rules shall not constitute an amendment of these Bylaws.

**ARTICLE XII**  
**DEFINITIONS**

12.1. **Definitions.** Unless the context shall otherwise require, the following words and terms shall have the following meanings:

12.1.1. "Green Bank" means the Connecticut Green Bank, as created and existing pursuant to the Statute.

12.1.2. "Board" means the board of directors of the Green Bank appointed and serving pursuant to the Statute.

12.1.3. "Chairperson" means the Chairperson of the Board appointed pursuant to the Statute.

12.1.4. "Clean Energy" means solar photovoltaic energy, solar thermal, geothermal energy, wind, ocean thermal energy, wave or tidal energy, fuel cells, landfill gas, hydropower that meets the low-impact standards of the Low-Impact Hydropower Institute, hydrogen production and hydrogen conversion

technologies, low emission advanced biomass conversion technologies, alternative fuels, used for electricity generation including ethanol, biodiesel or other fuel produced in Connecticut and derived from agricultural produce, food waste or waste vegetable oil, provided the Commissioner of Energy and Environmental Protection determines that such fuels provide net reductions in greenhouse gas emissions and fossil fuel consumption, usable electricity from combined heat and power systems with waste heat recovery systems, thermal storage systems, other energy resources and emerging technologies which have significant potential for commercialization and which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission, financing of energy efficiency projects, projects that seek to deploy electric, electric hybrid, natural gas or alternative fuel vehicles and associated infrastructure, any related storage, distribution, manufacturing technologies or facilities and any Class I renewable energy source.

- 12.1.5. "Committee" means any committee of or formed by the Board, including any Standing Committee, *ad hoc* committee, or advisory committee.
- 12.1.6. "Committee Chair" means the Chairperson of a Committee.
- 12.1.7. "Comprehensive Plan" means the plan developed by the Green Bank pursuant to section 16-245n(c) of the General Statutes.
- 12.1.8. "Connecticut Freedom of Information Act" means the Connecticut Freedom of Information Act, Connecticut General Statutes § 1-200 *et seq.*, as amended.
- 12.1.9. "Director" means a voting member of the Board appointed pursuant to the Statute.

- 12.1.10. "General Statutes" means the Connecticut General Statutes, as amended.
- 12.1.11. "Majority", whether capitalized or lowercase, means one more than half.
- 12.1.12. "President" means the President of the Green Bank hired by and serving at the pleasure of the Board of Directors of the Green Bank.
- 12.1.13. "Presiding Officer" has the meaning attributed to that term in Article IV, Section 4.5 of these Bylaws.
- 12.1.14. "Resolution of Purposes" means a resolution of the Board adopted pursuant to the penultimate sentence of Section 16-245n(d) of the General Statutes.
- 12.1.15. "Secretary" means the Secretary of the Board elected pursuant to the Statute and these Bylaws.
- 12.1.16. "Standing Committee" means a Standing Committee established by these Bylaws or another standing committee appointed by the Board for a specified period of time for the purpose of carrying out one or more functions of the Green Bank.
- 12.1.17. "Statute" means Connecticut General Statutes § 16-245n, as amended.
- 12.1.18. "Super Majority" means two thirds rounded up to the next whole integer.
- 12.1.19. "Vice Chairperson" means the Vice Chairperson of the Board elected pursuant to these Bylaws.

### **ARTICLE XIII AUTHORITY**

- 13.1. These Bylaws are adopted pursuant to the Statute and effective as of [ ].

**Deleted:** December 16, 2016



# Memo

**To:** Connecticut Green Bank Board of Directors  
**From:** Bryan Garcia (President and CEO), Brian Farnen (General Counsel and CLO), Eric Shrago (Managing Director of Operations)  
**CC:** Senior Staff of the Green Bank  
**Date:** June 19, 2020  
**Re:** Proposed Revisions to the Employee Handbook of the Connecticut Green Bank

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Regularly, staff review the organization's Employee Handbook to ensure that it is up to date and is reflective of our present structure, staffing, processes, and infrastructure. This year, staff has completed our review and are recommending changes that can be summarized as follows:

- **Technology** – staff removed outdated references to our IT infrastructure and updated policies to be reflective of the software used. Also, we needed to update policies and procedures to refer to our new MS Teams phone system.
- **Ethics** – a new introduction to the ethics section was added to be in line with what is used by other Quasi-public agencies.
- **Telecommuting and Flextime** – Due to the pandemic, we have instituted a full-time telecommuting policy, which has worked exceptionally well. In recognition of our need to be flexible with our staff, we have updated our telecommuting policy and flextime policy to empower the president and CEO to allow employees to telecommute more frequently, while also allowing for more flextime scheduling on a case-by-case basis.

Attached is the updated handbook with the changes illustrated.

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## Resolution

**WHEREAS**, pursuant to Section 5.2.1 of the Connecticut Green Bank (Green Bank) Bylaws, the Audit, Compliance & Governance (ACG) Committee has recommended that the Board of Directors (Board) approve of certain revisions to the Green Bank Employee Handbook;

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board hereby approves of the revisions to the Green Bank Employee Handbook presented on June 26, 2020. Second. Discussion. Vote





CONNECTICUT  
**GREEN BANK**<sup>SM</sup>

# **Employee Handbook**

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## **SECTION 1 INTRODUCTION**



## Employee Welcome

Welcome to the Connecticut Green Bank (CGB)! We are pleased that you are joining our staff and embarking on an employment career with CGB. We are so pleased to welcome you as you begin this endeavor. CGB develops, invests in and promotes clean sustainable energy sources for the benefit of Connecticut ratepayers. Our most important resource in achieving that vision is you – the employee. The staff at CGB works together and depends upon one another to achieve our vision. We want you to know how much we appreciate the contribution you are making to the continued successful operation of our agency.

This handbook was developed to describe some of the expectations of our employees and to outline the policies, programs and benefits available to eligible employees. These policies and programs are general guidelines under continuous review and are subject to change or discontinuance at any time. Employees should familiarize themselves with the contents of the employee handbook as soon as possible, for it will answer many questions about employment at CGB.

Please read your handbook carefully and keep it for further reference. Please contact the Human Resources if you have any questions or concerns about the information set forth in this handbook. Again, welcome and we wish you the best in your career at CGB.

## Agency Purpose and Structure

CGB was established by Connecticut's General Assembly on July 1, 2011 as a part of Public Act 11-. This new quasi-public agency supersedes the former Connecticut Clean Energy Fund. The Green Bank was established by the Governor and Connecticut's General Assembly on July 1, 2011 through Public Act 11-80 as a quasi-public agency that supersedes the former Connecticut Clean Energy Fund. As the nation's first "Green Bank", the Green Bank leverages public and private funds to drive investment and scale-up clean energy deployment in Connecticut. The Green Bank's statutory purposes are:

- To develop programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such other programs as the Green Bank may determine;
- To support financing or other expenditures that promote investment in clean energy sources to foster the growth, development and commercialization of clean energy sources and related enterprises; and
- To stimulate demand for clean energy and the deployment of clean energy sources within the state that serves end-use customers in the state.

The Green Bank's purposes are codified in Section 16-245n(d)(1) of the General Statutes of Connecticut and restated in the Green Bank's Board approved Resolution of Purposes.

### Vision

...a world empowered by the renewable energy of community.

### Mission

Confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.

### Goals

To achieve its vision and mission and to demonstrate how Green Bonds Us, the Green Bank has established the following three goals:

1. To leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.
2. To strengthen Connecticut's communities by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses.
3. To pursue investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability.

The vision, mission, and goals support the implementation of Connecticut's clean energy policies be they statutorily required (e.g., CGS 16-245ff), planning (e.g., Comprehensive Energy Strategy), or regulatory in nature. For more information about CGB, please visit [www.ctgreenbank.com](http://www.ctgreenbank.com).

### **Objectives and Scope**

This Employee Handbook has been prepared to acquaint you with policies and procedures relating to employment at CGB and to provide a reasonable understanding of expectations so that we may work together effectively. It is a guide to CGB's policies but it does not include every single policy. All employees are expected to be familiar with and abide by the policies in this Handbook.

This Handbook provides information concerning CGB benefits. Please note that CGB benefit plans are defined in legal documents such as insurance contracts and official plan texts. This means that if a question ever arises about the nature and extent of plan benefits or if there is conflicting language, the formal language of the plan documents governs over the informal wording of this Handbook. Plan documents are available for inspection.

This Handbook is not, nor is it intended to be, an express or implied contract of employment, an agreement for employment for any specified period of time, or a guarantee of benefits or working conditions between employee and CGB. CGB does not recognize any contract of employment unless it is reduced to writing and signed by the employee and the President. CGB reserves the right to unilaterally revise, delete, or add to the policies, procedures and benefits within this handbook at any time with or without advance notice. Revisions of policies, procedures and benefits may be made and applied immediately or prospectively, or if not prohibited by law, made effectively with a retroactive date. Additionally, CGB reserves the right to make exceptions or vary from any of the rules, benefits, or policies contained in this handbook in its managerial discretion.

### **At Will Statement**

Employment with CGB is at will, which means that either party may terminate the relationship at any time and for any reason, with or without cause. No manager, supervisor or other agent of CGB has the authority to alter the at-will employment relationship by, for example, making a commitment, express or implied, of guaranteed or continued employment to any employee. An employee's at-will employment status can only be altered by a written contract of employment that is specific as to all material terms and is signed by both the employee and the President of CGB.

### **Administration of Policy**

The President has overall responsibility for directing the implementation and administration of policies and procedures. On a day-to-day basis it is the responsibility of the [Managing](#) Director of Operations and each supervisor to administer all policies and procedures in a manner consistent with the handbook.

## **SECTION 2 EMPLOYMENT**

**Orientation**

During your first few days of employment, you will participate in an orientation program conducted by Human Resources and various members of CGB, including your supervisor. During this program, you will receive important information regarding the performance requirements of your position, basic company policies, your compensation, and benefit programs. You will be asked to complete all necessary paperwork at this time, such as medical benefit plan enrollment forms, beneficiary designation forms and appropriate federal and state tax forms. You will be required to present CGB with information establishing your identity and your eligibility to work in the United States in accordance with applicable federal law. During your first few weeks, you may be asked to prepare a short bio and scheduled to have your photograph taken for inclusion on our Website and in our annual report.

Please use this orientation program to familiarize yourself with CGB and our policies and benefits. We encourage you to ask any questions you may have so that you will understand all the guidelines that affect and govern your employment relationship with us.

**Status of Employment**

Employees of CGB are exempt from classified service as provided in Public Act 11-80 of the Connecticut General Statutes. Unlike employees in the classified service, CGB employees do not have tenure. Continued employment is predicated on satisfactory performance of duties, a satisfactory record of attendance, and appropriate conduct with the general public and other employees on the CGB staff as well as continued available work. All CGB employees are considered at will employees.

**Conditions of Employment**

All new and rehired employees work on an introductory basis for the first six months after their date of hire. Any significant absence (in excess of five consecutive days) will automatically extend an introductory period by the length of the absence. During the six-month introductory period, if any employee's performance is not satisfactory, the employee may be terminated or may be required to serve an extended introductory period.

Acceptance as a regular employee of CGB is contingent upon successful completion of a six month introductory period, which is intended to provide the employee the opportunity to demonstrate his/her ability to achieve a satisfactory level of performance and to determine whether the new position meets his/her expectations. CGB uses this period to evaluate the capabilities, work habits, and overall performance of the new employee.

The existence of the introductory period as described above does not change an employee's at-will status. Employees and CGB may terminate the employment relationship at any time and for any reason during and after the introductory period.

Benefits, eligibility and employment status is not changed during a secondary introductory period that results from a promotion or transfer to a new position within CGB. However, the employee will be required to serve a six-month introductory period to assess his/her job performance in the new position.

**Staff Relations**

CGB's success depends on its employees' skills, abilities and the manner in which they are used to meet our goals. Our employees are our most important resource to help us succeed and to improve the way we do things. To take full advantage of this resource we need to communicate freely and openly. Usually, it is the employees performing the work who have the

most knowledge about the tasks and processes they use. We encourage employees to help us by taking every opportunity to make us aware of problems of any kind, and suggesting ways we can improve. Employees should feel free to discuss any concern or suggestions they have with their supervisor or any member of management. It is our intent that as a result of open communication, CGB and all of its employees will enjoy a mutually prosperous and satisfying relationship.

Our experience has shown that when employees deal openly and directly with supervisors, the work environment can be excellent, communications can be clear and attitudes can be positive. When you have a suggestion, question, problem or concern, your supervisor is in the best position to respond quickly and accurately, but you should feel free to discuss the issue with the staff in Human Resources.

The working environment at CGB is one that puts staff, supervisors, and administration in a close relationship of mutual respect. Attendance at and participation in group meetings and staff meetings are important. Employees are encouraged and expected to use these meetings as opportunities for raising issues to improve client services, program operation, and staff relations. It is generally during these meetings that most business-related matters are communicated. If an employee is absent from any of these meetings, it is his or her responsibility to catch up with business discussed.

### **Customer Service Deliverables**

At CGB, customer service is a priority. We all have internal and external customers. To that end, we expect each one of our employees to be accountable for the following customer deliverables:

- To respond promptly to customer requests for information or assistance.
- To act as a member of the CGB team and pitch in and assist other staff members as requested.
- To provide a work product that is complete, well-organized and useful to the customer.

### **Equal Employment Opportunity**

In order to provide equal employment and advancement opportunities to all individuals, employment decisions at CGB will be based on merit, qualifications, abilities in relation to the staffing requirements, and business needs. CGB is an equal opportunity employer and does not discriminate in employment opportunities or practices on the basis of race, color, religious creed, sex, marital status, national origin, age, ancestry, mental retardation, physical or learning disability, past or present history of mental disorder, sexual orientation, special disabled veterans or veterans of the Vietnam War status, or any other legally protected status, except in those cases where there is a legitimate, compelling and documented occupational qualification that precludes the hiring or promotion of individuals in any of these protected groups. CGB will make reasonable accommodations for qualified individuals with known disabilities unless doing so would result in an undue hardship to CGB. This equal opportunity policy extends to all aspects of the employment relationship, including recruitment, hiring, training, compensation, promotions/transfers, job assignments, discipline and termination. All other policies, such as employee benefits, are also administered based on fair and equal treatment.

Any employees with questions or concerns about any type of discrimination in the workplace are encouraged to bring these issues to the attention of their immediate supervisor. Employees can raise concerns and make reports without fear of reprisal, either verbally or through the grievance procedure. Anyone engaging in any type of unlawful discrimination will be subject to disciplinary action, up to and including termination of employment.

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### **Disability Policy (ADA)**

As an employer, CGB will not discriminate against any employee or person seeking employment on the basis of a disability, in compliance with the spirit and regulations of the Americans with Disabilities Act (ADA) and all applicable Connecticut law. The purpose of the ADA is to assure that individuals with covered disabilities who are able to perform the essential duties of their job, with or without reasonable accommodation, are given equal opportunity and treatment by their employer and fellow employees. If a qualified employee or employee candidate has an ADA recognized disability; they cannot be denied equal opportunity for employment.

In accordance with the ADA, CGB does not discriminate on the basis of disability in the administration of or access to its programs, services or activities, and is committed to equal employment opportunity for employees and job applicants with disabilities. Employees who violate the ADA by discriminating against an individual with an ADA recognized disability would be subject to disciplinary action up to and including dismissal. Rumors and gossip regarding any employee who has an ADA recognized disease or is assumed to have an ADA recognized disease would not be tolerated under any circumstances. Employees who need a reasonable accommodation must request such accommodations through their supervisor. Employees may be required to submit medical documentation to support their request.

### **Immigration Law Compliance**

All job offers extended to successful candidates are contingent upon the receipt of the required documentation and completion of INS Form I-9.

Only those successful applicants who provide the required documentation and complete Form I-9 will be permitted to begin work.

Former employees who are rehired must also complete the form if they have not completed a Form I-9 with CGB within the past three years, or if their previous Form I-9 is no longer retained or valid.

**Conflict of Interest**

This policy establishes the general framework within which CGB wishes the business to operate.

Employees have an obligation to conduct business within guidelines that prohibit actual or potential conflicts of interest and should not have a financial interest in any client. A conflict of interest may exist when the interests or concerns of any director, officer, staff, client, or said person's relatives, or any party, group or organization in which said person has an interest or concern, may be seen as competing or conflicting with the interests or concerns of CGB. No "presumption of guilt" is created by the mere existence of a relationship with outside firms. The employee concerned must disclose any possible conflict of interest to the President. If it is not clear to the employee whether a particular situation or relationship constitutes a conflict of interest, the employee should contact the President.

When a conflict of interest exists regarding any matter requiring action by the Board of Directors, the President shall call it to the attention of the Board of Directors (or its committee).

**Outside Employment**

Employees may hold a job with another company as long as he/she satisfactorily performs their job responsibilities with CGB. Employees who have additional outside employment for which they receive pay must keep their supervisor and the Human Resources Manager informed of such employment. This outside employment must not interfere with the employee's effectiveness in performing their job responsibilities, and must not conflict with CGB's public image. All employees will be judged by the same performance standards and will be subject to CGB scheduling demands, despite any existing outside work requirements.

If the President and/or his designee decides that an employee's outside work interferes with performance or the ability to meet the requirements of CGB as they are modified from time to time, the employee may be asked to terminate the outside employment if he or she wishes to remain with CGB. Inappropriate behavior believed to be a result of outside employment (abuse of sick time, refusal of overtime, unsatisfactory performance, etc.) will be addressed through normal performance management and/or disciplinary procedures.

Outside employment will present a conflict of interest if it has an adverse impact on CGB. Employees with outside employment must abide by the confidentiality standards that protect CGB's clients.

**Employment of Relatives**

CGB is committed to the objective treatment of all employees based upon their job performance and the operational needs of CGB. The employment of relatives may cause serious conflicts and problems with favoritism and employee morale. In addition, real or apparent partiality in treatment at work and personal conflicts from outside the work environment can be carried into day-to-day working relationships. Therefore, it is the policy of CGB that relatives of employees will not be considered for employment.

If the relative relationship is established after employment, and there will be a direct reporting relationship or the related individuals will be working within the same department, the parties may be separated by reassignment or termination, if it is deemed necessary by the Human Resources Department and/or the President and/or his designee.

A relative is any person who is related by blood or marriage, or whose relationship with the employee is similar to that of persons who are related by blood or marriage.

**Confidential Nature of Work**

The protection of confidential information and trade secrets, as defined below, is vital to the interest and the success of CGB. The improper disclosure of confidential information would harm CGB and/or its employee or clients if such information were improperly disclosed to third parties. Accordingly, employees may not at any time during and after termination of employment with CGB, use for any purpose or disclose any confidential information to any third person or party, except as specifically authorized in the course of employment and required for carrying out job duties.

Confidential information includes, but is not limited to, the following examples:

- Any work performed by CGB employees for a client, portfolio company, or applicant.
- Any client, portfolio company or applicant information.
- Compensation data, including salary information.
- Personnel information.
- Financial information.
- Pending projects and proposals.
- Any other information not subject to the State Freedom of Information Act.

Confidential information should not be discussed with others (including family and friends), nor should employees discuss office matters or the affairs of clients, portfolio companies, or applicants generally with each other outside the office or any place where they might be overheard, e.g. on the street, in elevators or elevator lobbies, or at lunch counters. Except when they are certain that it is proper to do so, employees are cautioned against disclosing to callers anything being undertaken by CGB or its employees, clients, companies, or applicants. Likewise, it is important not to leave confidential information on desks at the end of the day or while a visitor is in the office which would allow easy unauthorized access to such information. Upon termination of employment with CGB or whenever requested by CGB, employees must promptly deliver to CGB all work product and all documents and other tangible embodiments of the confidential information and any copies thereof.

The best way to adhere to this policy is to not disclose any information if you are not sure whether such information is confidential information of CGB. Also, if you have any question as to whether certain information is considered confidential, please consult your department manager.

Violations of this policy may provide grounds for legal action against an employee and may result in disciplinary action up to and including termination, even if the employee does not actually benefit from the disclosed information.

**Categories of Employment**

It is the intent of CGB to clarify the definitions of employment classifications so those employees understand their employment status and benefit eligibility.

**Full-Time Regular Employees**

Employees who are not in a temporary or introductory status and who are regularly scheduled to work a minimum of 40 hours per week are considered full-time regular employees. Full-time regular employees are eligible for CGB benefits, subject to the terms, conditions, and limitations of each benefit program. Such employees must have successfully completed the six-month introductory period.



**Part-Time Regular Employees**

Employees who are not assigned to a temporary or introductory status and who are regularly scheduled to work less than 40 hours per week are considered part-time regular employees. Part-time regular employees receive all legally mandated benefits (such as Social Security and Workers' Compensation Insurance). Part-time employees who work at least 20 hours per week are generally eligible for other CGB benefit programs on a prorated basis, based on the ratio of their standard hours of work per week to the full-time standard for that position. Such employees must have successfully completed the six-month introductory period.

**Exempt Employees**

Exempt employees will not receive any overtime pay. Exempt employees may be granted compensatory time at the discretion of the President and/or his designee in accordance with the compensatory time policy outlined in Section 4.

**Non-Exempt Employees**

Non-exempt employees are paid based on the number of hours actually worked and are eligible for overtime pay. Overtime pay will be paid at the rate of one and one-half times (1½) the non-exempt employee's regular rate of pay for all time worked in excess of 40 hours per week. Overtime pay is based on actual hours worked. Thus, if a non-exempt employee is absent during a week when overtime hours have occurred, the absent hours reported will not be considered hours worked in determining a time and one-half overtime payment. An accurate record of non-exempt regular and overtime hours must be maintained for purposes of pay. Time sheets are to be signed by the staff member and by their supervisor, then submitted to Human Resources for processing.

**Introductory Employees**

Employees who work on an introductory basis as specified in the "Conditions of Employment" are considered introductory employees. Introductory employees who satisfactorily complete the six-month introductory period will be notified of their new employment classification. Any significant absence will automatically extend the introductory period by the length of the absence. If an employee changes jobs during the introductory period, a new six-month introductory period shall begin.

**Temporary Employees**

Employees who are hired as interim replacements to temporarily supplement the work force or to assist in the completion of a specific project are considered temporary employees. Temporary employees hired from temporary agencies for specific assignments are employees of their respective agencies and not CGB. Employment assignments in this category are of a limited duration. Employment beyond any initially stated period does not in any way imply a change in employment status.

**Consultants**

Those independent contractors who are on contract to provide services to CGB. Persons in this category are not CGB employees.

**Selection Process, Interviewing and Hiring**

The President and/or his designee must approve all new positions or changes to existing position descriptions. Vacant positions to be filled may be posted internally and if necessary posted externally. The immediate supervisor, the President, any manager or director within CGB and/or any person the President designates, may be involved in the interview selection

process. The President has the ultimate responsibility for appointing the candidate to the position.

CGB through the actions and approval of the President reserves the right to transfer or reclassify positions and employees within CGB and restructure their job duties and position without going through the above public process when in the best interest of CGB.

### **Promotion Policy**

CGB is committed to providing employees with opportunities for career advancement. Employees may apply for posted positions, for which they are qualified, provided any such position represents a promotion or advancement.

CGB is committed to implementing a fair and equitable “in-house” promotion policy that will aid in the development of staff to their fullest potential. Full and equal opportunity will be extended to all employees in accordance with CGB’s affirmative action plan.

There is an established career path for most positions within CGB. The career path progression for each position can be found in the job description for that position. If an employee is being promoted within the established career path and within their department, such promotion can be made without posting the position. A current employee shall be eligible for reclassification or promotion to an existing or new position only if such employee has at least six (6) months of service with the Green Bank and meets the minimum qualifications for such position.

If the position is not within the established career path progression, the position will be posted and the selection process outlined above will be followed.

### **Employment Applications**

CGB relies upon the accuracy of information contained in the employment application, as well as the accuracy of other data presented through the hiring process and employment. Any misrepresentations, falsifications or material omissions in any of this information or data may result in CGB exclusion of the individual from further consideration for employment or, if the person has been hired, termination of employment.

### **Employment Reference Checks**

CGB wishes to ensure that applicants are qualified and have a strong potential to be productive and successful. It is the policy of the CGB to check the employment references of all applicants.

Human Resources will respond to all reference check inquiries from other employers only with the approval of the employee or past employee and in accordance with applicable law. No offer of employment can be made until Human Resources has received satisfactory reference checks.

### **Performance Management and Review**

CGB has a performance management and review process. The objectives of this process are to:

- Provide clear communication between the supervisor and employee
- Identify the employee’s work objectives and expected results
- Identify the employee’s performance strengths and weaknesses
- Assess the need for training
- Aid in decisions about future work assignments
- Determine the employee’s suitability for continued employment

- Determine the employee's eligibility to receive a merit compensation award

CGB believes that all employees should receive prompt, thorough feedback regarding their performance. Formal performance assessments for new hires and newly promoted employees are conducted at the completion of six (6) months. Once an employee has completed an introductory employment period of six months, formal written performance appraisals are conducted annually. Performance evaluations provide employees with the opportunity to express any concerns they have about their jobs, career aspirations, and future with CGB. If an employee is having difficulty in their job, interim evaluations may be conducted to help the employee understand what performance improvements are needed.

All performance assessments are reviewed by the appropriate department head, President and/or his designee and Human Resources.

### **Personnel Files**

CGB maintains a confidential personnel file on each employee. The personnel file includes such information as the employee's job application, resume, records of training, documentation of performance appraisals and salary increases, written warnings or reprimands, and written commendations.

Personnel files are the property of CGB, and access to the information they contain is restricted. Generally, only supervisors and management personnel of CGB who have a legitimate reason to review information in a file are allowed to do so unless otherwise required by law.

Employees will be notified when information is added to their personnel file.

Employees who wish to review their own files should contact Human Resources. With reasonable advance notice, employees may review their own personnel file in the Human Resources Office in the presence of a Human Resources employee.

### **Updating Personnel Records**

Employees must notify Human Resources of any changes in personal mailing addresses, telephone numbers, number and names of dependents, individuals to be contacted in the event of an emergency, etc.

It is the responsibility of each individual employee to promptly notify CGB of any such changes in personnel status.

It is also the responsibility of each individual employee to review bi-weekly payroll deductions (tax withholding, FICA, etc.) for accuracy and report any errors promptly to Human Resources.

**SECTION 3 WAGES AND SALARY ADMINISTRATION**

### General Policy

It is the policy of CGB to maintain a fair compensation program that provides equitable payment for work performed, is competitive with the identified labor market, and ensures compliance with federal and state legislation.

A salary range has been assigned to each position. The compensation for each employee shall be within the minimum and maximum range established for the grade to which the position has been assigned. In rare instances, the President may approve a salary outside the range for which the position has been assigned. Periodically, CGB may revise job descriptions, evaluate individual jobs to ensure they are being compensated appropriately and review job specifications as business needs dictate. Salary ranges may also be adjusted for annual inflation at the discretion of the Board of Director's Budget and Operations Committee.

### Hours of Work

The standard workweek for full-time regular employees is currently a minimum of 40 hours. Regular daily work hours are from 8:00 a.m. to 5:00 p.m. Monday through Friday. Where workload or schedules require, some departments may operate outside these regular hours. Supervisors should notify employees of their work schedule. Each employee is responsible for informing Human Resources of any permanent change in usual work hours.

### Flexible Time

Under the flextime policy, an employee may be permitted to start and end the workday at times that differ from the standard hours of operation.

Flextime schedules are at the discretion of management, and must be approved in advance by the employee's supervisor and the Department Head.

All employees participating in flextime must work their full scheduled hours per day and take at least a one half-hour lunch break.

### Pay Periods

Staff members are paid on a bi-weekly basis. Each paycheck will include earnings for all work performed through the end of the previous payroll. Thus a new employee can expect to receive his/her paycheck up to four weeks from the first day he/she commenced work for CGB. Employees may have pay directly deposited into their bank accounts if they provide advance written authorization. Direct deposit applications may be obtained from Human Resources. Employees will receive an itemized statement of wages.

For those employees not participating in Direct Deposit, paychecks will be distributed directly to the staff member after 3:00 p.m. every other Thursday. All paychecks not distributed by the end of the business day will be returned to human resources. If a staff member is absent from work and desires other arrangements, he/she will have to contact Human Resources directly to make such arrangements.

**Deleted:** Employees participating in flextime must have regular daily starting and quitting times that do not vary from day to day. ¶  
All full-time regular employees must be at work during the core hours of 9:00 a.m. to 3:30 p.m. No flextime schedules shall begin before 7:00 a.m., or end later than 6:00 p.m. ¶

### **Lunch Periods**

Employees are generally entitled to a one (1) hour lunch period. All employees must take a minimum of a half-hour for lunch. Scheduling of lunch periods is between the hours of 12:00 P.M. and 2:00 P.M. Lunch hours should be scheduled so that there is coverage at all times. Employees who work in tandem with other employees should schedule their lunch hours so there will always be coverage. If employees must attend to personal business during the workday, they should do so during their scheduled lunch break period. Employees should not work through their lunch period in order to leave early without prior authorization from their supervisor.

### **Time Sheets**

CGB participates in self-service time reporting to the State of Connecticut's payroll system, CORE. Accurately recording time worked is the responsibility of every employee. Time worked is all the time actually spent on the job performing assigned duties. Time sheets must be accurately filled out in accordance with CORE time reporting guidelines and approved by the supervisor. Each employee shall personally record his or her own time, which includes the time they begin and end work and any time that is charged against their leave balances (personal time, vacation time, sick time, etc.). Altering, falsifying, tampering with time records, or recording time on another employee's time sheet may result in disciplinary action, up to and including termination of employment.

Employee time sheets for each two-week pay period must be completed in CORE by noon on the Friday after the pay period. All time sheets must be approved and initialed by the employee's supervisor, including any corrections and backup. Working time is logged in 15 minutes increments. Non-exempt employees, who report to work more than seven minutes late, but less than 15 minutes, must log their starting time at 15 minutes after the normal starting time. Time lost due to reporting to work late may not be made up by staying late at the end of the day or working through lunch periods, unless the employee obtains the prior authorization of his/her supervisor.

### **Attendance and Punctuality**

The ability of CGB to operate smoothly and efficiently depends on regular attendance and punctuality. Absenteeism and tardiness are disruptive and place a burden on other employees. To maintain a productive work environment, CGB expects employees to be consistently reliable and punctual in reporting for work.

In the rare instances when employees cannot avoid being late to work or are unable to work as scheduled, they should personally notify their supervisor before the anticipated tardiness or absence. If the supervisor is not available, employees should notify the Human Resources Manager so that he/she can arrange for coverage during the absence. Employees should also inform their supervisor or the Human Resources Manager of the reason for their tardiness or absence. In case of an emergency where advance notification is not possible, employees must report the absence or tardiness as soon as possible.

An employee's supervisor is responsible for monitoring an employee's attendance. The supervisor should deal with abuses of reporting time. Occurrences of abuse should result in counseling of the employee by the supervisor. Supervisors and Human Resources will monitor unscheduled occasions of absence and Human Resources will determine the action to be taken upon the accumulation of a certain number of unscheduled occasions of absence within a given time period, taking into consideration the following.

- Numbers of days taken;
- The number of unscheduled occasions of absence;

- The pattern of absences
- The employee's past records; and
- The reasons for the unscheduled occasions of absence.

Although the specific action taken in each instance will be determined by Human Resources in its discretion, the chart below illustrates the actions likely to be taken upon the accumulation of a certain number of unscheduled occasions of absence within a given time period.

Number of Occasions	Within this Time Period	Action Likely to Be Taken
3	3 months	Your attendance record will be reviewed with you to determine contributing problems and possible solutions.
5	6 months	Your attendance record will be reviewed with you to determine contributing problems and possible solutions AND this counseling session will be recorded in a written memo, a copy of which will be maintained in your personnel file.
9	12 months	Your attendance record will be reviewed with you to determine contributing problems and possible solutions AND this discussion will be documented and a copy will be maintained in your personnel file. An "Unsatisfactory" or "Below Threshold" performance appraisal will be given to you for unsatisfactory attendance and dependability unless you give your supervisor documentation explaining the occasions to his/her satisfaction. You will also be notified that receiving two "Unsatisfactory" or "Below Threshold" performance appraisals in a row (for poor attendance or any other reason) is just cause for dismissal.

Poor attendance and excessive tardiness, including failing to report the same in a timely manner, may lead to disciplinary action, up to and including termination of employment. For example, an employee who does not report to work and who has not notified their supervisor of this absence may be terminated unless an acceptable explanation is provided for both the absence and the failure to report.

### Absence from the Office

If an employee must be out of the office for business or personal matters, the supervisor must be advised. The employee also should make every attempt to keep their schedule up to date on their Outlook Calendar. If the supervisor is not available, the appropriate department head or the President and/or his designee should be notified. Employees who are working outside the office at meetings or other events should leave a telephone number where they can be reached. These employees are also responsible for checking in and receiving messages.

### Procedures for Absences from the office

1. Pre-schedule all vacation time use. Vacation leave shall be requested as far in advance as possible and is subject to CGB's operating needs.
2. Pre-schedule all absences, if possible. You should attempt to schedule all absences (including late arrivals and early departures) in advance with your supervisor. Pre-scheduled and approved use of sick and other types of leave, such as vacation, a doctor's visit or a funeral, will not be counted as an unscheduled occasion of absence.
3. Unscheduled absences. If it is not possible to pre-schedule an absence (including a late arrival or early departure), you must:
  - o notify your supervisor within a ½ hour of the start of the work day;
  - o give the reason for the absence; and
  - o give an estimate of how long the absence will be.
 If the absence is continuous or lengthy, notify your supervisor on a daily basis, or as otherwise required by your supervisor.
4. Exhaustion of sick leave accruals. If you are absent because of illness or injury, but have exhausted your sick leave accruals, you must:
  - o For each absence, have your physician complete a state medical certificate form explaining the reason for your absence, and submit the completed form to Human Resources.
  - o If you wish to use other accrued leave in place of your exhausted sick leave, you must make such a request in writing and submit it to your supervisor or to Human Resources with the completed medical certificate form.
  - o If you fail to follow this procedure, you will be charged with an unscheduled occasion of absence and unauthorized leave for the day.
  - o If you have exhausted all other accrued leave time in addition to your sick leave time, you will be charged with unauthorized leave for the day.
5. Extended Leaves. If you will be absent for an extended period of time because you are sick or injured, you must
  - o Obtain a medical certificate form from Human Resources
  - o Have the form completed by the treating physician stating the reason for the absence and your anticipated return to work date; and
  - o Return the form to Human Resources at the time you return to work.

### Telecommuting

Telecommuting is a management option that allows an employee to work at home or an alternate work site; it is not an employee entitlement. The purpose of telecommuting as outlined in Connecticut General Statute 5-248i(a) is to: (1) Increase worker efficiency and productivity; (2) benefit the environment; and (3) reduce traffic congestion." Telecommuting does not change the hours of work.

It should be noted, that as a result of COVID-19, the entire staff of the Green Bank went to full-time telecommuting from March 16 as a result of Executive Order 2020 07B. As of June 19, 2020 the organization is able to efficiently and effectively maintain the operation during this public health crisis. Telecommuting is a tool that can be used more effectively at the Green Bank to not only be prepared for emergencies, but to also practice on a more regular basis to improve work-life-balance issues (e.g., lost time traveling to and from work).

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An employee may be considered for this option when the following minimum criteria are met:

1. In most instances, the employee must have completed their introductory period and have been performing his/her current job duties for at least 60 days.



2. The employee has requested to telecommute by completing a telecommuting agreement on SharePoint which will outline the terms and conditions of their telecommuting arrangement.
3. CGB has determined that the employee's job can be readily and effectively completed at an alternate site.
4. CGB determines that the employee's absence from the office is not detrimental to office operations, overall productivity, the working conditions of other employees, or services to clients and customers.
5. The employee's performance has been satisfactory or better.
6. The employee agrees to abide by the guidelines of the Telecommuting Policy outlined in their telecommuting agreement.

The following guidelines for telecommuting are to be followed in accordance with each employee's individual telecommuting agreement:

1. Each employee must specify a telecommuting schedule on their telecommuting agreement including hours to be worked per day, start time, end time, breaks, lunch periods, and duration if this is implemented on a project basis. Employees, at manager discretion, may telecommute on an as needed basis.
2. If an employee would like to telecommute in the case of inclement weather, they must indicate as such on the submitted telecommuting agreement.
3. Telecommuting is not an entitlement. If business needs dictate the employee's physical presence in the office, the employee is required to report to work.
4. In order to meet the business needs of the agency, an employee may request an adjustment to the telecommuting schedule outlined in this agreement. No adjustment may be made without prior supervisory approval.
5. The President may approve of changes to this policy on an interim basis if needed in the event of an emergency or of agency operations and requirements.

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### Overtime and Overtime Pay

Under the federal Fair Labor Standards Act (FLSA), employees who are covered by FLSA shall be paid time-and-one-half for all hours worked in excess of 40 hours per week. Each position at CGB is determined to be exempt or non-exempt in consultation with the President, Operations staff and CGB's attorneys. Exempt employees will not receive any overtime pay. Non-exempt employees are paid based on the number of hours actually worked and are eligible for overtime pay. Overtime pay will be paid at the rate of one and one-half times (1½) the non-exempt employee's regular rate of pay for all time worked in excess of 40 hours per week. Overtime pay is based on actual hours worked. Thus, if a non-exempt employee is absent during a week when overtime hours have occurred, the absent hours reported will not be considered hours worked in determining a time and one-half overtime payment. An accurate record of non-exempt regular and overtime hours must be maintained for purposes of pay. Time sheets are to be submitted by the staff member and reviewed and approved by their supervisor through CoreCT for processing.

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### Merit Compensation

On an annual basis, the President may recommend for approval by the Board of Directors an allocation of funds for merit compensation increases for the staff. A maximum percentage salary increase will be set by the President for those employees with exceptional performance evaluations. Employees shall be compensated according to job performance as determined through the performance management process as administered by CGB.

## **SECTION 4 TYPES OF LEAVE**

### Vacation Policy

Vacation is not earned in any calendar month in which an employee is on leave of absence without pay more than five working days. Regular full-time employees will accrue and must use vacation time in accordance with the following schedule:

Years of Service	Vacation Earned	Must Use Annually
0 - 2 years	15 days per year	10 days
2 - 10 years	20 days per year	15 days
Over 10 years	25 days per year	20 days

The maximum number of vacation days an employee will be eligible to earn annually will be 25 days. Generally an employee may not take more than four (4) consecutive weeks at one time in one year. Under extraordinary circumstances, the President and/or his designee may grant exceptions.

All employees will be limited to a maximum carryover annually of 5 days (40 hours) of vacation time accrued during the calendar year. In extraordinary circumstances, such as unusual work circumstances, deadlines, or demands, the President may increase the allowable annual carryover to ten (10) days. The additional time that is carried over must be used during the next calendar year, in addition to all other vacation time required to be used during that calendar year as outlined in the grid above.

#### Maximum Aggregate Carryover

The maximum aggregate vacation balance permitted to be carried into a new calendar year for employees hired after January 1, 1998, including all vacation hours previously accrued shall be 30 days (240 hours). With approval, the President/CEO may allow a one-time exception to carryover vacation in excess of 30 days (240 hours) into a new calendar year. If the exception is granted, the employee's vacation balance must be at 30 days (240 hours) by December 31<sup>st</sup> of the new calendar year. Vacation accruals above this amount will be automatically reduced to the maximum aggregate carryover of 30 days/240 hours and all unused vacation time over 30 days (240 hours) will be forfeited.

Employees will be allowed to accrue more than this amount during a given year, however, the maximum aggregate accrual for which an employee will be compensated upon separation is 240 hours. In the event of an involuntary termination where the employee is not given the opportunity to utilize their vacation balance over 240 hours prior to separation, the effective date of the termination will be adjusted to incorporate the employee's unused vacation time over 240 hours and the employee will be paid out in a lump sum for the remaining balance of 240 hours.

#### Maximum Vacation Hours Paid Out Due To Termination/Resignation

The maximum number of vacation days/hours to be paid upon termination/resignation for employees hired after January 1, 1998 shall be 30 days/240 hours. The maximum for employees hired prior to January 1, 1998 shall be 120 days/960 hours.

#### Advancing Vacation Time

Vacation time will not be advanced under any circumstances. If an employee wishes to take vacation time, but does not have accrued time available, they may request to take unpaid leave. Such leave may be granted at the discretion of the employee's supervisor and or/ the department head. Vacation time is paid at the employee's base pay rate and can be taken when

earned. Vacation time earned is credited to an employee on a monthly basis based upon the schedule presented above.

\*Note – Once an employee is at the maximum vacation balance of 30 days, they must utilize all of their annual accruals or forfeit them.

**Accrual Period**

Vacation days are accrued on a monthly basis. Employees begin to accrue vacation days the first full month after their date of hire.

**Scheduling**

To the extent possible, and with sufficient advance notice, vacations will be scheduled as requested by the employee provided that staffing requirements be met as determined by the supervisor. The supervisor will settle conflicts between employees with regard to desired vacation schedules.

A written or electronic request should be filled out by the employee and approved by the Supervisor. Whenever possible, if requesting less than one week of vacation, the request should be presented three days prior to the time requested and if requesting one week or more the request should be presented and approved at least three weeks prior to leave.

### Compensatory Time

The President and/or his designee may grant compensatory time for extra time worked by exempt employees, excluding members of the senior management team, for these unique situations provided it conforms to the following criteria:

1. As a general rule, exempt employees at CGB work 40 hours per week. However, these employees are expected to work the number of hours necessary to get the job done. There are some occasions that require an exempt employee to work a significant number of extra hours in addition to the normal work schedule. This does not include the extra hour or two a manager might work to complete normal work assignments in a normally scheduled workday.
2. The Senior Management Team is defined as those exempt employees with a direct reporting relationship to the President and are at a level of Director or above.
3. The exempt employee must receive **written authorization in advance** to work extra time by the President and/or his designee in order to record the extra hours as compensatory time. The authorization must include the employee's name and outline the reason(s) for compensatory time. Proof of advance authorization must be retained for audit purposes.
4. The amount of extra time worked must be significant in terms of total and duration and **occur on weekends or state holidays.**
5. Extra time worked must be completed at an approved work location.
6. Compensatory time shall not accumulate by omitting lunch hours or other changes that do not extend the exempt employee's normal workday.
7. Compensatory time shall not accumulate for travel or commuting purposes.
8. The number of extra hours worked and the compensatory time taken must be recorded on the appropriate time sheet and maintained by CGB. In no case shall an exempt employee be permitted to take compensatory time before it is earned.
9. All compensatory time earned January 1 through June 30 will expire on December 31 of the same year, and compensatory time earned July 1 through December 31 will expire on June 30 of the following year. All compensatory time balances will be set to zero on these dates. Any time not used by these dates will not be available.
10. In no event will compensatory time be used as the basis for additional compensation and shall not be paid as a lump sum at termination of employment.
11. No more than 8 hours can be earned in a twenty-four hour period.

### Personal Leave

All CGB full time employees are granted three days paid personal leave each calendar year for purposes not covered by vacation or sick leave. Personal days do not require prior approval of the employee's supervisor. Personal time may not be accumulated or carried over to the next calendar year. Employees will not be compensated for unused personal time upon termination of employment. Personal leave days for part time employees will be pro-rated.

### General Leave of Absence

Occasionally, an employee may request time off without pay for reasons not covered by any of the other policies. In these cases the employee should submit a written request for a leave of absence to their manager with a copy to the President and/or his designee. The request should clearly state the reason for the request and provide any supporting information to aid in the approval decision. The reason, and the requested length of the leave, will be considered by the President in his/her decision as to whether the employee's medical and other insurance benefits should continue during the leave, if approved. The decision will also be influenced by any limitations imposed by individual insurers.

### **Bereavement Leave**

CGB will grant an employee up to five consecutive workdays off in the event his or her immediate family member dies. If a death occurs while the employee is on vacation, five days absence with pay may be granted in lieu of the employee's vacation period. The immediate family is defined as an employee's spouse, parent, brother, sister, child, grandparent, grandchild, in-law, legal guardian or permanent resident of the employee's household. Additional time may be granted if approved by the supervisor, and charged against vacation or personal time. Employees should notify their supervisor as soon as possible if they have a need for bereavement leave.

### **Sick Leave**

Full-time employees earn 10 sick leave days per year. Part time employees earn sick leave according to the same schedule as full-time employees, but prorated according to their standard part-time hours per week. Sick time is not earned in any calendar month in which an employee is on leave of absence without pay more than five working days.

Sick leave is intended for use in situations such as the following:

- Family illness - the event of a critical illness or severe injury to a member of the employee's immediate family in which the assistance of the employee is required.
- Medical Appointments – for medical, dental, eye examinations, or treatment for which arrangements cannot be made outside of working hours
- Other bereavement - up to three days per calendar year to attend the funeral of persons other than those of the employees' immediate family.

Terminating employees will not be compensated for the balance of unused sick leave except in the case of retiring employees. Qualified retirees will receive payment for one-quarter of accumulated unused sick leave up to a maximum of 60 days.

### **Sick Leave - Medical Certification Or Examination**

CGB may require certification of illness from an employee's physician or a medical examination with another physician to verify the need for continued absence. To be certain that an employee's health permits his or her safe return to work, CGB may require medical certification or an examination by a physician regarding fitness for duty.

An acceptable medical certificate, signed by a licensed physician or other health care provider, will be required to substantiate time off if the medical/sick leave:

- Consists of more than five consecutive working days.
- Is to be applied contiguous to, or in lieu of time taken off as vacation.
- Recurs frequently or habitually, and the employee has been notified.
- When the employee's presence at work will expose others to a contagious disease.

### **Sick Leave Bank**

The CGB Sick Leave Bank is a pool of sick days that has been established by employees of CGB who have made a donation of their accumulated sick days. The Bank is available to members to draw up to ten (10) eight- hour sick days per year in the unfortunate event that they experience a qualified illness or injury.

Sick Leave Bank members will receive benefits in the form of paid sick leave if all of the following requirements are met:

- the member has a medical condition that prevents them from working that has been verified by a Medical Certificate OR a member's immediate family member has a medical condition that has been verified by a Medical Certificate and requires the Sick Leave Bank member's care;
- the member has been out on approved medical leave (paid or unpaid) as described above for at least two consecutive weeks;
- the member has exhausted all of their sick, personal leave and compensatory time and vacation time in excess of 30 days;
- the member has not been disciplined for an absence-related reason for the past 12 months; however a committee comprised of HR and Management may waive this requirement;
- the member has completed a Sick Leave Bank Withdrawal Request Form and it has been approved by human resources;

All requests for utilization of the sick leave bank must be in accordance with the Sick Leave Bank Policy. Please contact Human Resources for a complete copy of the sick leave bank policy.

## Family Medical Leave

### Purpose

This policy establishes guidelines for leave available to employees of CGB under the federal Family and Medical Leave Act of 1993 ("FMLA") and highlights relevant provisions of Connecticut law.

### Eligibility

Employees who have worked at CGB for at least twelve (12) months, and who have worked at least 1,250 actual work hours during the twelve (12) months immediately preceding the start of a leave, are eligible for unpaid leave under the FMLA. ("Hours worked" does not include time spent on paid or unpaid leave). Employees must have worked at CGB for at least six (6) months to be eligible for family/medical leave under Connecticut law.

### Reasons for Leave

Leaves under either the state family/medical leave or federal FMLA or a combination of the acts may be taken for the following reasons:

- The birth of employee's child or adoption of a child by the employee (both).
- The placement of a foster child with the employee (federal only).
- The "serious illness" (state) or "serious health condition" (federal) of a child, spouse or parent of an employee.
- The "serious illness" (state) or "serious health condition" (federal) of the employee.

### Family Medical Leave Documentation Requirement

The following documents must be submitted in support of an FMLA request:

- **Birth of child:** "Employee Request" (Form HR-1) and Medical Certificate (Form P-33A-Employee) indicating the pre-delivery disability period (if applicable), delivery date and post-partum disability period (if applicable).

- **Adoption:** (both state and federal) or foster care (federal only) of child: "Employee Request" (Form HR-1) and letter from the adoption/foster care agency confirming the event and its effective date.
- **Serious illness/health condition of child, spouse or parent:** "Employee Request" (Form HR-1) and Medical Certificate (Form P-33B-Caregiver).
- **Serious illness/health condition of employee:** "Employee Request" (Form HR-1) and Medical Certificate (Form P-33A-Employee) (only if employee is on paid or unpaid leave for more than five days).

### Length of Leave

Under federal FMLA, employees are entitled to 12 weeks of unpaid leave in a twelve-month period. Under state family/medical leave, employees are entitled to a maximum of twenty-four (24) weeks of unpaid leave within a two-year period. The state entitlement is applied **after** the employee has exhausted any sick leave accruals that may be applicable. The state policy allows the substitution of personal leave and vacation accruals; however, this will not extend the 24-week entitlement period.

The 12-month entitlement period for family or medical leave is measured from the initial date of an employee's first leave under this policy, until the end of the applicable 12 or 24-month period. **For leaves eligible under both the FMLA and state family/medical leave, the entitlement periods will run concurrently.**

### Requests for Leave

Requests for a family or medical leave must be submitted to Human Resources at least thirty (30) days before the leave is to commence, if possible. If thirty (30) days notice is not possible, please submit your request as soon as practicable under the circumstances. For leaves taken because of the employee's or a family member's serious health condition, the employee must submit a completed medical certification form before the leave begins, if possible. This form may be obtained from Human Resources. If advance certification is not possible, the employee must provide the medical certification within fifteen (15) calendar days of the employer's request for the medical certification. Failure to submit a certification, or submission of an incomplete certification, may delay the use of FMLA leaves, or result in denial of such leave.

### Requests for Leave

If an employee takes leave to care for his or her own serious health condition, immediately upon return to work the employee must provide medical certification that the health condition which created the need for the leave no longer renders the employee unable to perform the functions of the job. This certification must be submitted to Human Resources.

### Use of Paid Leave

Employees have the option of substituting their accrued paid personal leave and accrued paid vacation for any unpaid portions of federal FMLA taken for any reason other than the employee's own serious health condition. However, where the leave is for the employee's own serious health condition, accrued paid sick leave shall be substituted for unpaid portions of federal FMLA prior to the employee electing the substitution of accrued paid personal and accrued paid vacation leave. The amount of unpaid leave entitlement is reduced by the amount of paid leave that is substituted.



**Medical Insurance and Other Benefits**

During approved FMLA and/or state family/medical leaves of absence, CGB will continue to pay its portion of medical insurance premiums for the period of unpaid family or medical leave. The employee must continue to pay their share of the premium and failure to do so may result in loss of coverage. If the employee does not return to work after expiration of FMLA leave, the employee will be required to reimburse CGB for payment of medical insurance premiums during the family or medical leave, unless the employee does not return because of a serious health condition or other circumstances beyond the employee's control.

Employees who have state-sponsored group life insurance will be billed directly for the same amount they contributed prior to the leave. In the case of any other deductions being made from paychecks (disability insurance, life insurance, deferred compensation, credit union loans, etc.), employees must deal directly with the appropriate vendor to discuss payment options.

During a leave, an employee shall not accrue employment benefits such as seniority, pension benefit credits, sick, or vacation leave. However, employment benefits accrued by the employee up to the day on which the leave begins, which remain unused at the end of the leave, will not be lost upon return to work. Leave taken under this policy does not constitute an absence under CGB's attendance policy.

**Reinstatement**

Except for circumstances unrelated to the taking of a family/medical leave, an employee who returns to work following the expiration of a family/medical leave is entitled to return to the job held prior to the leave or to an equivalent position with equivalent pay and benefits. In cases involving the serious health condition of an employee, CGB will require the employee to produce a fitness-for-duty report on which the physician has certified the employee is able to return to work. This requirement protects the employee, co-workers and the public from the negative consequences that can result when an individual returns to work before being medically ready to do so. Therefore, employees who are notified of the need for a fitness-for-duty certification will not be allowed to return to work without it.

**Military Leave**

Military leave with pay for required military training is available to members of the National Guard or Reserve components of the Armed Forces. Required military leave must be verified through the submission of a copy of the appropriate military orders to Human Resources. A maximum of three (3) weeks per calendar year is allowed for annual field training.

When an employee is ordered to duty at the expiration of his/her field training, as evidenced by special orders, he/she shall receive additional time off with pay provided the period of absence in any calendar year shall not exceed thirty (30) days. No such employee shall be subjected, by reason of such absence, to any loss or reduction of vacation or holiday privileges.

**Extended Military Leave (Induction)**

Any employee who shall enter the Armed Forces shall be entitled to a leave of absence without pay for the time served in such service, plus ninety (90) days. An employee who leaves employment for the purpose of entering the Armed Forces of the United States shall be reinstated to their former position and duties, providing he/she apply for return to employment within ninety (90) days after receiving a certificate of satisfactory service from the Armed Forces.

This section shall not apply to any employee who has been absent from his/her employment for a period of more than three (3) years in addition to war service or compulsory service and the ninety (90) day period provided for because of voluntary reenlistment.

### **Jury Duty**

CGB recognizes that every citizen has an obligation to perform jury duty when required. CGB encourages cooperation of its employees with this important civic duty.

If an employee is notified to appear in court to qualify to serve as a juror, the staff member must inform Human Resources by presenting the notice in advance of the court appearance date. The employee will receive time off to serve and will receive his/her regular salary during the period of jury service.

Failure to provide such notice will result in CGB charging that time to either personal or vacation leave.

On any day during which the employee's attendance on the jury is not required, he/she shall report to work as usual. On any day in which the court releases jurors before 1:00 p.m., the employee is expected to report to work for the balance of the day.

### **Holidays**

Holiday time off will be granted to all full-time regular employees on the 12 holidays listed below. Part-time employees will be paid only if they are scheduled to work on the date that the holiday falls and their pay for the holiday shall be pro-rated based on their part-time schedule. Temporary employees after ninety (90) days will receive holiday pay if normally scheduled to work on the day of the week on which the holiday falls.

If a recognized holiday falls during an eligible employee's paid absence (e.g. vacation or sick leave), holiday pay will be provided instead of the paid time off benefit that would otherwise have applied.

Paid holidays at CGB are as follows:

New Year's Day	Independence Day
Martin Luther King's Birthday	Labor Day
Lincoln's Birthday	Columbus Day
Washington's Birthday	Veteran's Day
Good Friday	Thanksgiving Day
Memorial Day	Christmas Day

### **Inclement Weather**

When traveling in snow presents a significant danger to staff and clients, cancellations and late openings for the State of Connecticut will be announced on WTIC-AM 1080 or on-line at the Connecticut Department of Emergency Management and Homeland Security website. The President and/or his designee will inform department managers about any early closing times established during the day.

On inclement weather mornings when no cancellation or late openings have been announced, all employees (except those with an approved inclement weather telecommuting agreement) are expected to make a reasonable effort to be at work on time. Any employee who is unable to get to work is expected to notify their supervisor promptly and will have to utilize their personal leave accruals. Failure to notify your supervisor will be treated as an unexcused absence. Those employees with an approved inclement weather telecommuting agreement shall be subject to the terms and conditions of that agreement.

In the event of a situation where our offices will be closed because of a power outage, the following steps will be taken:

1. Senior Staff will work to contact their teams.
2. We will send out an email to all CGB staff and advise them that our offices are closed and inform them of next steps. ▼

### Community Service Days

Each employee may take up to one paid workday per year to perform community service. Prior approval by the employee's supervisor is required. The community service must be for 501 c 3 or equivalent non-profit organizations. The purpose of this policy is to encourage a range of community service activities by CGB employees. This day with pay will not be charged against any leave balance of the employee. Prior to the date of community service, each employee must provide a written request to their supervisor. Human Resources will determine whether the proposed service and organization meets the intent of the policy. A letter from the organization will be required as documentation of participation.

**Deleted:** We will notify the local media that our offices are closed so we can be added to the official "cancellation list" on television and radio.¶

We will implement a "telephone tree" where we will attempt to contact employees via telephone in the event our offices are closed unexpectedly.

**Deleted:** If necessary, we may communicate a conference call number and a time to call in for a teleconference. We will attempt to communicate this information via email if it is operational or the "telephone tree". This conference call will be used to provide information to staff and to arrange continuity of operations in the event of a major emergency.

## **SECTION 5 EMPLOYEE BENEFITS**

Employees of CGB are eligible to participate in the medical, dental and retirement benefits offered to employees of the State of Connecticut. In addition, there are certain benefits offered by CGB that are available to our employees. A summary of these benefits follows.

### **Workers' Compensation**

All employees are covered under the State of Connecticut Workers' Compensation insurance program. This program covers any injury or illness sustained in the course of employment that requires medical, surgical, or hospital treatment. CGB pays the full premium for this coverage. There is no cost to the employee.

Employees who sustain work-related injuries or illnesses should inform their supervisor immediately. No matter how minor an on the job injury may appear, it is important that it be reported immediately. Consistent with applicable state law, failure to report an injury within a reasonable period of time could jeopardize your claim. Supervisors are responsible for calling **MedInsights** at (800) 828-2717 toll-free as quickly as possible, to report any work-related injury sustained by an employee. Supervisors must provide **MedInsights** with the employee's name, home address, home telephone number, description of the injury, and the date and place the injury occurred. Supervisors should also notify Human Resources and the President as quickly as possible of any on the job injury sustained by an employee.

Neither CGB nor the insurance carrier will be liable for the payment of benefits for injuries sustained during an employee's voluntary participation in any recreational, social or athletic activity sponsored by CGB after normal working hours.

### **Medical Insurance**

Employees become eligible for coverage in a comprehensive health insurance program on the first day of the first full month of employment. Enrollment is limited to the date of hire or open enrollment periods (normally the month of May) as outlined by the employer. The details of the plan options and their coverage will be explained by Human Resources and are listed in the explanatory booklets provided by the insurer. A portion of the cost of the medical insurance for dependents must be covered by employee contributions.

### **Dental Insurance**

Employees become eligible for coverage in a dental insurance program on the first day of the first full month of employment. The details of this insurance coverage will be explained by Human Resources and are listed in the explanatory booklet provided by the insurer.

### **Deferred Compensation**

The Deferred Compensation Plan, created in accordance with Section 457 of the Internal Revenue Code, allows you to defer money earned during your peak earning years and receive its value later when you may be in a lower tax bracket. Amounts you elect to defer are before tax dollars and any interest earned or any gains on these dollars are allowed to accumulate without federal income tax obligations until you receive your money.

Participation in the Plan is voluntary. It is your decision, which should be made after considering all options, as well as your plans for the future. A Deferred Compensation Plan is not intended for savings and investments of a short-term nature since monies deferred are generally not available until you separate from State service. For more information regarding deferred compensation, contact Human Resources.

**Retirement Plan**

Employees of CGB are provided retirement benefits under the State of Connecticut Retirement Plan (SERS). The benefits provided by the plan are described in the Summary Plan Description given to all eligible employees.

**Dependent Care Assistance Program**

CGB employees are eligible to participate in the State of Connecticut Dependent Care Assistance Program (DCAP). With DCAP you have the opportunity to deposit a portion of your pay into a Dependent Care Spending Account. These dollars are deducted on a pre-tax basis and are used to reimburse you for eligible dependent care expenses. These "pre-tax" dollars are exempt from federal and state income taxes.

When you contribute pre-tax dollars to a reimbursement account, you lower your taxable income; therefore, you pay fewer taxes and increase your spendable income. To receive more information, contact Human Resources.

**Life Insurance**

Upon employment, CGB provides life insurance coverage at no cost to the employees that work at least 30 hours per week. In the event of an employee's death, life insurance benefits are payable to the person he/she has named as beneficiary. Other benefits such as dismemberment, loss of sight, continuation of insurance are explained in the group certificate. All eligible employees will receive a certificate showing the face value of the policy upon receipt of the application by the insurance company. The amount of coverage is equal to two times the employee's annual salary up to a maximum of \$150,000 worth of coverage.

**Group Life Insurance**

Upon date of hire, employees can elect to participate in group life insurance offered by the State of Connecticut. Employees become eligible for coverage under the State of Connecticut group life insurance plan after six months of employment. The details of this coverage will be explained by Human Resources and are listed in the plan booklet provided by the insurer. The cost of this option is fully borne by the employee.

**Supplemental Group Life Insurance**

The State of Connecticut also offers supplemental group life insurance to employees whose gross annual income is at least \$45,000. New employees are eligible for this insurance after six months of employment. This benefit is available for present employees to be initiated or increased during open enrollment, which is usually in May. The cost of this option is fully borne by the employee.

**Other Insurance**

There are several options for insurance available to our employees through the State of Connecticut. Human Resources will provide updates on these options periodically. Please contact Human Resources for further information.

**Disability Insurance**

CGB provides short-term and long-term disability insurance coverage for all full time employees. Disability coverage for new employees will commence on the first day of the second full month of employment. Please refer to your certificate booklet for full details, limitations and provisions of the plan.

### Connecticut Higher Education Trust Program

CGB employees are eligible to participate in the State of Connecticut's Higher Education Trust Program, Connecticut's 529 College Savings Program (CHET). With CHET, you have the opportunity to deposit a portion of your pay into a higher education savings account. These dollars are deducted on a pre-tax basis and are "pre-tax" dollars are exempt from federal and state income taxes. To receive more information, contact Human Resources.

### Employee Assistance Program

The Employee Assistance Program offers assistance to employees having problems of a personal nature that may affect job performance. Services are also available for family members. Some examples of such problems would be drug or alcohol abuse, marital or family difficulties, or other situations that might have an adverse effect on an employee's emotional health. Participation in the program is confidential and free. It will generally include private consultation with a trained counselor who will advise the employee on what services are appropriate to their need. The counselor will normally refer the employee to qualified providers of treatment or counseling, and advise the employee on what services are or are not covered by their health insurance. Any employee needing assistance should contact UCONN EAP at 860-679-2877 or toll-free (in CT) 800-852-4392. The UCONN EAP website is [http://www.hr.uconn.edu/employee\\_assistance.html](http://www.hr.uconn.edu/employee_assistance.html)

Participation in the EAP program does not excuse employees from complying with normal agency policies or from meeting normal job requirements during or after receiving EAP assistance. Nor will participation in the EAP prevent CGB from taking disciplinary action against any employee for performance problems that occur before or after the employee's seeking assistance through the EAP.

The EAP program is there for you and is totally confidential and voluntary.

### Credit Union

CGB employees may participate in the Connecticut State Employee's Credit Union. Payroll deductions may be arranged. For more information, telephone CSE Credit Union, Inc., 84 Wadsworth Street, Hartford, CT 06106, (860) 522-5388 (Savings) or (860) 522-7147 (Loans). An employee can open an account by completing an application card and a payroll deduction authorization form, which are available in Human Resources. A check or money order made payable to the Connecticut State Employee's Credit Union must accompany the application and the normal processing time is four (4) weeks.

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A change in deduction form may be obtained from Human Resources for employees wishing to stop their deductions. This form must be submitted to CSECU, Inc. The change will take approximately four (4) weeks to become effective.

### Other Payroll Deductions

Payroll deductions may be made for U.S. Savings Bonds and the Connecticut State Employees Campaign for charitable giving. Automobile insurance and homeowner's insurance can also be arranged through payroll deduction utilizing a program established by the State of Connecticut. For more information, contact Human Resources.

### Direct Deposit

Direct deposit of paychecks to the banking institution of your choice is available. Forms are available from Human Resources. Upon termination of employment, a final paycheck will be issued and not deposited directly.

### Benefits Continuation (Cobra)

The federal Consolidated Omnibus Budget Reconciliation Act (COBRA) gives employees and their qualified beneficiaries the opportunity to continue health insurance coverage under CGB's health plan when a "qualifying event" would normally result in the loss of eligibility. Some common qualifying events are resignation, termination of employment, or death of an employee; a reduction in an employee's hours or a leave of absence; an employee's divorce or legal separation, and a dependent child no longer meeting eligibility requirements.

Under COBRA, the employee beneficiary pays the full cost of coverage at CGB group rates plus an administrative fee. CGB will provide each employee with a written notice describing rights granted under COBRA when the employee becomes eligible for coverage under the health insurance plan.

### Continuing Education Assistance

Any employee who has satisfactorily completed six months of service (and receives a rating of "meets expectations" or higher as a result of their six month review) and is continuing his/her education in a job related area, or in an area that will assist the employee in upward mobility or promotional opportunities shall be eligible to receive tuition assistance as follows: For credit courses at accredited institutions of higher education, full-time employees will be reimbursed 100% of the cost of tuition and laboratory fees up to a maximum of \$400 per credit taken for undergraduate courses and \$750 per credit for graduate courses. There will be a maximum dollar limit of \$10,000 tuition assistance per employee per fiscal year. Part-time employees who work at least 20 hours per week will be eligible for continuing education assistance on a pro-rated basis based on their work schedule. The employee must maintain an overall rating of "meets expectations" during the annual review process in order to continue to be eligible for assistance under this program.

Requests for tuition assistance must be in writing and will be reviewed and approved by the employee's department head and the President and/or his designee based on individual merits. Management will consider the relevance of the program to the employee's current position, job responsibilities and promotional path prior to approval of the tuition assistance request. The employee must maintain a grade point average (GPA) of C for undergraduate courses and B for graduate courses to continue receiving tuition assistance under this program. If an employee's GPA falls below these minimums, further eligibility for tuition assistance will be suspended until the required GPA is achieved.

Employees interested in applying for tuition assistance under this program should obtain a "Continuing Education Assistance Form" from the Human Resources department and follow the steps below to assure prompt tuition assistance.

1. Complete the Continuing Education Assistance Form and submit it, along with a written request for tuition assistance to your immediate supervisor.
2. The request will be reviewed and if appropriate, approved by your department head and the President.
3. Once approved and subsequent to enrollment in the program, submit a copy of course registrations, invoices and any other related documents to the director of operations for review and payment approval.
4. Upon completion of the semester, the director of operations will require a copy of all grades. Failure to do so may render one ineligible for tuition assistance for future course. Employees are financially responsible to reimburse CGB for payments made on their behalf under this program if they resign from their employment with CGB within (6) months of the signed date on the most recent consent authorization section of the Continuing Education Assistance Form.

Deleted: you



5. Employee Tax Liability: CGB follows the current IRS guidelines pertaining to annual reporting of employee educational benefits. Employees should consult with their tax advisor regarding this matter.

## Training

All employees of CGB are encouraged to take advantage of any job-related training opportunities that will enhance their job performance. CGB will pay the cost of any training deemed necessary for its employees.

The following is the procedure for signing up for and attending training.

1. The supervisor and employee will work together to develop a training plan for the employee based on the requirements of the job and the employees specific training needs.
2. The employee initiates a training request form and forwards it to their supervisor for approval.
3. The supervisor determines if the training is necessary, job-related, and if there is adequate office coverage for the employee to attend the training.
4. The employee attends the training and receives a certificate or attendance confirmation.
5. Upon return to the office, the employee forwards a copy of that certificate or attendance confirmation to Human Resources to be added to the personnel file.
6. The employee is responsible for sharing information learned at training that might be useful to other staff. The employee is also responsible for utilizing or practicing the subject material (i.e. computer training) and will be held accountable for the training material.

In addition, there are several training programs mandated for our employees by the State of Connecticut – sexual harassment prevention, diversity training, workplace violence prevention training and ethics training. Human Resources will work with employees to ensure they attend these mandatory training sessions.

**SECTION 6 TRAVEL AND ENTERTAINMENT POLICY**

### Travel and Entertainment Policy

This policy provides guidelines and establishes procedures for employees incurring business travel and entertainment expenses on CGB 's behalf.

Our objective is to provide employees with a reasonable level of services and comfort while traveling on CGB business. In order to accomplish this objective all employees must have a clear understanding of the policies and procedures for business travel and entertainment.

### Responsibility and Enforcement

The employee is responsible for complying with the travel and entertainment policy. An expense report form must be completed by the employee within 30 days of incurring the expense to request reimbursement for travel and entertainment expenses.

The employee's supervisor is responsible for reviewing and approving expense reports prior to their submission.

CGB assumes no obligation to reimburse employees for expenses that are not in compliance with this policy or are not submitted within 30 days of incurring the expense.

### Who to Call About Travel Policy Questions

Any questions, concerns, or suggestions regarding this travel policy should be directed to the Finance Department.

### Airline Class of Service

All air travel must be in Coach class.

Deleted: domestic

Employees are expected to use the lowest reasonable airfare available.

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### Upgrades for Air Travel

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Upgrades at the expense of CGB are **NOT** permitted. Upgrades are allowed at the employee's personal expense.

### Unused/Voided Airline Tickets

Unused airline tickets or flight coupons must never be discarded or destroyed as these documents may have a cash value. To expedite refunds, unused or partially used airline tickets must be returned immediately to the designated department employee. Do not send unused tickets to the airlines, or include them with expense reports.

### Lodging

Employees are entitled to stay in a single room with a private bath. Employees may accept room upgrades to suites or executive floor rooms if the upgrade does not result in additional cost to CGB.

### Room Guarantee / Cancellation and Payment Procedures

It is the responsibility of the employee to cancel the room prior to the deadline if business needs require a change in travel plans (cancellation deadlines are based on the local time of the property). Employees should request and record the cancellation number for potential billing disputes.

## Rental Car

### Rental Car Guidelines

- Employees may rent a car at their destination when:
- It is less expensive than other transportation modes such as taxis, Uber, Lyft, airport limousines and airport shuttles.
- Entertaining customers.
- Employees may reserve rental cars in advance if that is the most reasonable and cost effective means of transportation.

### Rental Car Categories

CGB reimburses the costs of Compact or Intermediate class rental cars. Employees may book a class of service one-level higher when:

- Entertaining customers.
- The employee can be upgraded at no extra cost to CGB.
- Transporting excess baggage such as booth displays.
- Pre-approved medical reasons preclude the use of smaller cars.

### Rental Car Insurance

Employees should decline all insurance coverage when renting a car for CGB use as CGB has suitable coverage in our general liability policy to cover these situations.

### RENTAL CAR CANCELLATION PROCEDURES

Employees are responsible for cancelling rental car reservations. Employees should request and record the cancellation number in case of billing disputes. Employees will be held responsible for unused car rentals that were not properly cancelled.

### Returning Rental Cars

Every reasonable effort must be made to return the rental car:

- To the original city unless pre-approved for a one-way rental.
- Undamaged (i.e., no bumps, scratches or mechanical failures).
- On time, to avoid additional hourly charges.
- With a full tank of gas.

### Reimbursement for Personal Car Usage

Employees will be reimbursed for business usage of personal cars on a fixed scale as determined by CGB's mileage allowance. The mileage allowance is updated once a year in January and follows the mileage allowance set by the Internal Revenue Service. When working out of the office or out of town, any commute time clocked which is less than your normal daily commute is not reimbursable. Employees will not be reimbursed for any repairs to their personal car even if these costs result from business travel. To be reimbursed for use of their personal car for business, employees must provide on their expense report:

- Purpose of the trip.
- Date and location.
- Receipts for tolls, parking.

### **Ground Transportation to and from Terminals**

The most economical mode of transportation should be used to and from airports and bus and rail terminals when the employee is not accompanying a customer. The following modes of transportation should be considered:

- Public transportation (buses, subways, taxis, Uber, Lyft).
- Hotel and airport shuttle services.
- Personal car.

### **Personal/Vacation Travel**

#### **Combining Personal With Business Travel**

Personal vacation travel may be combined with business travel provided there is no additional cost to CGB. Corporate credit cards must **NOT** be used to pay for personal/vacation travel.

#### **Spouse / Companion Travel**

A spouse or other individual may accompany an employee on a business trip at the employee's expense. CGB will not reimburse travel and entertainment expenses incurred by a spouse or other individual accompanying an employee on business unless:

- There is a bona fide business purpose for taking the spouse or other individual.
- The expense incurred would otherwise be reimbursable; and
- There is prior approval from the President.

### **Telephone Usage**

#### **Business Phone Calls**

Employees will be reimbursed for using their personal cell phone or home phone for business phone calls that are reasonable and necessary for conducting business. Expenses must be substantiated with the original telephone bill. The finance department maintains a cell phone reimbursement policy. If you are contemplating using a cell phone for business purposes on a regular basis, contact the finance department to obtain a copy of the policy.

#### **Airphone Usage**

Employees will be reimbursed for using an airphone only in an emergency or if critical business issues necessitate its use.

#### **Travel Insurance Coverage**

Expenses for additional travel insurance coverage will not be reimbursed.

### **Meals and Entertainment**

#### **Personal Meal Expenses**

Personal meals are defined as meal expenses incurred by the employee when dining alone on an out-of-town business trip. Employees will be reimbursed for personal meals according to actual and reasonable cost incurred.

### **Business Meal Expenses**

Business meals are defined as those taken with clients, prospects or associates during which a specific business discussion takes place. Employees will be reimbursed for business meal expenses according to actual and reasonable cost.

### **Business Meals Taken With Other Employees**

Employees will be reimbursed for business-related meals taken with other employees only in the following circumstances:

- When a client is present.
- When, for confidentiality reasons, business must be conducted off CGB premises.
- When traveling together for business.

Meal costs for social occasions, such as employee birthdays; secretary's day, etc. are not classified as business meals or entertainment expenses.

### **Entertaining Customers**

Entertainment expenses include events that include business discussions, which take place during, immediately before or immediately after the event, are eligible for reimbursement for entertaining customers, with the prior approval from the President.

### **Tipping**

Tips included on meal receipts will be reimbursed. Any tips considered excessive will not be reimbursed. As a general rule, employees should not tip more than 15% to 20% of the cost of the meal.

Other types of tips for porters, maid service, etc. should be reasonable.

### **Payment for Meals and Entertainment**

When more than one employee is present at a business meal, the most senior level employee should pay and expense the bill.

### **Documentation Requirements**

A receipt must be submitted with the expense report for any individual meal or entertainment expense. If a receipt is lost or destroyed, the President or Vice President Finance and Administration must approve the expense. In addition, for business meals and entertainment expenses, the following documentation is required and must be recorded on the expense report:

- Names of individuals present, their titles and company name.
- Name and location of where the meal or event took place.
- Exact amount and date of the expense.
- Specific business topic discussed.
- In the case of entertainment events, the specific time the business discussion took place (i.e. before, during or after the event).

### **Corporate Charge Card**

The President and/or his designee must approve the issuance of a corporate charge card.

### Personal Use of Corporate Charge Card

Corporate charge cards are intended for business use. Corporate charge cards must **NOT** be used for personal expenses and use of the corporate charge card for personal expenses will result in termination of the card.

### Reporting Lost / Stolen Cards

A lost or stolen corporate charge card must be reported to the card issuer and director of operations as soon as the employee discovers it is missing. Statistics on stolen charge cards indicates that unauthorized use of stolen cards is greatest in the first few hours after the theft.

### Expense Reporting

An expense report form is required to be completed to request reimbursement for incurred eligible travel and entertainment expenses.

The expense report form is located under Templates in the Shared Drive. The form will automatically calculate mileage reimbursements, total expenses by day and by type and calculate the net amount due the employee.

The expense report is to be completed and submitted for reimbursement in a timely manner. Expense reports should be submitted within one week of incurring the expense. CGB will assume no obligation to reimburse employees for expenses that are not submitted within 30 days of incurring the expense.

The type of expense and dollar amount must be separated on a **daily basis**. For example: a hotel bill may include meals, lodging and telephone expenses. Each category must be split and entered in the appropriate space on the expense report form with expenses allocated for each travel day.

### Approval / Authorization Process

All expense reports must be approved by the employee's immediate supervisor and then forwarded to the Finance Department. The President's expense report will be approved by the Vice President Finance and Administration. Individuals approving expense reports are responsible for ensuring:

- The correctness, reasonableness and legibility of entries.
- Applicable receipts are attached.
- Charges are consistent with policy and were incurred for business purposes.
- Expenses are adequately explained.
- The expense report is signed by the employee.

In accordance with present rules and guidelines, charges that are questionable should be discussed with the employee and resolved **before** the expense report is approved.

### Expense Report Review

The Finance Department will review each employee expense report for:

- Approval signatures.
- Business purpose.
- Correct totals.
- Supporting documentation and receipts.
- Policy compliance.



The Finance Department will not reimburse any expense that is not in compliance with CGB's travel and entertainment policy.

**Examples of Acceptable Documentation:**

- Air/Rail - original passenger coupon.
- Hotel - hotel folio plus charge card receipt or other proof of payment.
- Car Rental - rental car agreement plus charge card receipt or other proof of payment.
- Meals/Entertainment – charge card receipt or cash register receipt.
- Receipts for all miscellaneous expenses over \$10.00.

Receipts must include the name of the vendor, location, date and dollar amount of the expense. When a receipt is not available, a full explanation of the expense and the reason for the missing receipt is required.

**Incorrect or Incomplete Expense Reports**

Expense reports that are incorrect or incomplete will be returned to the employee for corrective action and may result in delay or non-reimbursement of specific items. Violating CGB policy or altering of receipts can result in disciplinary action up to and including termination.

**Employees Will Not Be Reimbursed for the Following Items:**

- Airline club membership dues.
- Airline headsets.
- Airline drinks.
- Airline or personal insurance.
- Annual fees for personal credit card.
- Barbers and hairdressers.
- Birthday lunches.
- Car washes.
- Cellular phone repairs. (note that employees will be reimbursed for business use on their cellular phones pursuant to the CGB Mobile Communications Policy.
- Child care.
- Clothing (i.e. socks, pantyhose, etc.).
- Expenses for travel companions/family members.
- Expenses related to vacation or personal days while on a business trip.
- Flowers or gifts for employees or customers (unless approved by the President or a Vice President).
- Gum, candy or cigarettes.
- Health club facilities, saunas, massages.
- Hotel movies.
- Hotel room refrigerator items.
- Hotel laundry and valet services unless the trip exceeds five consecutive days.

- Interest or late fees incurred on a personal credit card.
- Loss/theft of cash advance money or Company-paid airline tickets.
- Loss/theft of personal funds or property.
- Magazines, books, newspapers, subscriptions.
- Mileage for travel between home and office/work site.
- “No show” charges for hotel or car service.
- Optional travel or baggage insurance.
- Parking or traffic tickets.
- Personal accident insurance.
- Personal entertainment, including sports events.
- Personal toiletries.
- Pet care.
- Postage costs, postcards (sent to fellow employees).
- Shoe shine.
- Short term airport parking (except for 1 day trips only)
- Unexplained or excessive expenses which are not within the intent of CGB policy will not be reimbursed.

**All employees must review this policy and sign the acknowledgement form found in the Appendix and return it to Human Resources.**

**SECTION 7 GENERAL RULES OF CONDUCT**

Ethical conduct is a core value of the Connecticut Green Bank and all board members and employees of CGB are expected to maintain the highest professional standards in the conduct of their duties. In particular, CGB employees are considered to be “state employees” and members of CGB’s Board of Directors are considered to be “public officials”. A copy of the Public Officials and State Employees Guide to the Code of Ethics (the “Guide”) is attached for reference. You may also access both the Code of Ethics and the Guide on the Office of State Ethics website at [www.ct.gov/eethics](http://www.ct.gov/eethics) by clicking on “Statutes and Regulations” and “Public Official and State Employee Information”, respectively.

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### General Rules of Conduct

To ensure orderly operations and provide the best possible work environment, CGB expects employees to follow rules of conduct that will protect the interests and safety of all employees and the organization. Although it is not possible to list all the forms of behavior that are unacceptable, the following are examples of infractions that may result in disciplinary action, up to and including termination of employment:

- Theft or inappropriate removal or possession of property of CGB, clients or other employees.
- Dishonesty or misrepresenting, falsifying or providing misleading records including, but not limited to, employment applications or resumes, time keeping records, client records, expense requests, etc.
- Working under the influence of alcohol or illegal drugs.
- Possession, distribution, manufacturing, sale, transfer, or use of alcohol or illegal drugs in the workplace, while on duty.
- Fighting, wrestling, horseplay, or threatening violence in the workplace.
- Insubordination or other disrespectful conduct including, but not limited to, refusal to perform assigned work.
- Refusal to do assigned work, use of obscene or vulgar language, or other disrespectful conduct.
- Taking any action detrimental to CGB, fellow employees, clients or visitors.
- Unsafe behavior and/or violation of safety or health rules.
- Sexual or other unlawful or unwelcome discrimination or harassment.
- Possession of dangerous or unauthorized materials, such as explosives or firearms, in the workplace.
- Excessive absenteeism, tardiness, or any absence without notices.
- Unauthorized use of telephones, mail system, or other employer-owned equipment for personal use or other unauthorized operation.
- Sleeping, loafing, failure to demonstrate a professional behavior in carrying out assigned tasks.
- Soliciting, gambling, taking orders, selling tickets, collecting or contributing money for any unauthorized cause.
- Engaging in outside business activities that conflict with CGB’s interests or interfere with proper performance of job duties.
- Failure to report a work-related injury immediately.
- Unauthorized use or the willful damage, abuse or destruction of CGB property or the property of others.
- Violation of CGB’s personnel policies and/or rules.
- Unsatisfactory work performance.

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The examples listed above are not intended to cover all situations that may result in disciplinary action, but are only intended to be guidelines as to what are considered improper standards of work conduct. Also, this policy does not alter the at-will nature of an employee's employment with CGB.

If any employee's behavior or interactions jeopardize positive working relationships with clients, and render the employee unable to fulfill the responsibilities of his/her position, or place CGB at risk of liability, the employee will be subject to review and possible disciplinary actions. It is important for all employees to conduct themselves in a way that is fair to each other and to our common objective of delivering quality services.

## Personal Appearance

The nature of our business at CGB puts us in frequent contact with clients and the public. We enjoy an excellent reputation among the energy community in Connecticut. While there are many reasons for this reputation, one of the ways to help maintain it is for all staff to present a professional image to the community. It is important that they have confidence in the staff, and the staff members have confidence/pride in themselves when transacting business. To help present this image and foster public confidence, staff members must dress appropriately for their work assignments and use common sense and good judgment in their appearance. Employees with questions regarding what is deemed appropriate dress for his/her work assignments should discuss this with his/her supervisor. CGB reserves the right to determine individual compliance with the policy in all questionable cases.

## Personal Appearance Guidelines

Staff will wear clean and well-maintained attire appropriate to the type of work they do. Shoes are required and must also be well-maintained. Good grooming is required. Formal business attire may be expected for internal and external events such as board meetings, hearings, presentations, and meetings.

Business casual attire (ties are optional) is acceptable for all other occasions. In compliance with this policy, the following are examples of unacceptable attire:

- torn, patched/faded clothing
- athletic wear, e.g. sneakers, shorts, t-shirts, skorts, etc.
- halter tops
- tube tops
- rubber soled flip flops
- shorts (any pant or slack that ends above the knee)
- shirts with slogans or large letter advertising

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## Freedom from Harassment

CGB is committed to treating its employees with dignity and respect. All employees have a right to be free from racial or ethnic slurs, unwelcome sexual advances, or any other verbal or physical conduct that constitutes harassment. CGB is committed to providing a work environment that is free of discrimination and unlawful harassment.

Sexual harassment is unlawful under federal and state law. The CGB statement on Sexual Harassment and the Equal Employment Opportunity Commission "Guidelines on Discrimination Because of Sex" provide that unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment.
- Submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting that person.
- Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment.

Actions, words, jokes, or comments based on an individual's sex, race, ethnicity, age, religion, or any other legally protected characteristics will not be tolerated. As an example, sexual harassment (both overt and subtle) is a form of employee misconduct that is demeaning to another person, undermines the integrity of the employment relationship, and is strictly prohibited.

Sexual, racial, ethnic, or other unlawful harassment of employees by supervisory or non-supervisory employees of CGB, or by non-employees (including clients) will not be tolerated. All members of CGB management and supervision have the explicit responsibility to take immediate corrective action to prevent any sexual, racial, ethnic or other harassment.

Any employee who wishes to report an incident of unlawful harassment should promptly report the matter to his or her supervisor. If the supervisor is unavailable or the employee prefers to report the incident to someone other than the supervisor, he or she should immediately contact the Human Resources designee or any other available manager.

Anyone engaging in unlawful harassment will be subject to disciplinary action, up to and including termination of employment.

### **Sexual Harassment**

Title VII of the Civil Rights Act of 1964, which is a federal law and Connecticut law, prohibit sexual harassment. CGB will not tolerate sexual harassment in the workplace. No employee—either male or female—should be subject to unwelcome verbal or physical conduct that is sexual in nature or shows hostility to the employee because of the employee's gender. Sexual harassment does not refer to occasional compliments of a socially acceptable nature. It refers to behavior that is not welcome, that is personally offensive, that debilitates morale, and that, therefore, interferes with work effectiveness.

### **Management Responsibility**

Management at all levels of CGB is responsible for preventing sexual harassment in the workplace. This responsibility includes immediately reporting conduct by anyone, whether a coworker, supervisor, or non-employee, that may constitute sexual harassment, even if the conduct was sanctioned and regardless of how awareness of conduct was gained.

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### **Prohibition Against Sexual Harassment**

CGB strictly enforces a prohibition against sexual harassment of any of its employees. Sexual harassment prohibited by state and federal law and by this policy includes the following conduct:

- Unwelcome verbal or physical conduct of a sexual nature when submission to such conduct is made either an explicit or implicit term or condition of any individual's employment (such as promotion, training, timekeeping, overtime assignments, leaves of absence); or
- Unwelcome verbal or physical conduct of a sexual nature when submission to or rejection of such conduct by an individual is used as the basis for employment decisions; or
- Unwelcome verbal or physical conduct of a sexual nature when the conduct has the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile or offensive working environment; or
- Unwelcome verbal or physical non-sexual conduct that denigrates or shows hostility toward a person because of his or her gender when the conduct has the purpose or effect of substantially interfering with an individual's work performance, or creating an intimidating, hostile, or offensive work environment.
- Sexual harassment is a form of sexual discrimination, and neither sexual harassment nor discrimination will be tolerated.

**Examples of Conduct Prohibited By This Policy Include:**

- Offering or implying an employment-related reward (such as a promotion or raise) in exchange for sexual favors or submission to sexual conduct;
- Threatening or taking a negative employment action (such as termination, demotion, denial of a leave of absence) if sexual conduct is rejected;
- Unwelcome sexual advances or repeated flirtations;
- Graphic verbal commentary about an individual's body, sexual prowess or sexual deficiencies;
- Sexually degrading or vulgar words to describe an individual;
- Leering, whistling, touching, pinching, brushing the body, assault, coerced sexual acts, or suggestive, insulting, or obscene comments or gestures;
- Asking unwelcome questions or making unwelcome comments about another person's sexual activities, dating, personal or intimate relationships, or appearance;
- Conduct or remarks that are sexually suggestive or that demean or show hostility to a person because of that person's gender (including jokes, pranks, teasing, obscenities, obscene or rude gestures or noises, slurs, epithets, taunts, negative stereotyping, threats, blocking of physical movement);
- Displaying or circulating pictures, objects, or written materials (including graffiti, cartoons, photographs, pinups, calendars, magazines, figurines, novelty items) that are sexually suggestive or that demean or show hostility to a person because of that person's gender;
- Retaliation against employees complaining about such behaviors;
- Harassment consistently targeted at only one sex, even if the content of the verbal abuse is not sexual;
- Sexually suggestive or flirtatious letters, notes, e-mail, or voice mail

This policy covers all employees. CGB will not tolerate, condone or allow sexual harassment whether engaged in by fellow employees, supervisors, and associates or by outside clients, opposing counsel, personnel or other non-employees who conduct business with this agency.

**General Harassment**

Actions, words, jokes or comments based on an individual's sex, race, ethnicity, age, religion or any other legally protected characteristic will not be tolerated. Such conduct can unreasonably interfere with work performance and create an intimidating, hostile and offensive work environment.

We expect all employees to consider at all times the effect your words and actions may have on those with whom you work. While you may feel that your behavior is harmless, it is the way your words and actions are perceived by others that counts.

Please do not assume that the agency is aware of a harassment situation. It is in your best interest and your responsibility to bring your complaints and concerns to management's attention so that the issue may be resolved.

**Complaint Process**

Should you ever experience any job harassment problem, please exercise the steps in our agency Grievance Procedure (outlined in Section 7 of this handbook), or at your option, you may directly contact Human Resources. You may expect prompt and concerned reaction to your problem. Any employee engaging in unlawful harassment will be subject to disciplinary action, up to and including termination.



**Sanctions**

Any employee found to have engaged in sexual harassment or sexual discrimination will be subject to appropriate discipline, up to and including discharge.

**No Retaliation**

This policy also prohibits retaliation against employees who bring sexual harassment charges or assist in investigating charges. Retaliation in violation of this policy may result in discipline up to and including termination. Any employee bringing a sexual harassment complaint or assisting in the investigation of such a complaint will not be adversely affected in terms and conditions of employment, nor discriminated against or discharged because of the complaint.

**All employees must review this policy and sign the acknowledgement form found in the Appendix and return it to Human Resources.**

### **Confidential Disclosure Policy**

**Instructions: Please read this Confidential Disclosure Policy form carefully, then sign and return this form to Human Resources.**

I understand that in connection with my work for CGB, I may be exposed to or given confidential or proprietary information belonging to CGB and others, including, but not limited to, information concerning trade secrets, business, products, finances, personnel information, and plans of CGB or CGB's clients, portfolio companies and applicants, (the Confidential Information). Without limitation, examples of Confidential Information are: drawings, manuals, notebooks, reports, models, inventions, formulas, processes, machines, compositions, computer programs, accounting methods, financial information, business and marketing plans and information systems.

Some of the Confidential Information may belong to or relate to "publicly held" companies and may include "inside information" which is not available to the public. My employment by CGB creates a relationship of special confidence and trust between me and CGB with respect to the Confidential Information.

I agree as follows:

1. I will not, either during or subsequent to my employment by CGB, (1) publish or otherwise disclose Confidential Information except to persons who may from time to time be designated by CGB as proper recipients of such Confidential Information or (2) use the Confidential Information (including any inside information) either for the benefit of myself or for the benefit of anyone other than CGB. If I have any questions regarding whether any information is Confidential, I will ask my supervisor for instructions and will not disclose such information unless otherwise instructed by my supervisor.
2. The Confidential Information will remain at all times the property of CGB or the rightful owners thereof notwithstanding its disclosure to me.
3. I will promptly disclose to CGB all materials, innovations, studies, writings or other works created or developed by me as a result of tasks assigned to me by CGB or exposure to the confidential Information ("Work Product"). I agree that all ("Work Product") shall be the sole property of CGB and that CGB shall be the sole owner of all copyrights and other intellectual property rights related thereto. I hereby assign to CGB any and all rights which I may have or acquire in any Work Product and agree to assist CGB in every way (but at CGB's expense) to obtain or enforce copyrights and other interests in the Work Products as CGB may desire.
4. Upon termination of my employment with CGB or whenever requested by CGB, I will promptly deliver to CGB all Work Product and all documents and other tangible embodiments of the Confidential Information and any copies thereof.

### **Confidential Disclosure Policy**

This agreement supersedes and replaces any existing agreement between CGB and me relating generally to the same subject matter. It may not be modified or terminated, in whole or in part, except in writing signed by an authorized representative of CGB. Discharge of my undertakings in this agreement shall be an obligation of my executors, administrators, or other legal representatives or assigns.

**All employees must review this policy and sign the acknowledgement form found in the Appendix and return it to Human Resources.**

## Computer Use Policy

### Purpose

Your computer is a CGB resource and is subject to the same rules as other CGB resources. The purpose of this policy is to ensure that employees understand the guidelines governing computer and other electronic communications (including tablet computers and mobile phones) use with regard to Internet access, email, other electronic communications, software licensing, security and personal use, in particular.

This policy cannot provide rules and guidance to cover every possible situation. Instead it is designed to express CGB's philosophy and set out the general principles that employees should apply when using company computers and technology. These policies apply to all CGB employees and staff (consultants, third-party contractors and administrators).

This policy does not cover health and safety issues.

Issues not directly addressed in this policy or in some other written form are to be decided by HR and/or CGB management should the need(s) and situation(s) arise. Further policy documents are forthcoming to cover specific areas of acceptable use as technology is deployed.

Unless otherwise stated, violation of these policies may result in disciplinary action, up to and including termination and/or legal action.

### General

CGB provides employees and staff with personal computers (PCs), printers and other computer equipment as necessary to perform their job. Employees should not expect the latest hardware or software releases to be provided unless there is a business reason to do so.

CGB encourages the use of email, voicemail, online services, the Internet and Intranet as they can make communication more efficient and effective. In addition, they can provide valuable sources of information about vendors, customers, competitors, technology and new products and services. Pursuant to the Freedom of Information Act (FOIA), no employee shall have any expectation of privacy in any CGB work product.

Everyone connected with the organization should remember that electronic media and services provided by the company are company property and their purpose is to facilitate and support company business. Data stored and/or accessed on company equipment, regardless of origin, purpose, or design should also be considered to be within, at least, company purview, oversight and audit rights. The company reserves the right to access data of any sort, stored or located on company provided equipment.

The following are examples of non-business related activities that are prohibited:

- Streaming music or video.
- Shopping.
- Booking a vacation.
- Using instant messaging.
- Viewing personal pictures over the web.
- Downloading unauthorized computer software or pornographic materials.

## E-Mail

All employees and staff are supplied with a company email address and the means by which to access their account. These details are provided by CGB as part of our IT orientation process. E-mail messages are considered public records and are subject to the Freedom of Information Act. Furthermore, e-mail, both incoming and outgoing, is not confidential and is monitored by the Information Technology Department. All e-mail correspondence is saved on the network backup solution and is easily retrievable. You should take great care to scrutinize what you include in an e-mail message. E-mail messages may exist on the system indefinitely and may be recoverable even after you have deleted the message.

All employees must create and use a business email signature, based on the approved template that is generated by the marketing department.

All non-company email services, such as Gmail, Hotmail, Yahoo, etc. are never to be used for company purposes. If third-party email services must be used, it will be provisionally and under direct supervision of the operations department. Never is an employee or staff member to use a personal email account to correspond with clients.

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Electronic media (email, web browsers, etc.) must not be used for knowingly transmitting, retrieving or storage of any communication that:

- Is discriminatory
- Is harassing or threatening
- Is derogatory to any individual or group
- Is obscene or pornographic
- Is defamatory
- Is engaged in any purpose that is illegal or contrary to CGB's policy or business interests
- Contains unencrypted personal information
- Contains unencrypted intellectual property

Further, all forms of mass email (including 'virus warnings', 'good luck' and similar messages) are unacceptable unless for an approved business purpose.

The transmission of user names, passwords, or other information related to the security of CGB's computers is prohibited. If a password protected file absolutely must be emailed, the password should be sent in a separate email from the document or communicated in another manner.

Employees should avoid sending unnecessary informational emails to large parts or all of the organization. However, we recognize the business need for companywide emails, but there will be a strictly monitored and governed use of such behavior and practice. Failure to comply with these guidelines could result in disciplinary action.

## Email Disclaimer

An email disclaimer is automatically added through our exchange server to the end of all e-mail being sent outside the office. Do not add your own disclaimer to messages. The company disclaimer is as follows:

**NOTICE TO RECIPIENT:** This e-mail is (1) subject to the Connecticut Freedom of Information Act and (2) may be confidential and is for use only by the individual or entity to whom it is addressed. Any disclosure, copying or distribution of this e-mail or the taking of any action based on its contents, other than for its intended purpose, is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately and delete it from your system.

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### **External email and participation in online forums**

Employees should be aware that any messages or information sent using the company systems are statements identifiable and attributable to the company. Thus, an email carries the same weight in law as a letter written on company stationery.

Employees should note that even with a disclaimer, as described above, a connection with the company still exists and a statement could be imputed legally to CGB. Therefore, no one should rely on disclaimers as a way of insulating CGB from the comments and opinions that are contributed to forums or communicated in emails. Instead, discussions must be limited to matters of fact and expressions of opinion should be avoided while using company systems or a company-provided account. Communications must not reveal information about company processes, techniques, trade secrets, or confidential information and must not otherwise violate this or other company policies.

Employees should not send file attachments by email in situations where there is any potential for the compromise of company secrets or in relation to litigation. Be aware, files from many word processing packages, including Microsoft Word, retain information related to previous versions of the document that can later be retrieved.

### **Electronic calendars and voicemail**

It is CGB policy that all employees keep their electronic calendars up to date (using Microsoft Outlook) and that calendars can be read by supervisors. When a meeting or event needs to be kept confidential, it should be marked as 'private' with the appropriate program functionality.

It is CGB policy that all employees with email and/or voicemail keep their "out of office assistant" or pre-recorded greetings up-to-date. In particular, during periods of absence from the office, these greetings should provide the individual with information indicating when the employee will receive a message or information about an alternative contact.

### **My Documents**

The "My Documents" folder is to be used as a work-in-progress location. This is the only place you are allowed to store documents on the PC. Once items in this folder are deemed completed they should be moved to the proper location within the department's folders on the server. Your my documents folder is located on the server, synchronized with your PC on logon and logout. The size of this folder is limited to 350 mb.

Creation of folders and files on your PC is prohibited, except within your "My Documents" folder.

[The Green Bank will be looking to implement web based file storage \(OneDrive and SharePoint\). Work files must not be stored outside of these solutions on other web based file share solutions without the expressed permission of the operations department.](#)

### **Illegal & Prohibited Activities**

Use of your computer for an illegal purpose is prohibited. Illegal activities include violations of local, state and/or federal laws and regulations. Connecticut General Statutes, section 53a-251

establishes the crime of “Computer Crime.” A person can be charged with a computer crime for such things as:

- Unauthorized access to a computer system.
- Theft of computer services.
- Interruption of computer services.
- Misuse of computer services.
- Destruction of computer equipment.

A computer crime violation can range from a Class B Felony (1 to 20 years in prison and up to \$20,000 fine) to a Class B Misdemeanor (up to 6 months in prison and up to \$1,000 fine) depending on the amount of money or damage involved.

CGB strives to maintain a workplace free of harassment and sensitive to the diversity of its employees. Therefore, CGB prohibits the use of any of its systems, including the computers and the e-mail system in ways that are disruptive, offensive to others, or harmful to morale. For example, the display or transmission of sexually explicit images, messages, and cartoons is not allowed. Other such misuse includes, but is not limited to, ethnic slurs, racial comments, off-color jokes, or anything that may be construed as harassment or showing disrespect for others.

It is recognized that employees do not have complete control over all incoming e-mail that is sent to CGB. However, it is the responsibility of every employee to monitor incoming e-mail and request cessation of inappropriate, voluminous, unprofessional or disruptive e-mail.

### Software

It is CGB policy that only licensed software that is legally owned by the company may be used. All use of unlicensed software is expressly forbidden, unless written pre-approval by IT and management. However, you are not allowed to install any software on any company hardware. All software must be approved and installed in coordination with the director of operations. As always, proper documentation of licensing is required.

In order to implement this policy, CGB maintains a central register containing physical licenses for the software install on its computers. Where no physical manifestation of a license exists, a written record of the license purchase is kept with a reference to the relevant invoice. It is the responsibility of the IT support organization to maintain this license repository.

Free or shareware programs should not be installed on company computers due to the risk of virus infection and other side effects without approval from IT. Where installed, they are only exempt from the central license recording provided the software clearly identifies itself as free.

### Hardware

Employees issued portable (laptop, tablet) computers must take reasonable precautions. When out of the office the computer should always be under direct control of the employee or out of sight in a secure location. CGB may take other security measures including, but not limited to, computer tracking hardware/software, security cables, and/or hard drive encryption.

- Personal use of the company phone system should be kept to a minimum.
- LCD projectors must be reserved using resource on calendar.
- All laptop users must carry their device in an adequately padded laptop case. Laptop sleeves, tote bags and any other uncushioned bags are unacceptable.
- Printers must be handled with care. If a jam or other issue occurs and you cannot quickly fix the issue, the IT Staff should be contacted to resolve the issue.

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### Standard Configuration

Standard hardware and software configurations are used wherever possible to provide the best levels of reliability for the company network and computers. Other benefits of the standard configuration include the rapid replacement of faulty equipment with spare parts, the tracking of software licenses (as described in the preceding section) and the ability to plan for the implementation of new projects.

The configuration of company computers should not be changed in any way without the prior agreement of CGB management. In particular, new hardware devices, new software and upgrades to existing software should only be installed under the guidance of CGB's IT staff.

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### Data Security

All employees and staff (consultants, third-party contractors, and administrators) are assigned a network username and password when they join the company. The network will force employees and staff to change their password at regular intervals, the interval being determined by the network administrator. The network administrator will also impose other restrictions, such as password length and complexity requirements.

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Employees must select network passwords that cannot be easily guessed or that appear in a standard dictionary. If it is necessary to create a written record of a password, that record should never be stored near the employee's desk and never associated with the employee's username. In general, passwords should be memorized and not recorded in writing.

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Employees must password-protect all smartphones, tablets and other mobile devices that are paid for by CGB or contain sensitive or confidential business information.

## Privacy

CGB respects your desire to work without the company being overbearing with respect to monitoring and control. However, detailed electronic records about your use of the PC, the network, email and Internet are created, but not routinely reviewed by the company.

While the company does routinely gather logs for most electronic activities, they will typically be used for the following purposes:

- Cost analysis
- Resource allocation
- Optimum technical management of information resources
- Production analysis
- Detecting patterns of use that indicate users may be violating company policies or engaging in illegal activity

CGB reserves the right, at its discretion, to review any electronic files, logs and messages to the extent necessary to ensure electronic media and services are being used in compliance with the law, this policy and other company policies. This includes the use of spot checks on Internet (Web) use, network files and email without prior notification or user interaction.

Software tools to identify possible breaches of this policy (e.g. highlighting access to websites with unacceptable content or emails containing abusive language) may be used. The results will be reported to the company management and thoroughly investigated where appropriate.

It should not be assumed that internal or external communications are totally private. Accordingly, particularly sensitive information should be transmitted by other means. Therefore, do not use the company network or mobile devices paid for by CGB for personal items that you would not want made public.

## Encryption

Only encryption software supplied by CGB for purposes of safeguarding sensitive or confidential business information may be used. People who use encryption files stored on a company computer must provide their manager with a sealed hard copy record (to be retained in a secure location) of all the passwords and/or encryption keys necessary to access the files.

Power-on passwords should not generally be used but if they are, they are required to be approved by IT.

**Please note: this means that employees must inform their supervisor of any passwords used to protect individual documents.**

## File Storage

CGB creates backup images of all email, server and network file stores. These images are stored in a secure location and can be used in the event of:

- Accidental deletion of important material
- A "disaster" necessitating complete recovery of one or more of the company's systems

Data and other files created during the course of an employee's work should, therefore, be stored on the network.



### **Personal Use**

Computers and associated equipment are provided by CGB for employee's and staff's business use. The activities on information technology platforms provided by or paid for CGB, including computers, networks, internet connections, smartphones, tablets and any mobile devices, may be monitored with or without your knowledge. You should have no expectation of privacy regarding the contents contained within such technology or device.

Only limited, occasional and incidental use for personal, non-business purposes is permissible at the discretion of the President. However, please be mindful of prohibited activities as described above in General Guidelines (i.e. shopping, music streaming, etc.) Limited, occasional or incidental use is defined as use for less than 15 minutes during a workday.

Use of social networking sites (e.g. Facebook, Twitter, LinkedIn) at any time using company provided computers is prohibited, unless it is for company purposes and/or business. While at work, the impact to company resources can impact business operations, but also opens the device to possible security issues.

Personal laptops, cell phones and other internet-enabled items are permitted to be used; however reasonable restrictions of use may be exercised at HR/management discretion. CGB does not provide internet access for public/private use, except on an approved device/user basis. Please advise IT for further detailed instructions before attempting to connect any device to the CGB network.

Streaming media (internet Radio, YouTube, Hulu, Pandora, Spotify, etc.) uses significant resources and is prohibited for personal use. Please consider the impact of its use for business purposes only for all devices, including cell phones.

Company locations may provide a freely accessible public Wi-Fi connection that may be used by employees and staff, but CGB absolves itself of any and all damage, liability, etc. that arises from the use of third-party networks. It is the policy of CGB that if an employee chooses to use these third-party connections that they do so on their break, lunch, or after-hours and do not pursue personal activities during business hours.

### **Contract and freelance staff**

CGB will provide agency/temporary, contract/freelance staff with access to computers and the company computer systems for the sole purpose of fulfilling their contractual role with CGB. No personal use by these staff of computer and communication facilities provided by CGB is permitted at any time.

### **Viruses/Spyware**

All computer viruses/spyware must be reported immediately to IT. IT is responsible for verifying the updating of virus/spyware detection software from time to time and providing detailed guidelines in the event of a major problem. IT will also investigate any infection and must receive the full cooperation of all staff in attempting to identify the source. Any attempt to introduce viruses/spyware to the network through malice or negligence will be thoroughly investigated and will be dealt with according to HR guidelines and procedures.

### **Mobile Devices**

It is CGB policy that representatives of our organization who are issued a cellular phone understand that phones are issued for business use. It is anticipated that personal as well as

business use will occur, however it is your responsibility to remember its intended use. Company-paid phones with data plans must be first approved by your supervisor and proper paperwork filed with Finance. Once this process is complete, the IT department will configure the device to connect to the server to retrieve mail, contacts and your calendar. Levels of reimbursement will be set forth in accordance with CGB's Mobile Communications policy.

It is your responsibility to take care of the device and ensure its safety. If your device is lost or stolen, you must contact IT immediately so it can be remotely wiped of company data.

CGB has a **zero-tolerance** policy regarding using a cell phone and other mobile devices while driving. For the safety of our employees and others it is imperative that you pull over and stop at a safe location to dial, receive, text or converse on the cell phone in any way. Please consider the use of hands-free devices as allowed by Connecticut State Law.

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Mobile devices equipped with cameras require special attention. No photography should occur where confidential information exists, nor where client information is stored. Areas where personal privacy exists (bathrooms, etc.) should be avoided with such devices entirely. Under no circumstances should photography occur at a client location without their permission.

### Tablets

Those who own such devices must have management approval to use them for company business and e-mail synchronization, just as for smartphones. Just as for synchronized phones, IT needs to be informed if your device has been lost or put into the wrong hands or if you are getting rid of the device as they need to wipe it of company data.

### Company Data

The Information Technology department is responsible for protecting company data. This includes all data on the servers, as well as on other devices such as laptops, desktops, mobile devices and multifunction printers. The IT department backs up all data on the servers on a daily, weekly, and monthly schedule and retains this data under the company-approved Backup Policy.

The following are not permitted:

- Backing up company data on your own.
- Having company data on your personal equipment, this includes the following:
  - Personal PCs laptops or desktops, tablets, smartphones or other mobile devices.
  - Personal USB devices, such as memory sticks, MP3 players, hard drives or other recording devices.
- Sending company data via e-mail to your or another CGB employee's personal email account.
- Accessing another employee's hardware, computer files or email without prior permission from employee or appropriate manager.
- Sharing your logon password with anyone except the IT staff.
  - The system will ask to reset your password every 90 days.

If you telecommute, all work must be done on company equipment. If you are not using a company-owned laptop, a loaner PC can be arranged through the IT department with proper advanced notice to accommodate your needs. No personal devices may be attached to company hardware without prior approval by the IT department (i.e. printers, hard drives, etc.).

It is permissible to transfer items such as presentations and documents to a recording device for the sole purpose of collaboration with approved clients or customers pertaining to company business.

Access to the Internet at CGB is a resource, and use thereof is subject to the same rules as other CGB resources. It is the responsibility of the user to make sure that all use of the Internet is authorized, appropriate and to the benefit of CGB. Each individual with access to the Internet is responsible for controlling its use. The use of the Internet is a privilege, not a right, which can be revoked at any time.

## **Social Media**

These guidelines apply to CGB employees, temporary employees and contractors who create or contribute to blogs, wikis, social networks, virtual worlds or any other kind of social media for both professional and personal use.

### **Overview**

Social networks are fundamentally changing the way people communicate, conduct research and make purchasing decisions. As an organization, CGB is engaged in these communities as they are appropriate and relevant to our clients and the marketing department has developed a strategy for our Social Media Platform. We encourage you to learn how you can use social media to help us share the exciting things we are doing with our clients, uncover new opportunities and strengthen the perception of CGB's staff as innovative professionals—people who work for a company that our clients trust and want to do business with.

Marketing does not exist in a vacuum within the marketing department; every interaction our clients, prospective clients and partners have with us can strengthen or harm our brand. Therefore, social media should not be thought of just as a marketing tool. While it can be a vehicle for organizations to publish content, it can also be a way for the people who make up those organizations to build and maintain relationships with clients and business partners.

You might be thinking “I already know how to use social media. What else do I need to know?” As the lines between personal and business communications become increasingly blurred, there are a few important points we would like you to consider when using social media in the capacity of your job.

1. You don't have to participate if you don't want to.

Unless you are in marketing, using social media is not likely to be an official part of your job role. We respect that some people prefer not to participate in social networking, or are unsure if they want to mix personal and professional networks. Don't worry, there's no pressure to participate.

2. Be honest and transparent about your role.

If you publish something or respond to something about CGB, make sure to include your real name and it is understood that you are a CGB employee so there is no conflict of interest. There are several easy ways to do this, such as listing CGB as your place of employment on your profile, or starting your comment with something like “Disclaimer: I work for CGB”, but regardless of your method, your audience will appreciate your transparency.

3. Know what the official lines of communication are and when to defer to them.

There is a significant difference between speaking *about* CGB and speaking *on behalf* of CGB. CGB has official means to publish information when it needs to and only a few people are authorized to do so via social media, the press, or any other venue. On your own blogs or social profiles, you can use simple statements such as “The postings on this site are my own and don’t necessarily represent CGB’s positions, strategies or opinions” to make it clear you are not speaking on behalf of CGB.

If you are not authorized to speak on behalf of CGB and receive requests for official comments, or are unsure if you should respond to an inquiry, defer to the marketing department.

Social media can be a forum for customers to share negative comments about an organization. CGB monitors our social profiles daily and has official means of diffusing and responding to these situations. Our policy is to respond promptly and openly and to take the conversations offline. If you see a negative comment or a situation that concerns you, do not respond directly, but report it to your supervisor and/or marketing and it will be addressed quickly and professionally.

4. Remember our core values and follow our general code of conduct.

You should use your best judgment and consider CGB’s values of integrity, accountability and professionalism as a guide for your conduct in online communities, just as they are a guide for other professional behavior. You are personally responsible for the content you post on any social network. These forums are public, are often searched and indexed and should be treated as though they will be available for public viewing forever. If you aren’t sure whether certain content should be published or discussed, ask before you post.

Know and follow our Code of Conduct, respect all copyright, fair use and financial disclosure laws and never share any confidential or proprietary information belonging to CGB or any other organization. Never comment on anything related to legal matters, litigation, or any parties CGB may be in litigation with. Postings must respect copyright, privacy, fair use, financial disclosure, and other applicable laws. Only marketing may post or authorize the posting of pictures, videos, and other media produced on the business premises or outside events. CGB reserves the right to request that certain subjects be avoided, withdraw certain posts, and remove inappropriate comments. If such employee denies or does not comply, proper legal action will be taken. When in doubt, feel free to run by marketing or human resources.

5. Think before you post.

Use common sense when it comes to verbiage and tone in written online content. While social media is in some cases less formal than traditional business communications, CGB uses social media as a professional extension of our business. Do not use ethnic slurs, insults or otherwise inappropriate and unprofessional language that would not be acceptable in the workplace. Respect the privacy of others and avoid potentially inflammatory topics.

Above all else, seek to add value in your participation. Our clients are looking for your information, insight and expert perspective. Bashing competitors and posting negative comments about work, our clients or our partners violates our Code of Conduct and adds nothing positive to an online dialogue. Think before you post and ask yourself if you are making a situation better or worse by doing so. Answering questions, sharing resources and talking about your experiences are a great way to add value.

6. Online activities should not interfere with your job.

Social media, like, the Internet, can quickly change from a worthwhile tool to a distraction. Make sure your online activities do not interfere with your job or your commitments to our clients. In addition, social media sites may not be accessed on company hardware for personal reasons.

**All employees must review these policies and sign the Information Technologies Policies acknowledgement form found in the Appendix and return it to Human Resources.**

### **Solicitation and Distribution**

All CGB employees are entitled to the opportunity to perform their work without being bothered or disturbed. Accordingly, we have adopted the following solicitation and distribution rule.

#### **Non-Employees**

Anyone who is not an employee of CGB is prohibited from soliciting or distributing literature on CGB premises at any time.

#### **Employees**

The CGB Solicitation and Distribution policy as it relates to current employees is as follows:

- Employees may not engage in solicitation or distribution of literature during working time. "Working time" means actual working time during the workday and includes both the working times of an employee doing the soliciting or of an employee being solicited. Working time does not include lunch periods, work breaks, or any other period in which employees are not on duty.
- Employees may not distribute literature concerning matters other than those directly related to CGB business in work areas at any time.
- Employees may not engage in verbal solicitation or distribution of literature at any time in those areas normally frequented by clients carrying on CGB business.

### **Bulletin Boards**

Bulletin boards are important as communications tools to alert you to CGB programs and activities. The posting of written solicitations of any kind on bulletin boards is restricted. Only notices relating to CGB sponsored activities may be posted on bulletin boards. These bulletin boards display important information, and employees should consult them frequently for:

- Employee announcements.
- Internal memoranda.
- Job openings.
- Organization announcements.
- Workplace Violence Policy Memorandum

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## **VIOLENCE IN THE WORKPLACE PREVENTION POLICY SUMMARY**

Below is CGB's policy concerning workplace violence and prohibiting weapons and dangerous instruments in the workplace.

The policy is consistent with what has been called a "Zero Tolerance" approach. Violence or the threat of violence by or against any employee of the State of Connecticut, including CGB, is unacceptable and will subject the perpetrator to serious disciplinary action and possible criminal charges.

CGB is committed to providing its employees a safe and healthy work environment, free from intimidation, harassment, threats and/or violent acts.

The worksite is any location, either permanent or temporary, where an employee performs any work-related duty. This includes but is not limited to the building and the surrounding perimeter, including the parking lot. It includes all state-owned and leased space, including vehicles and any location where state business is conducted.

According to the National Institute for Occupational Safety and Health (NIOSH), workplace violence is defined as:

"any physical assault, threatening behavior or verbal abuse occurring in the work setting. It includes, but is not limited to beatings, stabbings, suicides, shootings, rapes, near suicides, psychological traumas such as threats, obscene phone calls, an intimidating presence, and harassment of any nature such as being followed, sworn at, or shouted at."

There is no such thing as a "joke" when dealing with this subject. It is not funny when employees speak about "going postal", "getting" another employee or anything remotely similar.

Do not ignore violent, threatening, harassing, intimidating, or other disruptive behavior. If you observe or experience such behavior by anyone on Authority premises, whether he or she is a CGB employee or not, report it immediately to a supervisor or manager.

The cooperation of all CGB staff is needed to implement this policy effectively and maintain a safe working environment.

CGB

**VIOLENCE IN THE WORKPLACE PREVENTION POLICY**

The State of Connecticut has adopted a statewide zero tolerance policy for workplace violence. Connecticut Innovations fully supports this policy and recognizes the right of its employees to work in a safe and secure environment that is characterized by respect and professionalism.

**Prohibited Conduct**

Except as may be required as a condition of employment:

No employee shall bring into any state worksite any weapon or dangerous instrument as defined herein.

No employee shall use, attempt to use, or threaten to use any such weapon or dangerous instrument in a state worksite.

No employee shall cause or threaten to cause death or physical injury to any individual in a state worksite.

In addition, Connecticut Innovations prohibits all conduct, either verbal or physical, that is abusive, threatening, intimidating or demeaning.

**Definitions**

"Weapon" means any firearm, including a BB gun, whether loaded or unloaded, any knife (excluding a small pen or pocket knife), including a switchblade or other knife having an automatic spring release device, a stiletto, any police baton or nightstick or any martial arts weapon or electronic defense weapon.

"Dangerous instrument" means any instrument, article, or substance that, under the circumstances, is capable of causing death or serious physical injury.

**Confiscation of Weapons and Dangerous Instruments**

Any weapon or dangerous instrument at the worksite will be confiscated and there is no reasonable expectation of privacy with respect to such items in the workplace.

**Reporting Procedures**

**Emergency Situations:** Any employee who believes that there is a serious threat to his/her safety or the safety of others that requires immediate attention should contact **911**. The employee must also contact his/her **immediate supervisor** or the **Human Resources** at [\(860\) 258-7861](tel:(860)258-7861) or the [Managing Director of Operations at 860-257-2897](tel:860-257-2897).

Please note that when 911 is dialed from a hard line, the local police authority will respond. When dialing from a cell phone, 911 will connect you directly to the nearest State Police Troop.

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**Non-Emergency Situations:** any employee who feels subjected to or witnesses violent, threatening, harassing, or intimidating behavior in the workplace should immediately report the incident or statement to his/her supervisor or manager or Human Resources.

**Supervisors/Managers Responsibilities:** Any manager or supervisor who receives a report of violent, threatening, harassing, or intimidating behavior shall immediately contact the Human Resources Office so that office may evaluate, investigate, and take appropriate action.

**Investigation and Corrective Action**

CGB will promptly investigate all reports or alleged incidents of violent, threatening, harassing or intimidating behavior.

All employees are expected to cooperate fully in all such investigations.

Any employee suspected of violating this policy may be placed immediately on administrative leave pending the results of the investigation.

If the claims of violent, threatening, harassing or intimidating conduct are substantiated, or if it is found that the employee has otherwise violated this policy, the employee will be dealt with through the appropriate disciplinary process, and may be subject to discipline up to and including dismissal from CGB.

Where the situation warrants, CGB will request that the appropriate law enforcement agencies become involved in the investigation of the matter, and CGB may seek prosecution of conduct that violates the law.

**Enforcement of the Policy**

This policy will be prominently posted for all agency employees.



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President & CEO



## Disciplinary Procedure

CGB believes each employee should be treated and respected as an individual. Therefore, employee misconduct is approached in a case-by-case manner. Some infractions are more serious than others are and an employee's lengths of service, work record and prior conduct are all important in determining the proper disciplinary action. It is our general practice to use progressive disciplinary counseling procedures between the employee and their immediate supervisor in which the supervisor will explain the charges and allow the employee to explain their position. In all phases of the disciplinary procedure, CGB will make reasonable efforts to give the employee the opportunity to make their position clear, orally or in writing. Some serious incidents of misconduct may require immediate discharge from employment, but whenever possible, misconduct will be approached with counseling before termination of employment is considered. The primary purpose of discipline is remedial, not punitive. When possible and appropriate the steps of progressive discipline will be as follows:

1. A verbal (oral) warning giving clear guidelines for corrective action and potential consequences.
2. A written warning with the infraction and required corrective action specified.
3. A written reprimand is issued when the employee has been warned and the problem behavior has not been corrected.
4. A suspension without pay serves as the last resort prior to discharge.
5. A demotion results when an employee is willing but unable to perform assigned duties.
6. A termination of employment usually follows prior disciplinary steps or for a serious rule violation.

When disciplinary action is required upon the recommendation of the Supervisor, the President and/or his designee may elect a written reprimand, suspension without pay demotion, disciplinary probation, or dismissal. The President and/or his designee may take any such disciplinary action after the evaluation process determines that an employee's performance and/or conduct is unacceptable, taking any mitigating circumstances into account. A record of the written reprimand or documentation of other disciplinary action will be made a permanent part of the employee's personnel file.

**Management reserves the right to enter into any level of disciplinary action or termination based upon the severity of the offense requiring discipline and the employee's past work record. This policy in no way alters the at-will employment policy; the employee or CGB may terminate the employment relationship at any time and for any reason.**

## Employment Termination

Termination of employment is an inevitable part of personnel activity within any organization, and many of the reasons for termination are routine. Below are examples of some of the most common circumstances under which employment is terminated:

### Resignation

Employment termination initiated by an employee who chooses to leave CGB voluntarily.

### Discharge

Employment termination initiated by CGB.

### Layoff

Involuntary employment termination initiated by CGB for non-disciplinary reasons.

### **Retirement**

Voluntary retirement from active employment status initiated by the employee.

### **Exit Interview**

CGB will generally schedule exit interviews at the time of employment termination. The exit interview will afford an opportunity to discuss such issues as employee benefits, conversion privileges, repayment of outstanding debts to CGB, return of CI-owned property, and assuring that necessary assignments are completed. Suggestions, complaints, and questions can also be voiced.

Employee benefits will be affected by employment termination in the following manner. All accrued, vested benefits that are due and payable at termination will be paid. Some benefits may be continued at the employee's expense if the employee so chooses. The employee will be notified in writing of the benefits that may be continued and of the terms, conditions, and limitations of such continuance.

### **Grievance Procedure**

Supervisors are responsible for being accessible and for regularly discussing working conditions, job performance, or any other concern an employee has about his/her job at CGB making reasonable efforts to address problems and concerns. Our success depends upon maintaining clear and open communication with employees. It is of utmost importance to respond to complaints, problems, or anything employees deem unfair or unacceptable. Each employee should feel free to discuss any complaint or problem with their immediate supervisor. This initial step in the grievance procedure is informal to encourage a quick resolution. No employee will be penalized or discriminated against for bringing up a problem or registering a grievance regardless of the nature of the complaint.

### **Grievances Not Involving Discrimination Or Sexual Harassment**

If an employee has a grievance that remains unresolved in informal discussions with their supervisor, they should make a scheduled, recorded appointment with their supervisor to discuss the problem. The employee and supervisor should keep a written record of this discussion.

If a settlement satisfactory to both parties cannot be reached, the employee and their supervisor should submit the grievance in writing to the President and/or his designee, attaching their written records of the meeting. The President and/or his designee will schedule a meeting with the employee and the supervisor within five (5) working days of receipt of the grievance. A written record of this meeting will also be kept, and the President and/or his designee will render a decision within three (3) working days after the meeting.

In the event the employee is not satisfied with the decision of the President and/or his designee, they may request a hearing before the Board of Director's Budget and Operations Committee. The decision of the Budget and Operations Committee shall be final.

### **Grievances Involving Discrimination Or Sexual Harassment**

Any employee who feels they would like counseling about possible violations of CGB affirmative action or anti-harassment policies, or any state or federal statutes related to Equal Employment Opportunity (EEO), Affirmative Action (AA), or Sexual Harassment should contact Human Resources. This counseling will be kept confidential and no related information will be released except upon signed consent of the employee or as necessary for CGB to comply or fulfill its obligations under federal or state law. Human Resources will provide information on state, federal agencies and CGB resources available to employees who wish to pursue a grievance regarding discrimination.

If a grievance involves sexual harassment by the employee's supervisor, or if there are other circumstances that make it impossible for the employee to initially address a grievance directly to the supervisor, he/she may schedule the initial meeting with the President and/or his designee. If the employee's supervisor is the President and/or his designee, the grievance may be directed to the Budget and Operations Committee.

### **Grievance Procedure Contacts**

CHRO and EEOC

Separate and independent from the above process, the complainant may file written complaints of discrimination with:

The Connecticut Commission on Human Rights and Opportunities (CHRO)  
21 Grand St, Hartford, CT 06106  
Phone: (860) 541-3400

The Equal Employment Opportunity Commission (EEOC)  
150 Causeway St, Boston, MA. 02114  
Phone (617) 565-3214

Department of Justice (DOJ)  
Office on the Americans with Disabilities Act  
Civil Rights Division, P.O. Box 66118, Washington, D.C. 20507  
Phone (202) 514-0301.

Employees may also file complaints with any other agencies, state, federal or local, including the United States Department of Labor, Wage and Hour Division, that enforce laws concerning discrimination in employment. Employees should be aware that there are statutes of limitations that require complaints be filed by a certain time period or the employee may forfeit his or her rights. Employees may inquire further with the respective agency.

**No individual who files a complaint, or who cooperates or testifies in the investigation of a complaint, shall be unlawfully retaliated against for the exercising of their legal rights.**

### **Whistleblower Policy**

Any person having knowledge of corruption, unethical practices, violation of state laws or regulations, mismanagement, gross waste of funds, abuse of authority, or danger to the public safety occurring within CGB or in a related contract with CGB may disclose such matter to any member of the Audit Compliance and Governance Committee of CGB or the state Auditors of Public Accounts. A person disclosing such information is known in lay terms as a "whistleblower." A whistleblower should feel free to report such information without fear of retaliation.

No CGB officer or employee, may take or threaten to take any personnel action against a whistleblower who is an employee of CGB in retaliation for disclosing such information. Whistleblowers protection applies to any CGB employee who discloses such information:

- (1) to any employee of the Auditors or of the Attorney General;
- (2) To any member of the Audit, Compliance and Governance committee of CGB;
- (3) to an employee of the state or quasi-public agency that employs the person who retaliated or threatened retaliation;
- (4) to an employee of a state agency pursuant to a mandated reporter statute; or,
- (5) in the case of a large state contractor, to an employee of the contracting state agency concerning information about a large state contract.

A CGB employee who believes he or she is the subject of retaliation for "whistleblowing" may file a "whistleblower retaliation complaint" with the Chief Human Rights Referee at the CHRO's Office of Public Hearings not later than thirty (30) days after the employee learns of the specific incident giving rise to the claim (i.e., the personnel action threatened or taken against him/her). An employee who believes that he or she has been retaliated against should contact a private attorney to discuss his/her rights. The Attorney General cannot provide legal advice or counsel.

CGB's guidelines for making whistleblower complaints are set forth below.

- File a written complaint or verbal complaint with the CEO and/or the Ethics Officer, and or the CGB Audit, Compliance, and Governance Committee. Employees may also choose file a written complaint or make a telephone complaint with the Auditors of Public Accounts. All complaints should be filed in writing with the Auditors of Public Accounts, 210 Capitol Avenue, Hartford, CT 06106, or by telephone: Toll Free within Connecticut: (800) 797-1702 or Locally: (860) 240-5305. If the employee wishes to remain anonymous, they may.
- Whistleblower complaints will be referred to the CGB Audit, Compliance, and Governance Committee for review. That committee will serve as the primary contact between CGB and the Auditors of Public Accounts.

Employees can visit [Auditors of Public Accounts](#) website for more information about filing a complaint. In addition, employees may visit the [Commission on Human Rights and Opportunities](#) website for information regarding the processes and procedures in the administration of whistleblower retaliation complaints.

**SECTION 8 HEALTH AND SAFETY**

## Health and Safety

Each employee is expected to share our commitment to a safe workplace. This obligation means that safe working habits and principles must be followed. All employees are expected to exercise common sense and good housekeeping practices. For the sake of all our employees and clients, safety concerns must be taken seriously. Every employee is expected to take a proactive role in providing a safe workplace. Horseplay or other unsafe activity is prohibited. Every employee must report any injury, no matter how slight, immediately to his or her supervisor. Such reports are necessary to initiate any necessary emergency procedures, to comply with workers compensation laws, and to initiate insurance and workers compensation benefits procedures.

**First-aid kits containing items needed for most minor first-aid situations are maintained throughout the building.** All employees should make a note of their locations. Each employee is expected to exercise safe working habits and reasonable caution in all work activities. Any unsafe condition must be reported immediately to the appropriate supervisor. Employees who violate safety standards, who cause hazardous or dangerous situations, or who fail to report, or where appropriate, remedy such situations, may be subject to disciplinary action.

## Policy On Life Threatening and Communicable Diseases

This policy provides guidance for dealing with work situations involving employees, who have life threatening and communicable diseases, including but not limited to:

- Acquired Immune Deficiency Syndrome (AIDS);
- Human Immunodeficiency Virus (HIV) infection;
- HIV related illness as defined by the Connecticut General Statutes Section 19a58 1; or
- Any other life threatening and communicable disease.

## Non-Discrimination

CGB does not unlawfully discriminate against qualified individuals with life threatening and communicable diseases in any terms or conditions of employment.

It is our policy that individuals with life threatening and communicable diseases will be treated with the same compassion and consideration given to any employee with a health problem. No person will be treated differently in the workplace as a result of having or being perceived as having such a disease.

## No H.I.V. Or Aids Testing

Present or prospective employees will not be required to submit to an AIDS or HIV related test as a condition of hiring or continued employment.

## Ability To Work

CGB recognizes that employees with life threatening and communicable diseases may require a reasonable accommodation to perform their job duties. It is CGB's policy to accommodate these employees by allowing them to work as long as they are able to perform their essential job functions, with or without reasonable accommodation, provided that medical evidence indicates that their conditions do not pose a direct threat to themselves or others.

## Employee Health and Safety

CGB also recognizes its obligation to provide a safe and healthy work environment for all employees. Therefore, CGB may obtain appropriate medical direction, when necessary, to ensure that an employee's condition does not pose a significant risk of substantial harm to him/herself or to other employees or customers of the Agency.

[COVID-19: The Green Bank recognizes its role in protecting its employees and in limiting the transmission of COVID 19. The organization will implement the guidelines outlined by Reopen Connecticut for Offices issued on May 8, 2020.](#)

## Confidentiality

All employee records or information regarding life threatening and communicable diseases will be confidentially maintained in the Human Resources Office in a secure area, apart from the employee's personnel file.

## Drug and Alcohol Policy

CGB is committed to maintaining a substance-free, healthful, and safe work environment. To promote this goal employees are required to report to work in appropriate mental and physical condition to perform their jobs in a satisfactory manner. Employees are forbidden to use, possess, consume, manufacture, distribute, purchase, sell, or be under the influence of alcohol, illegal drugs, or controlled substances during working hours, whether on the premises, or representing or conducting the business of CGB elsewhere. Reporting to work under the influence of alcohol or illegal drugs, or being in possession of alcoholic beverages or illegal drugs on CGB's premises will not be tolerated. Such conduct is also prohibited during non-working time to the extent that, in CGB's opinion, it impairs an employee's ability to perform on the job or threatens the reputation or integrity of CGB.

The legal use of physician prescribed, or legal over-the-counter drugs is permitted on the job if it does not impair an employee's ability to perform the essential functions of the job effectively and in a safe manner that does not endanger other employees or clients. Any employee taking any legal or prescribed drugs known to have possible side effects that affect or impair judgment, coordination, or other senses, or that might adversely affect the employee's ability to perform normal work in a safe and productive manner, must notify his or her supervisor or other manager before commencing work. Information provided by the employee concerning the use of medication will be treated in a confidential manner. If CGB has reasonable cause to believe an employee is adversely affected by the use of a drug or medication such that a threat is posed to the safety of the employee, other persons, or to property, the employee may be denied permission to continue working pending further investigation. The investigation will be conducted expeditiously, with the resulting information treated confidentially to the extent possible.

An employee whose job performance has deteriorated through the use of alcohol and/or drugs to the extent that termination of employment is being considered may opt to enter an approved treatment facility of their choice. Upon successful completion of treatment, the employee may be permitted to resume normal employment.

Employees must give notification in writing to Human Resources within five (5) calendar days of any drug conviction for violation of a criminal drug statute if the violation occurred in the workplace. Employees who have substance abuse problems are encouraged to participate in a rehabilitation program prior to any disciplinary action. If an employee chooses not to undergo rehabilitation, CGB will take disciplinary action consistent with state law and regulation within 30

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HIV/AIDS: According to the best medical evidence available to date, casual workplace contact with employees who have AIDS or who have been exposed to HIV will not result in transmission to others. Employees are expected to work with coworkers and any other individuals who have these conditions that do not pose a significant risk of harm. Employees who have unwarranted fears of exposure will not be allowed to refuse to work with individuals affected by HIV/AIDS or any other communicable disease. In addition, it is unacceptable for employees to spread rumors regarding situations involving HIV/AIDS or any other lifethreatening and communicable disease where such rumors may affect the privacy, dignity and well-being of others. Behavior of this nature will not be tolerated at CGB. ¶

**Deleted: Information Specific To H.I.V./Aids¶**

The identity of any employee with HIV or AIDS will remain confidential. HIV and AIDSrelated information will not be disclosed without the written consent of the employee. Any unauthorized disclosure by an employee is strictly prohibited by the Connecticut General Statutes and may result in disciplinary action. This policy is intended to be consistent with the Connecticut HIV/AIDS Testing and Confidentiality Law of 1989 (C.G.S. §§ 19a585 through 19a592).¶

calendar days of receiving notice of the conviction. A conviction means a finding of guilt including a plea of nolo contendere, or the imposition of a sentence by a judge or jury in any federal or state court.

Violations of any part of this policy may lead to disciplinary action, up to and including immediate termination of employment. Such violations may also have legal consequences.

**Smoking Policy**

The health and well-being of staff and visitors to CGB are primary concerns of management. The Environmental Protection Agency has released a report officially concluding that second hand smoke is a Class A human carcinogen. It is also known that second hand smoke causes respiratory illness and is suspected to be even more dangerous in its link with heart problems. In order to protect the health of those who use our building, smoking or other use of tobacco products is prohibited in any offices or work areas within CGB. Smoking is permitted only out-of-doors.



## Emergency Procedures Manual

Emergencies can occur at any time, and we need to be prepared to handle such situations to minimize injury and damage. The following information is designed to assist you in preparing for and handling an emergency.

### Emergency Phone Numbers

Rocky Hill Police	911 or 258-7640 (Routine calls)
Rocky Hill Fire	911 or 258-7603 (Routine calls)
Health Emergencies	911 or dial 500 to page and assemble the first responders team to the <u>emergency</u> area.

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## Medical

### Medical Emergency Procedures for Staff

Page the Response Team by:

- Picking up the hand set
- Dial 9104, Wait for tone. SPEAK LOUD AND CLEAR AND SAY:

**“Attention, Response Team, Emergency in (location)”.**

**“Attention, Response Team, Emergency in (location)”.**

**(Give location and repeat the announcement twice).**

**If the person is unconscious, not responsive, seriously injured or in apparent serious distress, immediately after paging response team, dial 911.**

(This will always be a personal judgment call and do not worry about calling unnecessarily).

Please use the **house phone (not cell)** if possible as this triggers an in-house and police alert.

Paging button is FOR EMERGENCIES ONLY.

### Response Team Actions (fyi)

Always know that if YOU are in distress and call 911 an immediate alert goes to the reception area, IT and the police. Do not hesitate to use this in an emergency.

1. Response Team Members will go directly to code red location. Follow trained response.
2. All team members of the **RESPONSE TEAM** respond to the location immediately.
3. In route to location, pick-up **AED unit --portable 1<sup>st</sup> Aid Kit** --notebook and Emergency Bag. All found next to the mailboxes and in file cabinet under AED unit.
4. If 911 has not yet been called, CGB trained staff will decide whether or not to call **911** directly or ask someone to do so and report the nature of the emergency and location. (Best to call in the presence of the victim if at all possible so information can be relayed to EMTs.)

One or two Response Team members will assess the situation and take the lead in providing necessary response. Remaining team members will provide the following:

1. Set up AED for use, if needed. Bring notebook in drawer and Emergency Bag.
2. Prepare for CPR relief, if needed. 3-to 5 minutes is desired.
3. Provide Privacy/Crowd Control, request non-response team personnel to evacuate the area until all is clear.
4. Meet and Direct medical personnel to emergency location.
5. Once the Emergency Medical Team (EMT) has arrived the duties and responsibilities will be transferred to them. They may take AED with them.
6. Provide necessary information and any other support needed by the EMT.
7. Contact necessary family member(s) of victim. (List at AED location)
8. See that victim is accompanied to ER when applicable.
9. Provide follow up report to Human Resources Designee.

### Medical Emergency Procedure for Front Desk Personnel

Should you receive a call for medical assistance from any staff member, please use the following procedure:

*SEND CHAT THRU TEAMS FIRST RESPONDER GROUP AND INCLUDE "@FIRST RESPONDER TEAMS NAME" (THIS NEEDS WORK)*

1. Response team members will go directly to red code location and follow trained response instructions. If possible while in route to location, pick-up AED unit and portable First Aid Kit located by the mailboxes next to the front lobby.
2. Response team evaluates situation and does one or all of the following:
  - a. Call 911
  - b. Call Front Desk
  - c. Team will activate procedure for 911.
3. Keep lines open for further communication.
4. Have a list of all family emergency numbers for staff available.

**Deleted:** <#>Page the Response Team by dialing 500 which enacts the paging system¶  
<#>"Attention, all response team personnel, there is a code RED in \_\_\_" ¶  
<#>(Give location and repeat the announcement twice). ¶

**Deleted:** <#>Notify Human Resources Designee that there is an emergency.¶

## Fire

In order to minimize property damage and possible loss of life, familiarize yourself with the building's fire prevention system. **Know the location of fire alarm pull stations and fire extinguishers. In addition familiarize yourself with the instructions on the extinguishers.**

### WHEN THE FIRE ALARM IS HEARD:

- EVERYONE SHOULD IMMEDIATELY STOP WHAT THEY ARE DOING.
- EVACUATE THE BUILDING IN A CALM, ORDERLY MANNER TO A CENTRAL LOCATION AT LEAST 300 FEET FROM THE BUILDING.
- Do Not Stop to Gather Belongings.
- Follow Emergency Exit Signs to Exit Building.
- Sweepers will sweep the office in their assigned areas, including common areas and bathrooms. Check offices and cubicles as you leave your area.
- Sign-in roster should be picked up and taken to company gathering place.
- ALL DEPARTMENTS AND TENANTS GATHER DIRECTLY across THE PARKING LOT next to driveway (). IF FRONT EXIT IS BLOCKED AND YOU MUST EXIT FROM THE REAR OF THE BUILDING, TRAVEL AROUND THE BUILDING AND HEAD TO THAT AREA. PLEASE REMAIN IN A GROUP. FIRE MARSHALL NEEDS HEAD COUNT IMMEDIATELY.
- DEPARTMENT SUPERVISORS TAKE A HEAD COUNT WHEN ALL CLEAR SIGNAL RECEIVED FROM FIRE MARSHALL SUPERVISORS WILL GIVE INSTRUCTIONS TO REENTER BUILDING.

Note: When moving into exit areas in an emergency situation, before going through the door, put your hand against it to feel for heat—there could be a fire on the other side. If the door feels cool proceed with caution. If the door feels hot, use an alternate escape route.

### Fire procedures

If you should spot a fire follow these suggested guidelines:

1. If the fire is minor (wastebasket, ashtray, etc.) extinguish if possible. However, do not take risks! Your personal safety comes first!
2. If the fire cannot be immediately brought under control without personal risk, isolate or contain if possible by closing the door to the fire area.
3. Call the Fire Department at **9-911** or **258-7603**
  - a. Give building name: CGB .
  - b. Give building address and intersection: **845 Brook Street, Rocky Hill.**
  - c. Give CGB telephone number **(860) 563-0015.**
  - d. Give location and extent of fire.
4. Pull the fire alarm pull station so that evacuation can begin.
5. If trapped by flame or heat:
  - a. If possible, telephone the fire department and request immediate assistance.
  - b. Close doors separating you from the source of heat or flame.
  - c. Break glass window if necessary in order to escape.
  - d. Remember that both **heat and smoke rise**—air near the floor will be cleaner and cooler. Crouch down or crawl to exits.

### Fire drills

Fire drills are conducted once a year according to town codes. The fire department will be directly involved so that they can test the fire alarm system and see if fire evacuation procedures are being followed.

Deleted: AT THE FAR RIGHT SIDE OF

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**Supervisors will be designated as the fire safety captains for their area.**

**Fire safety captains**

There is a Fire Safety Captain and will help coordinate evacuation efforts. The captains' responsibilities include:

1. An awareness of employees in their area/office who are present that day so that all are accounted for after evacuating.
2. Knowledge of any employees with handicaps or disabilities which should be considered in an emergency.
3. Awareness of an up-to-date evacuation route from their area or office.
4. Checking of restrooms, conference rooms, smoking rooms or other areas which are not immediately visible to ensure that they are also evacuated.
5. Reporting any problems or special circumstances to Fire Warden.
6. Ensuring that people are exiting from the building in a calm and orderly fashion.

**IN THE EVENT OF AN EMERGENCY, THE FIRE SAFETY CAPTAIN WILL IMMEDIATELY NOTIFY CGB 's PRESIDENT, CHIEF OPERATING OFFICER AND/OR SENIOR MANAGEMENT TEAM.**

### Housekeeping

Please inspect your space regularly and remove any items that could start or contribute to a fire or be a safety hazard. The following guidelines should be adhered to:

1. Do not allow accumulation of trash or waste material that is flammable.
2. Flammable materials or chemicals should not be stored within five feet of exit doors.
3. The wall and ceiling space around emergency and exit light fixtures should be kept clear.
4. The area surrounding electrical equipment should be free of clutter to provide for adequate air circulation.
5. Coffee makers and oven units are potential sources of fire. The last person leaving the building should check to be sure that they are turned off.

### Gas Leaks

Due to the proximity of the office park to the Connecticut Natural Gas Storage Facility on the Rocky Hill/Cromwell line, we have occasionally found that a gas odor permeates the area when they are purging their lines. However, if at any time you detect a gas odor, it is important to assume that it's a potential leak and to take proper precautions as follows:

1. **DO NOT** turn on or adjust anything electrical in nature or anything which could cause a spark or flame (light switches, thermostats, lighters, etc.)
2. Call the facilities manager.
3. Evacuate the premises.

### How To Handle Anthrax and Other Biological Agent Threats

Many facilities in communities around the country have received anthrax threat letters. Most were empty envelopes; some have contained powdery substances. The purpose of these guidelines is to recommend procedures for handling such incidents.

#### Do Not Panic

1. Anthrax organisms can cause infection in the skin, gastrointestinal system, or the lungs. To do so, the organism must be rubbed into abraded skin, swallowed, or inhaled as a fine, aerosolized mist. Disease can be prevented after exposure to the anthrax spores by early treatment with the appropriate antibiotics. Anthrax is not spread from one person to another person.
2. For anthrax to be effective as a covert agent, it must be aerosolized into very small particles. This is difficult to do, and requires a great deal of technical skill and special equipment. If these small particles are inhaled, life-threatening lung infection can occur, but prompt recognition and treatment are effective.

#### How to handle a suspicious unopened letter or package marked with threatening message such as "anthrax":

1. Do not shake or empty the contents of any suspicious envelope or package.
2. **PLACE** the envelope or package in a plastic bag or some other type of container to prevent leakage of contents. Plastic bags and/or containers are available in the kitchen.
3. If you do not have a container, then **COVER** the envelope or package with anything (e.g., clothing, paper, trashcan, etc.) and do not remove this cover.
4. **LEAVE** the room and **CLOSE** the door, or section off the area to prevent others from entering. Keep others away.
5. **WASH** your hands with soap and water to prevent spreading any powder to your face.
6. Contact **Human Resources**. They will take the necessary steps to report the incident to the proper authorities.

7. **LIST** all persons who were in the room or area when this suspicious letter or package was recognized. This list will be given to both the local public health authorities and law enforcement officials for follow-up investigations and advice.

#### **How to handle an envelope with powder and powder spills out onto surface:**

1. **DO NOT** try to **CLEAN Up** the powder. **COVER** the spilled contents immediately with anything (e.g., clothing, paper, trashcan, etc.) and do not remove this cover!
2. Then **LEAVE** the room and **CLOSE** the door, or section off the area to prevent others from entering. Keep others away.
3. **WASH** your hands with **soap and water** to prevent spreading any powder to your face.
4. Contact **Human Resources**. They will report the incident to the proper authorities.
5. **REMOVE** contaminated clothing as soon as possible and place in a plastic bag, or some other container that can be sealed. This clothing bag should be given to the emergency responders for proper handling. Plastic bags and/or containers are available in the kitchen.
6. **SHOWER** with soap and water as soon as possible. **DO NOT USE BLEACH OR OTHER DISINFECTANT ON YOUR SKIN.**
7. **LIST** all persons who were in the room or area, especially those who had actual contact with the powder. This will be given to both the local public health authorities so that proper instructions can be given for medical follow-up, and to law enforcement officials for further investigation.

#### **What to do if you suspect a room has been contaminated by aerosolization-**

**(For example: a small device was triggered, a warning was received that the air-handling system is contaminated, or a warning was received that a biological agent was released in a public space.)**

1. Turn off local fans or ventilation units in the area.
2. **LEAVE** area immediately.
3. **CLOSE** the door, or section off the area to prevent others from entering. Keep others away.
4. Contact **Human Resources**. They will then report the incident to the proper authorities.
5. **SHUT** down air handling system in the building, if possible.
6. **LIST** all persons who were in the room or area. This list will be given to both the local public health authorities so that proper instructions can be given for medical follow-up, and to law enforcement officials for further investigation.

#### **How to identify suspicious packages and letters:**

Some characteristics of suspicious packages and letters include the following:

- Excessive Postage
- Handwritten or poorly typed addresses
- Incorrect titles
- Title, but no name
- Misspellings of common words
- Oily stains, discoloration or odor
- No return address
- Excessive weight
- Lopsided or uneven envelope

**How to identify suspicious packages and letters continued:**

- Protruding wires or aluminum foil
- Excessive security material such as masking tape, string, etc.
- Ticking sound
- Marked with restrictive endorsements, such as "Personal" or "Confidential"
- Shows a city or state in the postmark that does not match the return address

**Bomb Threats**

In the event of a bomb threat, evacuating people from the potential danger area is the highest priority. In the event of the receipt of a bomb threat, try to remember as many of the following details as possible:

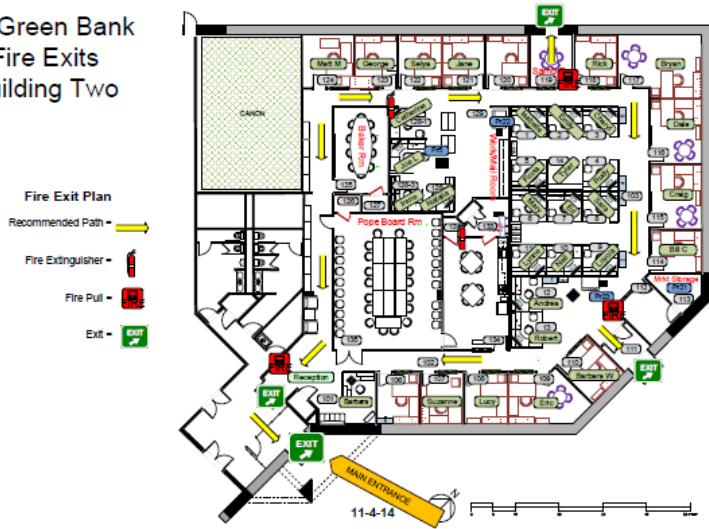
1. Time call received
2. Time call terminated
3. Exact words of caller
4. Time to explode
5. Location of bomb (if given)
6. Description/type of bomb (if given)
7. Why was it placed?
8. Description of voice (male, female, deep, high, accents, etc.)
9. Background sounds (traffic, machinery, music, voices, etc.)

Then immediately call: Police (**911** or **258-7640**); Fire Department (**911** or **258-7603**). Immediately call **Administrative Services ext. 391 IT ext. 365**. Explosives can be concealed in any type of container and in any location. Any suspicious item must not be touched and should be considered dangerous. Alert police of anything out of the ordinary, and do not turn on or adjust anything electrical in nature (i.e. - thermostats, light switches, radios, etc.)

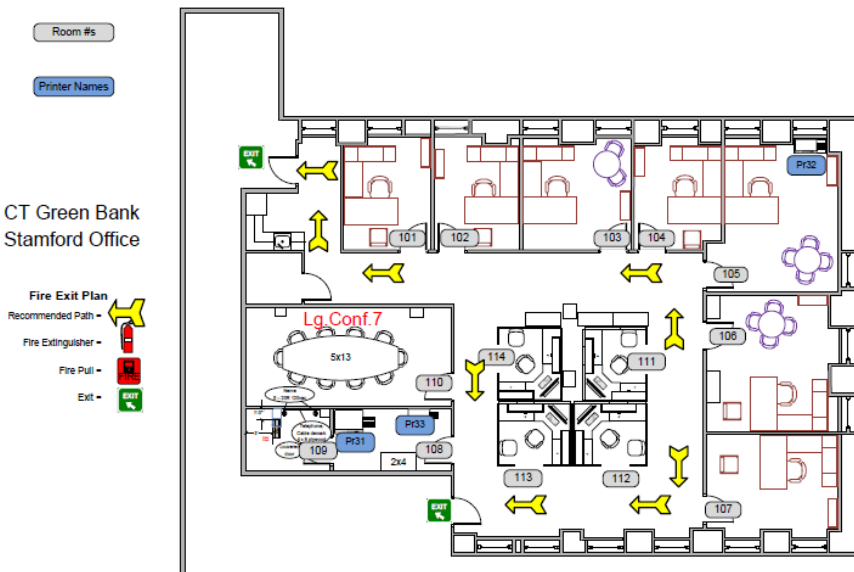
**It is policy that everyone evacuates the building immediately!**

### CGB Fire Exits

#### CT Green Bank Fire Exits Building Two



#### CT Green Bank Stamford Office





## In Case of Emergency: Questions and Answers for Employees

### What happens if I can't reenter the building?

The Emergency Operations Team (correct name) including the President when available will assess the immediate damage and will inform the President or designee of what to expect. You may be asked to assemble at a nearby building for further instruction.

### How will I know when and where to go back to work?

CGB has designated a Team Leader ([Barbara Johnson](#)) for implementing its Business Continuation Plan. This team leader will contact you at home and let you know when and where to return for work. If the business disruption is a serious one, it may take up to 30 days for all staff to return. A small number of employees who handle critical business functions may be asked to report to work immediately in a different office location.

**Deleted:** George Bellas

**Deleted:** – Vice President Finance and Administration

### What should I do if a reporter approaches me?

If a member of the press approaches you, please refrain from commenting about the incident or your personal reaction to what has occurred. It is natural that any business – disrupting incident may result in press coverage, and the Marketing Staff is the designated CGB representative to keep the news media informed and answer questions. Please refer any such inquiries to that designee.

**The signature page for CGB's Emergency Procedures is in the Appendix. All employees must review and sign the policy in the Appendix and return it to Human Resources.**

## **APPENDIX AND FORMS**

**Employee Acknowledgement form**

The Employee Handbook describes important information about CGB, and I understand that I should consult my supervisor or the Human Resources Designee regarding any questions not answered in the Handbook.

Since the information, policies, and benefits described here are necessarily subject to change, I acknowledge that revisions to the Handbook may occur. All such changes will be communicated through official notices and I understand that revised information may supersede, modify, or eliminate existing policies.

**Furthermore, I acknowledge that this Handbook is neither a contract of employment nor a legal document. It is understood that nothing in this Handbook or any other policy or communication changes the fact that employment is at will for an indefinite period unless terminated at any time by CGB or me. Accordingly, either CGB or I can terminate the relationship at any time and for any reason.**

I have received the Handbook and understand that it is my responsibility to read and comply with the policies contained in this Handbook and any revisions made to it. Should the content of this Handbook be changed, I understand that CGB may require a written acknowledgement from me that I have received and understand the change.

I understand that this signed statement of acknowledgement will be retained in my personnel file.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Employee Name

**Harassment Policy**

I hereby acknowledge that I have reviewed the Sexual Harassment Policy in Section 7 of the Employee Handbook. I hereby acknowledge that I have read and understand this policy. By signing below, I agree to abide by this Policy. I also acknowledge that any infractions will result in disciplinary action, up to and including termination.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Employee Name

**Travel and Entertainment Policy**

I hereby acknowledge that I have reviewed the Travel and Entertainment Policy in Section 6 of the Employee Handbook. I hereby acknowledge that I have read and understand this policy. By signing below, I agree to abide by this Policy. I also acknowledge that any infractions will result in disciplinary action, up to and including termination.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Employee Name

**State of Connecticut Workplace Violence Prevention Policy**

I hereby acknowledge that I have read and understand the Workplace Violence Prevention Policy in Section 7 of the Employee handbook. By signing below, I agree to abide by the Policy. I also acknowledge that any infractions will result in disciplinary action, up to and including termination.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Employee Name

**CGB's Emergency Procedure Signature Page**

I hereby acknowledge that I have read and understand the Emergency Procedures Manual in Section 8 of the Employee handbook. By signing below, I agree to abide by the Policy. I also acknowledge that any infractions will result in disciplinary action, up to and including termination.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Employee Name

**Confidential Disclosure Policy**

I hereby acknowledge that I have read and understand the Confidential Disclosure Policy in Section 7 of the Employee handbook. By signing below, I agree to abide by the Policy. I also acknowledge that any infractions will result in disciplinary action, up to and including termination.

This agreement supersedes and replaces any existing agreement between CGB and me relating generally to the same subject matter. It may not be modified or terminated, in whole or in part, except in writing signed by an authorized representative of CGB. Discharge of my undertakings in this agreement shall be an obligation of my executors, administrators, or other legal representatives or assigns.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Employee Name



**Information Technologies Policies**

I hereby acknowledge that I have read and understand the Information Technologies Policies in Section 7 of the Employee handbook. By signing below, I agree to abide by the Policies. I also acknowledge that any infractions will result in disciplinary action, up to and including termination.

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Employee Name

Deleted: ¶  
¶  
CGB Request for Training¶  
¶  
Name \_\_\_\_\_ ¶  
¶  
Class Requested \_\_\_\_\_ ¶  
¶  
Date of Class \_\_\_\_\_  
¶  
Location of Class \_\_\_\_\_ ¶  
¶  
Class is being offered by: \_\_\_\_\_ ¶  
¶  
Requestor's Signature \_\_\_\_\_ ¶  
¶  
Supervisor's Approval \_\_\_\_\_ ¶  
¶  
Today's Date \_\_\_\_\_ ¶  
¶  
Signature \_\_\_\_\_ ¶

Deleted: Suzanne Kaswan¶  
Vice President, Human Resources¶

**(Form on SP) APPLICATION FOR PARTICIPATION IN THE  
CGB SICK LEAVE BANK**

I understand that as a permanent employee of CGB that has completed my introductory period, I may elect to choose to participate in a sick leave bank that is outlined in CGB Sick Leave Bank Policy. I understand that if I do not elect to participate within 30 days of completing my introductory period, I may only elect to participate during the annual open enrollment period.

I understand that if I elect to participate in the Sick Leave Bank, I will contribute the hourly equivalent of one day towards the Sick Leave Bank, and if the Sick Leave Bank falls below an adequate number of hours, I may be required to make an additional contribution to the Bank at a later date.

Employee Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Title: \_\_\_\_\_

**Qualifying Event**

I completed by introductory period on \_\_\_\_\_

I am enrolling during open enrollment on \_\_\_\_\_

\*\*\*\*\*

\_\_\_\_\_ I elect participation in the Connecticut Innovations Sick Leave Bank.

\_\_\_\_\_ I reject participation in the Connecticut Innovations Sick Leave Bank.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

CGB.

(Make SP Form – Tuition Reimbursement) Continuing Education Assistance Policy Form

1. Identification

Name \_\_\_\_\_ SS # \_\_\_\_\_

Home Address: \_\_\_\_\_

Current Title: \_\_\_\_\_ Current Dept: \_\_\_\_\_

2. Educational Information

School \_\_\_\_\_ Semester \_\_\_\_\_ Year \_\_\_\_\_

Degree: Certificate \_\_\_\_\_ Assoc. \_\_\_\_\_ Bach. \_\_\_\_\_ Grad. \_\_\_\_\_

Program: \_\_\_\_\_ Expected Matriculation: \_\_\_\_\_

HR Dept Use:

Course Name: \_\_\_\_\_ Course No. \_\_\_\_\_ Date Reimbursed: \_\_\_\_\_ Grade \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Attach supporting documentation)

3. Consent and Authorization

I consent to the reporting of my grades in the above named course(s) to CGB. As of the date of this application, I hereby signify my intention to remain an employee of CGB for a period of not less than six months following completion of course(s). I further agree that if I voluntarily terminate my employment with CGB prior to the six month period and I have received reimbursement, I will repay CGB any funds extended to me under this program over the past six months.

I also understand that any additional tax liability related to these courses will be my responsibility and that CGB shall not be responsible for any such liability.

Signature \_\_\_\_\_ Date \_\_\_\_\_

4. Approvals

The employee identified above is authorized by CGB to pursue the program indicated above. Under this authorization, CGB will reimburse the employee for these courses in accordance with its Continuing Education Assistance Policy.

Supervisor \_\_\_\_\_ Date \_\_\_\_\_

Executive Director \_\_\_\_\_ Date \_\_\_\_\_

(Include link to form on SharePoint – Delete form here) CGB

## Telecommuting Agreement

This *Telecommuting Agreement* specifies the conditions applicable to an arrangement for performing work at an alternate work site on a regular basis. All employees that telecommute, even occasionally (i.e. inclement weather) must have a signed and approved Telecommuting Agreement on file with Human Resources. The *Agreement* becomes effective on \_\_\_\_\_ (date) and will remain in place as long as it meets the business needs of the organization. Either party can terminate the *Agreement* at any time. Please remember that telecommuting is not an option for some jobs – there are certain positions that require face to face interaction in the office. Prior to completing a telecommuting agreement, you should discuss with your supervisor whether your job duties can be performed remotely.

**Deleted:** On-site workspace will be provided to the returning employee as soon as appropriate accommodations can be arranged....

1. Telecommuting employees must have a set schedule of regular telecommuting days. **In order to meet the business needs of the agency, an employee may request an adjustment to the telecommuting schedule outlined in this agreement. No adjustment may be made without prior supervisory approval. The supervisor has the right to revoke telecommuting privileges based on performance and/or business needs.**

To facilitate ease in communication, the telecommuting schedule is defined as follows: Please indicate start time, end time, breaks, lunch periods, and duration if telecommuting is for a specific project basis.

Monday	Tuesday	Wednesday	Thursday	Friday	Inclement Weather and/or As Needed Basis*

\*Inclement Weather and/or As Needed Basis requires individual supervisory approval for each occurrence.

Telecommuting may also be permitted on an as-needed basis with the approval of your supervisor if a valid business need exists for the agency. The employee must have an approved telecommuting agreement on file with Human Resources.

2. Telecommuting site information:

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone # \_\_\_\_\_ Fax # \_\_\_\_\_ E-mail \_\_\_\_\_  
Cell Phone # \_\_\_\_\_

3. Salary, job responsibilities, benefits, work status, and the amount of time worked per day or pay period will not change while telecommuting unless otherwise specified in writing. Since the employee's telecommuting space is considered an extension of **CGB's** workspace, the company's liability for job-related accidents will continue during the understood and approved telecommuting

hours. The employee will maintain a designated workspace. Workers' Compensation coverage is limited to this workspace as opposed to adjacent areas, e.g. other areas of the home.

4. Duties and assignments authorized to be performed at the telecommuting site are the following:

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Management will establish with the employee the means of assessing the quality and quantity of work performed at the telecommuting site, integrating these into established performance objectives. Management reserves the right to assign work as necessary at either the regular or the telecommuting site.

5. Identify any aspects of your current role that will not be able to be performed at the telecommuting site. Describe how you plan to compensate for these duties/responsibilities (e.g. faxes, phone coverage, etc.)

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6. Recognizing that effective communication is essential for a telecommuting arrangement to be successful, the following methods and times of communicating are agreed upon. Specify how such communication will occur, including items such as backup & emergency contacts, time frames, phone, fax, beeper, email, face-to-face etc. In addition, employees shall forward their company phones to their home telephones or cell phones while telecommuting.

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7. The employee agrees to remain accessible during designated work hours, and understands that management retains the right to require that the employee come into the regular work-site when a business need arises. Employees must indicate their telecommuting days on their Outlook calendar. Advance notice will be given whenever possible. In addition, employee will report to the traditional worksite for regularly scheduled meetings and time-periods pre-determined by management for purposes of education, communication, etc. In the event of equipment failure, loss of remote access capability or other system problems, employee will report to the traditional work site until the problem is resolved unless otherwise directed.

8. Describe your proposed telecommuting location:

A. The physical location in your home where your work space will be located

B. When choosing your workspace please ensure the following:

- a. Adequate electrical power and power outlets, workspace and access pathways
- b. Ergonomic lighting, seating work surfaces, and other work – related resources
- c. Power cord, work-related tools, filing equipment, office equipment and items stored in overhead shelves or bins are safely arranged and secured.
- d. Reasonable in-place safeguards to prevent family members from getting hurt within the telecommuters work's area; prevent loss or theft of the employer's proprietary data and equipment and protect the confidentiality of matters related to the telecommuter's work.

9. Also, make a detailed inventory of employer owned equipment that you will be utilizing in your telecommuting workspace. Regarding space and equipment set-up and maintenance, the following is agreed upon: Specify purchase source e.g. purchase/ lease/loan, set-up, maintenance, provision of supplies, insurance arrangements, etc. for each piece of equipment, furniture, phone, etc.







## THE CONNECTICUT GREEN BANK ETHICAL CONDUCT POLICY

### I. Introduction

Ethical conduct is a core value of The Connecticut Green Bank (CGB) and all employees and officials of CGB are expected to maintain the highest professional standards in the conduct of their duties. In particular, each person is responsible for, and should become familiar with, the Code of Ethics for Public Officials. A copy of the "Guide to the Code of Ethics for Public Officials" is attached here. You may also access both the Code and the guide on the Office of State Ethics website at [www.ct.gov/ethics](http://www.ct.gov/ethics) by clicking on "Public Information".

### II. Code of Ethics Compliance

Principle provisions of the Code of Ethics for Public Officials include:

- **GIFTS** - In general, state employees are prohibited from accepting gifts from anyone doing business with, seeking to do business with, or directly regulated by the state employee's agency or department or from persons known to be a registered lobbyist or lobbyist's representative. There are also restrictions on gifts between state employees in certain circumstances. (See the "Guide to the Code of Ethics for Public Officials" and Statutory References below, Sections 1-79(e) and 1-84(m).)
- **FINANCIAL BENEFIT** - A state employee is prohibited from using his/her office or non-public information obtained in state service for the financial benefit of the individual, certain family members, or that of an associated business.
- **OUTSIDE EMPLOYMENT** - A state employee may not accept outside employment which will impair his/her independence of judgment as to official state duties or which would induce the disclosure of confidential information. Generally, outside employment is barred if the private employer can benefit from the state employee's official actions.
- **FINANCIAL DISCLOSURE** - Certain state employees are required to file a financial disclosure statement with the State Ethics Commission. This statement will be considered public information.
- **RECUSAL OR REPORTING IN CASE OF POTENTIAL CONFLICTS** - The Code of Ethics requires that public officials and state employees avoid potential conflicts of interest. If a public official or state employee would be required to take official action that would affect a financial interest of such public official or state employee, certain family members or a business with which they are associated, they must excuse themselves from the matter or prepare and file a sworn written statement explaining why continued involvement in the matter would be on an objective basis and in the public interest despite the potential conflict. (See Statutory References below, Section 1-86(a).)

### III. Additional CGB Policies

CGB expects that, in addition to complying with all provisions of the Code of Ethics for Public officials, employees and officials will:

- Protect the confidential information to which CGB has access;
- Avoid actual or potential conflicts of interest;

- Neither interfere with nor solicit contracts on behalf of any person;
- Avoid, in the case of employees, outside employment which may compromise or interfere with the ability to perform duties for CGB; and
- For those employees subject to the requirements of C.G.S. 1-83(a), submit the Statement of Financial Interests disclosure documents to the Office of State Ethics in a timely manner.

For the same reasons, and in order to maintain public confidence and avoid even an appearance of impropriety

- CGB employees and members of their immediate families are prohibited from investing in companies that receive financial assistance from CGB; and
- If an application for financial assistance from CGB is received from a business with which a CGB employee is associated, or in which such employee or an immediate family member has a direct financial interest, such employee, whether or not he or she expects to be involved in the processing or consideration of such application, shall notify the President of such business association or financial interest and such employee shall be sequestered from all information, discussions, actions and other activities related to such application. For this purpose, a business with which such employee is associated has the same meaning assigned in Section 1-79 of the Code of Ethics to the phrase "business with which he is associated". (See Statutory References below, Section 1-79(b).)

For these purposes, CGB may post a "restricted list" of companies in which employees may not invest and may require employees to disclose outside business interests. The rules of conduct in these matters may also be covered in more detail in the CGB Handbook.

#### **IV. Post-State Employment Restrictions**

Employees leaving The Connecticut Green Bank are required to comply with the Code of Ethics provisions pertaining to post-state employment, which are commonly known as the "revolving door" provisions. For example, there are restrictions on accepting employment with a party to certain contracts (which would include contracts relating to investments or other financial assistance) if the employee or official were involved in the negotiation or award of the contract, and restrictions on representing other parties before CGB during the one-year period following departure from state service. Employees should familiarize themselves with the statutes pertaining to post-state employment. They can be found at C.G.S. Section 1-84a and 1-84b. (See Statutory References below.) You may access these statutes on the Office of State Ethics website at [www.ct.gov/ethics](http://www.ct.gov/ethics) by clicking on "Statutes and Regulations". A summary of these requirements is included in the "Guide to the Code of Ethics for Public Officials and State Employees" attached to this ethics policy.

Before an employee leaves the employment of The Connecticut Green Bank, an exit interview will be conducted by our Ethics Liaison Officer. The purpose of this exit interview will be to individually review potential issues relating to post-Connecticut Green Bank employment.

#### **V. Other Matters**

The Board of The Connecticut Green Bank continues to have well justified faith in the integrity of and ethical conduct of employees and officials of The Connecticut Green Bank. It is understood however, that breaches of this ethics policy may require disciplinary action, including but not

limited to dismissal from CGB, in addition to sanctions provided by state law. Such sanctions are to be applied as appropriate with the approval of the Connecticut Green Bank Board of Directors.

It is the responsibility of each employee and official to inquire of the Ethics Liaison Officer or the Office of State Ethics at 860.566.4472 should any question arise concerning his or her conduct.

## **VI. Statutory References**

Sec. 1-79. Definitions. The following terms, when used in this part, shall have the following meanings unless the context otherwise requires:

(b) "Business with which he is associated" means any sole proprietorship, partnership, firm, corporation, trust or other entity through which business for profit or not for profit is conducted in which the public official or state employee or member of his immediate family is a director, officer, owner, limited or general partner, beneficiary of a trust or holder of stock constituting five per cent or more of the total outstanding stock of any class, provided, a public official or state employee, or member of his immediate family, shall not be deemed to be associated with a not for profit entity solely by virtue of the fact that the public official or state employee or member of his immediate family is an unpaid director or officer of the not for profit entity. "Officer" refers only to the president, executive or senior vice president or treasurer of such business.

(e) "Gift" means anything of value, which is directly and personally received, unless consideration of equal or greater value is given in return. "Gift" shall not include:

(1) A political contribution otherwise reported as required by law or a donation or payment as described in subdivision (9) or (10) of subsection (b) of section 9-601a;

(2) Services provided by persons volunteering their time, if provided to aid or promote the success or defeat of any political party, any candidate or candidates for public office or the position of convention delegate or town committee member or any referendum question;

(3) A commercially reasonable loan made on terms not more favorable than loans made in the ordinary course of business;

(4) A gift received from (A) an individual's spouse, fiancé or fiancée, (B) the parent, brother or sister of such spouse or such individual, or (C) the child of such individual or the spouse of such child;

(5) Goods or services (A) which are provided to a state agency or quasi-public agency (i) for use on state or quasi-public agency property, or (ii) that support an event, and (B) which facilitate state or quasi-public agency action or functions. As used in this subdivision, "state property" means (i) property owned by the state or a quasi-public agency, or (ii) property leased to a state agency or quasi-public agency;

(6) A certificate, plaque or other ceremonial award costing less than one hundred dollars;

(7) A rebate, discount or promotional item available to the general public;

(8) Printed or recorded informational material germane to state action or functions;

(9) Food or beverage or both, costing less than fifty dollars in the aggregate per recipient in a

calendar year, and consumed on an occasion or occasions at which the person paying, directly or indirectly, for the food or beverage, or his representative, is in attendance;

(10) Food or beverage or both, costing less than fifty dollars per person and consumed at a publicly noticed legislative reception to which all members of the General Assembly are invited and which is hosted not more than once in any calendar year by a lobbyist or business organization. For the purposes of such limit, (A) a reception hosted by a lobbyist who is an individual shall be deemed to have also been hosted by the business organization which he owns or is employed by, and (B) a reception hosted by a business organization shall be deemed to have also been hosted by all owners and employees of the business organization who are lobbyists. In making the calculation for the purposes of such fifty-dollar limit, the donor shall divide the amount spent on food and beverage by the number of persons whom the donor reasonably expects to attend the reception;

(11) Food or beverage or both, costing less than fifty dollars per person and consumed at a publicly noticed reception to which all members of the General Assembly from a region of the state are invited and which is hosted not more than once in any calendar year by a lobbyist or business organization. For the purposes of such limit, (A) a reception hosted by a lobbyist who is an individual shall be deemed to have also been hosted by the business organization which he owns or is employed by, and (B) a reception hosted by a business organization shall be deemed to have also been hosted by all owners and employees of the business organization who are lobbyists. In making the calculation for the purposes of such fifty-dollar limit, the donor shall divide the amount spent on food and beverage by the number of persons whom the donor reasonably expects to attend the reception. As used in this subdivision, "region of the state" means the established geographic service area of the organization hosting the reception;

(12) A gift, including but not limited to, food or beverage or both, provided by an individual for the celebration of a major life event **[Not an available exception; see Section 1-84(m) below]**;

(13) Gifts costing less than one hundred dollars in the aggregate or food or beverage provided at a hospitality suite at a meeting or conference of an interstate legislative association, by a person who is not a registrant or is not doing business with the state of Connecticut;

(14) Admission to a charitable or civic event, including food and beverage provided at such event, but excluding lodging or travel expenses, at which a public official or state employee participates in his official capacity, provided such admission is provided by the primary sponsoring entity;

(15) Anything of value provided by an employer of (A) a public official, (B) a state employee, or (C) a spouse of a public official or state employee, to such official, employee or spouse, provided such benefits are customarily and ordinarily provided to others in similar circumstances;

(16) Anything having a value of not more than ten dollars, provided the aggregate value of all things provided by a donor to a recipient under this subdivision in any calendar year shall not exceed fifty dollars; or

(17) Training that is provided by a vendor for a product purchased by a state or quasi-public agency which is offered to all customers of such vendor.

#### Section 1-84 Prohibited Activities

(m) No public official or state employee shall knowingly accept, directly or indirectly, any gift, as defined in subsection (e) of section 1-79, from any person the official or employee knows or has reason to know: (1) Is doing business with or seeking to do business with the department or agency in which the official or employee is employed; (2) is engaged in activities which are directly regulated by such department or agency; or (3) is prequalified under section 4a-100. No person shall knowingly give, directly or indirectly, any gift or gifts in violation of this provision. For the purposes of this subsection, the exclusion to the term "gift" in subdivision (12) of subsection (e) of section 1-79 for a gift for the celebration of a major life event shall not apply. Any person prohibited from making a gift under this subsection shall report to the State Ethics Commission any solicitation of a gift from such person by a state employee or public official.

#### Section 1-84a. Disclosure or use of confidential information by former official or employee

No former executive or legislative branch or quasi-public agency public official or state employee shall disclose or use confidential information acquired in the course of and by reason of his official duties, for financial gain for himself or another person.

#### Sec. 1-84b. Certain activities restricted after leaving public office or employment

(a) No former executive branch or quasi-public agency public official or state employee shall represent anyone other than the state, concerning any particular matter (1) in which he participated personally and substantially while in state service, and (2) in which the state has a substantial interest.

(b) No former executive branch or quasi-public agency public official or state employee shall, for one year after leaving state service, represent anyone, other than the state, for compensation before the department, agency, board, commission, council or office in which he served at the time of his termination of service, concerning any matter in which the state has a substantial interest. The provisions of this subsection shall not apply to an attorney who is a former employee of the Division of Criminal Justice, with respect to any representation in a matter under the jurisdiction of a court.

(f) No former public official or state employee (1) who participated substantially in the negotiation or award of (A) a state contract valued at an amount of fifty thousand dollars or more, or (B) a written agreement for the approval of a payroll deduction slot described in section 3-123g, or (2) who supervised the negotiation or award of such a contract or agreement, shall accept employment with a party to the contract or agreement other than the state for a period of one year after his resignation from his state office or position if his resignation occurs less than one year after the contract or agreement is signed.

(g) No member or director of a quasi-public agency who participates substantially in the negotiation or award of a contract valued at an amount of fifty thousand dollars or more, or who supervised the negotiation or award of such a contract, shall seek, accept, or hold employment with a party to the contract for a period of one year after the signing of the contract.



# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Bryan Garcia (President and CEO), Jane Murphy (Vice President of Finance and Administration), and Eric Shrago (Managing Director of Operations)

**Date:** June 19, 2020

**Re:** Proposed FY2021 Targets and Budget

There is much uncertainty as we look toward the upcoming fiscal year. The COVID-19 pandemic presents new challenges in terms of operations and external engagement. The economic impacts of the pandemic on the state present us with other potential hurdles and opportunities to help continue to grow the economy and rebuild. This uncertainty did not make this year’s planning process as straightforward as it has been in prior years.

After careful consideration, stakeholder engagement, and reflection staff have constructed ranges for targets this year depending on how challenging of an environment and how rapid of an economic recovery is seen.

## I. Targets

The Green Bank has proposed the following targets for each sector’s programs for the upcoming fiscal year:

	FY 2021 Proposed						FY 2020 Actuals through 03/31		
	Projects		Capital Deployed		Capacity		Projects	Capital Deployed	Capacity
	Min	Max	Min	Max	Min	Max			
CPACE	33	48	\$ 15,200,000	\$ 23,300,000	5.3	7.1	39	\$ 17,884,588	5.5
Green Bank Solar PPA	31	58	\$ 4,150,000	\$ 24,470,790	6.3	11.8	5	\$ 6,624,980	2.7
SBEA/BEA	1,203	1,203	\$ 20,440,000	\$ 20,440,000	-	-	471	\$ 8,402,867	-
Smart-E	270	540	\$ 3,564,000	\$ 7,128,000	0.3	0.6	555	\$ 7,831,958	0.7
Low Income Loans/Leases (PosiGen)	177	304	\$ 4,302,870	\$ 7,414,550	1.2	2.0	466	\$ 11,830,385	2.9
Multi-Family Pre-Dev	-	1	\$ -	\$ 60,000	-	-	4	\$ 998,036	-
Multi-Family Term	2	2	\$ 225,000	\$ 225,000	0.1	0.1	12	\$ 4,010,936	1.7
Multi-Family Health and Safety	-	1	\$ -	\$ 100,000	-	-	1	\$ 47,218	-
Strategic Investments	3	3	\$ 7,750,000	\$ 7,750,000	-	-	-	\$ -	-
<b>Financing Programs Total</b>	<b>1,714</b>	<b>2,153</b>	<b>\$ 53,981,870</b>	<b>\$ 88,938,340</b>	<b>12.3</b>	<b>20.7</b>	<b>1,550</b>	<b>\$ 56,644,753</b>	<b>13.2</b>
Residential Solar	2,824	4,706	\$ 85,920,000	\$ 143,200,000	24.0	40.0	6,406	\$ 190,014,929	53.0
Battery Storage	400	400	\$ 3,540,000	\$ 3,540,000	2.0	2.0	-	\$ -	-
<b>Incentive Programs Total</b>	<b>3,224</b>	<b>5,106</b>	<b>\$ 89,460,000</b>	<b>\$ 146,740,000</b>	<b>26.0</b>	<b>42.0</b>	<b>6,406</b>	<b>\$ 190,014,929</b>	<b>53.0</b>
<b>Financing Programs Total</b>	<b>1,714</b>	<b>2,153</b>	<b>\$ 53,981,870</b>	<b>\$ 88,938,340</b>	<b>12.3</b>	<b>20.7</b>	<b>1,550</b>	<b>\$ 56,644,753</b>	<b>13.2</b>
<b>Incentive Programs Total</b>	<b>3,224</b>	<b>5,106</b>	<b>\$ 89,460,000</b>	<b>\$ 146,740,000</b>	<b>26.0</b>	<b>42.0</b>	<b>6,406</b>	<b>\$ 190,014,929</b>	<b>53.0</b>
<b>Green Bank Total</b>	<b>4,729</b>	<b>6,890</b>	<b>\$ 138,711,320</b>	<b>\$ 227,408,430</b>	<b>36.9</b>	<b>60.1</b>	<b>7,394</b>	<b>\$ 231,991,448</b>	<b>63.3</b>

This year we have included targeted impacts on air quality so that we can relate what we are attempting to achieve by program, environmentally. This allows us to include our new Electric Vehicle Charger Offset Pilot initiative which does not have the same key performance indicators as the Green Bank Programs, but instead a GHG emission reduction target.

	Projected Emissions avoided			
	CO2 (tons)		Total Nox, Sox, CO2 and Particulate Matter (tons)	
	Min	Max	Min	Max
CPACE	2,624	2,965	4,058	4,586
Green Bank Solar PPA	7,129	13,392	11,031	20,724
SBEA/BEA	-	-	-	-
Smart-E	3,630	7,247	5,206	10,392
Low Income Loans/Leases (PosiGen)	1,310	2,255	2,027	3,489
Multi-Family Pre-Dev	-	-	-	-
Multi-Family Term	68	68	106	106
Multi-Family Health and Safety	-	-	-	-
Strategic Investments	-	-	-	-
EV Charging Pilot Initiative	17770			
<b>Financing Programs Total</b>	<b>31,665</b>	<b>42,718</b>	<b>38,858</b>	<b>55,551</b>
Residential Solar	27,331	45,552	42,293	70,489
EEPP-Battery Storage	-	-	-	-
<b>Incentive Programs Total</b>	<b>27,331</b>	<b>45,552</b>	<b>42,293</b>	<b>70,489</b>
Financing Programs Total	31,665	42,718	38,858	93,332
Incentive Programs Total	27,331	45,552	42,293	70,489
<b>Green Bank Total</b>	<b>57,323</b>	<b>85,287</b>	<b>78,560</b>	<b>121,423</b>

These air quality targets are based on historic averages and do yet not include forecasts for some programs where estimates of impact are unavailable (e.g., SBEA).

## II. Proposed Green Bank FY 2021 Operating and Program Budget

Enclosed is the proposed Green Bank's FY 2021 budget for review and discussion at the June 26<sup>th</sup> meeting. This budget provides the organization with the ability to be flexible with the uncertainty in the market while using our resources to assist our stakeholders in rebuilding their businesses while we build our pipeline of financeable projects. It is the result of considerable staff time and has been reviewed and recommended by the Budget and Operations Committee.

Year on year, forecasted Revenues for the Green Bank have increased by nearly \$2.3 Million while budgeted Operating Expenses have increased by \$1.7 Million, Program Incentives and Grants have increased by \$1.2 Million and non-Operating Expenses have decreased by \$505K. Net Revenues Over Expenses are nearly flat having decreased by \$106K.

The Year on Year changes are explained as follows:

## **Revenues – Net YOY Increase of \$2.3 Million**

Revenues in the Financing Programs<sup>1</sup> are forecasted to increase by \$158K. This is due to a net increase in program related interest income of \$753K (\$900K from new investments, partially offset a 138k reduction in capitalized interest income due to COVID 19's economic impacts), as well as an increase in other income of \$307K from Fees, Alternative Compliance Payments, and Forward Capacity Markets. These increases are partially offset by a \$908K decrease in operating income driven by a \$1.2 million decrease in Utility Customer Assessments, partially offset by increases in RGGI proceeds and PPA income from CSCU projects.

Revenues in the Incentive Programs<sup>2</sup> are forecasted to increase by \$2.1 million due to sales of additional SHREC's from systems that have come online in the past year.

## **Operating Expenses – Net YOY Increase of \$1.7 Million**

Organization wide, personnel related expenses are set to rise by \$709K (\$448K in compensation and \$261K in benefits). The primary drivers of this increase are \$152K for the implementation of Merit and Promotions approved in FY20 (board approval was \$185K), \$24K for positions added in FY20 (three positions were filled in FY 20 at costs less than originally budgeted and a fourth was created and filled during the fiscal year) and \$380K for positions that are being proposed as part of the FY21 staffing plan. Of these new positions, one is to support the transition of a new Director of Incentive Programs and the second is an asset manager for the RSIP to ensure optimal production of systems (these positions are budgeted for \$255K). The remaining 3 positions (budgeted for \$125K) are contingent upon the approval of a new cost-recovered Battery Storage Program by PURA. Finally, the 3% merit pool and 1.5% promotion pool are budgeted to increase in line with the increase in personnel expenses.

Non-personnel operating expenses in the Incentive Programs are set to grow by \$482K. This is driven by the addition of a battery storage program that will be cost recovered. These expenses are split into two categories: those that help the market in general integrate battery storage with solar (\$100K) and those that launch the Green Bank's Battery Storage program (\$500K). This second category is contingent upon the Green Bank receiving approval for the proposed program from PURA in Docket No. 17-12-30(RE03). There is an increase of \$300K in program administration to cover the costs of building an asset management platform and the need for replacement of meters for some RSIP systems. There is an additional marketing expense of \$65K due to the timing of the next bond offerings. These increases are partially offset by a decrease of \$675k in bond issuance costs due to the

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<sup>1</sup> Financing Programs – consisting of products that are meant to generate a return for the organization (i.e., cash flow from a 5% return over a 10-year term for the portfolio of investments).

<sup>2</sup> Incentive Programs – that pay grants and incentives (e.g., RSIP) or provide credit enhancements like interest rate buy-downs (e.g., Smart-E loan) as their primary way to stimulate markets and who's cost are recovered (e.g., through the sale of Solar Home Renewable Energy Credits) or use of third-party funds to fund those incentives (e.g., AARA funds).



Green Bank raising capital in the municipal markets rather than in the asset backed securities market. These are cost-recovered through SHRECs.

Non-personnel operating expenses in the Financing Programs are set to grow by \$484K. The drivers are \$268K for marketing focusing on building awareness of the organization and programs, the growth of Solar MAP and to assist state solar projects (\$193K shifted from program administration), as well as expanding our outreach to our contractors. There is a shift in expenses between Research and Development and Consulting, much of which represents the maturing of our effort on EV offsets going to a pilot stage. There is a \$200K increase stemming from depreciation (non-cash impact) and \$100K increase associated with our move.

**Program Incentives and Grants – Net YOY increase of \$1.2 Million**

Program Incentives and Grants are forecast to increase by \$1.2 million due to new RSIP systems coming online and starting to be paid incentives through the PBI and EPBB incentive programs. These are cost-recovered through SHRECs.

Program Incentives and Grants are flat for the Financing Programs.

**Non-Operating Expenses – Net YOY decrease of \$505K**

Non-Operating Expenses in the Financing Programs are forecasted to decrease by \$603K due to decreases in provisions for loan losses and decreases in interest expense.

Non-Operating Expenses in the Incentive Programs are nearly flat year on year, with a 98K increase due to increased interest expense offset by a decrease in budgeted interest rate buydowns.

**Resolution**

**WHEREAS**, the Connecticut Green Bank’s (Green Bank) Budget and Operations Committee recommends that the Green Bank Board of Directors approve the Fiscal Year 2021 Targets and Budget;

**RESOLVED**, the Budget and Operations Committee recommends that the Board of Directors authorizes Green Bank staff to extend the professional services agreements (PSAs) currently in place with the following, contingent upon a competitive bid process having occurred in the last three years (except Alter Domus (formerly Cortland), Sustainable Connecticut, Adnet Technologies, Sustainable Environmental Associates, and Inclusive Prosperity Capital):

- I. Adnet Technologies, LLC
- II. Clean Power Research, LLC
- III. Alter Domus (formerly Cortland)
- IV. CSW, LLC.
- V. Inclusive Prosperity Capital

- VI. Locus Energy LLC
- VII. ReCurve Analytics
- VIII. ERS
- IX. BlumShapiro
- X. Guidehouse (aka Navigant)
- XI. Sustainable CT
- XII. GO, LLC
- XIII. Adams & Knight
- XIV. Environmental Control, Inc., d.b.a ENCON
- XV. Sustainable Environmental Associates

For fiscal year 2021 with the amounts of each PSA not to exceed the applicable approved budget line item

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board hereby approves: (1) the FY 2021 Targets and Budget, and (2) the PSAs with the 15 strategic partners listed above.

**Connecticut Green Bank  
FY 2021 Operating and Program Budget - DRAFT  
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**Presented to B&O Committee on May 13, June 10 and June 16, 2020**

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**Connecticut Green Bank**  
**FY 2021 Operations and Program Budget - DRAFT**  
**Statement of Revenues and Expenses - Financing Programs vs. Incentive Programs**

	<u>Total CT Green Bank</u>			<u>Financing Programs</u>			<u>Incentive Programs</u>		
	<u>FY21</u>	<u>FY20</u>	<u>YOY</u>	<u>FY21</u>	<u>FY20</u>	<u>YOY</u>	<u>FY21</u>	<u>FY20</u>	<u>YOY</u>
	<u>Budget</u>	<u>Budget</u>	<u>Variance</u>	<u>Budget</u>	<u>Budget</u>	<u>Variance</u>	<u>Budget</u>	<u>Budget</u>	<u>Variance</u>
<b>Revenue</b>									
Operating Income	40,296,207	39,060,330	1,235,877	30,137,600	31,046,355	(908,755)	10,158,607	8,013,975	2,144,632
Interest Income	5,952,998	5,061,466	891,532	5,882,498	4,983,466	899,032	70,500	78,000	(7,500)
Interest Income, Capitalized	228,115	367,017	(138,902)	228,115	367,017	(138,902)	0	0	0
Other Income	442,091	135,000	307,091	442,091	135,000	307,091	0	0	0
<b>Total Revenue</b>	<b>\$ 46,919,411</b>	<b>\$ 44,623,813</b>	<b>2,295,598</b>	<b>\$ 36,690,304</b>	<b>\$ 36,531,838</b>	<b>158,466</b>	<b>\$ 10,229,107</b>	<b>\$ 8,091,975</b>	<b>2,137,132</b>
<b>Operating Expenses</b>									
Compensation and Benefits									
Employee Compensation	5,000,218	4,552,130	448,088	3,516,430	3,340,433	175,997	1,483,788	1,211,697	272,091
Employee Benefits	4,186,775	3,925,744	261,031	2,948,760	2,953,489	(4,729)	1,238,016	972,255	265,760
Total Compensation and Benefits	9,186,993	8,477,874	709,119	6,465,190	6,293,922	171,268	2,721,804	2,183,952	537,851
Program Development & Administration	3,514,515	2,863,929	650,586	923,090	1,116,882	(193,792)	2,591,424	1,747,047	844,378
Program Administration-IPC Fee	1,366,219	1,297,956	68,263	1,095,382	1,001,300	94,083	270,837	296,657	(25,820)
Marketing Expense	1,318,042	985,155	332,887	973,696	705,155	268,540	344,346	280,000	64,346
E M & V	575,000	395,000	180,000	225,000	225,000	0	350,000	170,000	180,000
Research and Development	71,000	310,000	(239,000)	71,000	310,000	(239,000)	0	0	0
Consulting and Professional Fees	2,564,850	3,004,149	(439,299)	1,001,350	764,749	236,601	1,563,500	2,239,400	(675,900)
Rent and Location Related Expenses	1,044,951	783,431	261,520	883,095	666,645	216,451	161,856	116,786	45,070
Office, Computer & Other Expenses	1,226,607	1,075,633	150,973	930,384	829,065	101,319	296,222	246,568	49,654
<b>Total Operating Expenses</b>	<b>20,868,177</b>	<b>19,193,127</b>	<b>1,675,049</b>	<b>12,568,187</b>	<b>11,912,718</b>	<b>655,470</b>	<b>8,299,989</b>	<b>7,280,410</b>	<b>1,019,579</b>
<b>Program Incentives and Grants</b>									
Financial Incentives-CGB Grants	100,000	100,000	0	100,000	100,000	0	0	0	0
Program Expenditures-Federal Grants	30,000	30,000	0	30,000	30,000	0	0	0	0
EPBB/PBI/HOPBI Incentives	16,716,539	15,505,131	1,211,407	0	0	0	16,716,539	15,505,131	1,211,407
<b>Total Program Incentives and Grants</b>	<b>\$ 16,846,539</b>	<b>\$ 15,635,131</b>	<b>1,211,407</b>	<b>\$ 130,000</b>	<b>\$ 130,000</b>	<b>0</b>	<b>\$ 16,716,539</b>	<b>\$ 15,505,131</b>	<b>1,211,407</b>
<b>Operating Income/(Loss)</b>	<b>\$ 9,184,696</b>	<b>\$ 9,795,554</b>	<b>(610,859)</b>	<b>\$ 23,972,117</b>	<b>\$ 24,489,121</b>	<b>(517,004)</b>	<b>\$ (14,787,421)</b>	<b>\$ (14,693,566)</b>	<b>(93,855)</b>
<b>Non-Operating Expenses</b>									
Interest Expense	2,825,917	2,636,672	189,245	310,803	427,511	(116,708)	2,515,114	2,209,161	305,953
Provision for Loan Loss	2,478,750	2,965,625	(486,875)	2,478,750	2,965,625	(486,875)	0	0	0
Interest Rate Buydowns-ARRA	1,592,491	1,800,000	(207,509)	0	0	0	1,592,491	1,800,000	(207,509)
<b>Total Non-Operating Expenses</b>	<b>\$ 6,897,158</b>	<b>\$ 7,402,297</b>	<b>(505,139)</b>	<b>\$ 2,789,553</b>	<b>\$ 3,393,136</b>	<b>(603,583)</b>	<b>\$ 4,107,605</b>	<b>\$ 4,009,161</b>	<b>98,444</b>
<b>Net Revenues Over (Under) Expenses</b>	<b>\$ 2,287,538</b>	<b>\$ 2,393,257</b>	<b>(105,719)</b>	<b>\$ 21,182,564</b>	<b>\$ 21,095,985</b>	<b>86,579</b>	<b>\$ (18,895,026)</b>	<b>\$ (18,702,727)</b>	<b>(192,299)</b>

**Connecticut Green Bank**  
**FY 2021 Operating and Program Budget - DRAFT**  
**Revenue Detail**

	FY21 Budget	FY20 Budget	\$ Increase / (Decrease)	FY20 May YTD Actuals
<b>Revenues</b>				
Utility customer assessments	\$ 24,772,400	\$ 25,986,400	\$ (1,214,000)	\$ 22,958,925
RGGI auction proceeds - renewables	4,280,200	4,193,148	87,052	4,581,628
Interest Income - Cash Intercompany	66,137	64,712	1,425	60,882
Interest Income - Cash deposits	99,000	240,900	(141,900)	150,683
Interest Income - Delinquent CPACE payments	-	-	-	12,984
Interest Income - Capitalized construction interest	228,115	367,018	(138,903)	380,241
Interest Income - CPACE Warehouse, benefit assessments	2,353,783	1,905,176	448,607	1,612,297
Interest Income - Loan portfolio, other programs	3,203,413	2,595,459	607,954	2,582,362
Interest Income - CPACE Sell-down Bonds	170,666	177,219	(6,553)	190,585
Interest Income - Solar lease I promissory notes, net	60,000	78,000	(18,000)	58,351
CPACE closing fees	144,000	135,000	9,000	116,586
Grant income (federal programs)	30,000	30,000	-	47,640
REC sales	579,250	955,296	(376,046)	1,001,829
REC sales to utilities under SHREC program	9,579,357	7,269,459	2,309,898	7,070,360
PPA Income	626,000	252,000	374,000	386,076
LREC/ZREC Income	285,000	239,027	45,973	276,891
Other income - Programs	78,000	35,000	43,000	72,214
Other income - General <sup>(1)</sup>	364,092	100,000	264,092	410,087
<b>Total Sources of revenue:</b>	<u>\$ 46,919,411</u>	<u>\$ 44,623,813</u>	<u>\$ 2,295,598</u>	<u>\$ 41,970,619</u>

<sup>(1)</sup> Of the \$364,092 in Other Income - General, \$201,092 is from Forward Capacity Market revenues.

**Connecticut Green Bank**  
**FY 2021 General Operations Budget - DRAFT**  
**Utility Customer Assessment Projections**

	<b>FY21 Budget</b>	<b>FY20 Budget</b>	<b>FY20 Actual / Estimate <sup>(1)</sup></b>	<b>YOY Budget Incr / (Decr)</b>	<b>FY21 Budget vs. FY20 Projected</b>	<b>FY20 Budget vs. FY20 Projected</b>
July	\$ 2,338,800	\$ 2,433,800	\$ 2,472,297	\$ (95,000)	\$ (133,497)	\$ 38,497
August	2,519,300	2,632,100	2,631,875	(112,800)	(112,575)	(225)
September	2,195,800	2,388,400	2,195,777	(192,600)	23	(192,623)
October	1,803,000	1,951,600	1,803,020	(148,600)	(20)	(148,580)
November	1,818,600	1,914,300	1,818,622	(95,700)	(22)	(95,678)
December	2,128,800	2,164,600	2,174,064	(35,800)	(45,264)	9,464
January	2,266,600	2,360,600	2,266,590	(94,000)	10	(94,010)
February	2,099,500	2,193,600	2,099,504	(94,100)	(4)	(94,096)
March	1,910,200	2,073,100	1,910,180	(162,900)	20	(162,920)
April	1,953,400	2,007,600	1,831,470	(54,200)	121,930	(176,130)
May	1,763,200	1,791,000	1,755,524	(27,800)	7,676	(35,476)
June	1,975,200	2,075,700	1,868,130	(100,500)	107,070	(207,570)
Total assessments:	<u>\$ 24,772,400</u>	<u>\$ 25,986,400</u>	<u>\$ 24,827,055</u>	<u>\$ (1,214,000)</u>	<u>\$ (54,655)</u>	<u>\$ (1,159,345)</u>
				<u>(4.7%)</u>	<u>(0.2%)</u>	<u>(4.5%)</u>

<sup>(1)</sup> Actual data through May 2020 and estimated data beyond.

**Connecticut Green Bank  
FY 2021 General Operations Budget - DRAFT  
RGGI Auction Receipts**

	<b>FY21 Action #</b>	<b>Price</b>	<b>Allowances</b>	<b>FY21 Budget</b>	<b>FY20 Budget</b>	<b>FY20 Actual</b>	<b>YOY Budget Incr / (Decr)</b>	<b>FY20 Budget vs. Actual</b>
September Auction	49	\$ 5.49	870,052	\$ 1,098,600	\$ 1,077,207	\$ 1,077,207	\$ 21,393	\$ -
December Auction	50	\$ 5.41	870,052	1,082,600	1,162,141	1,162,141	(79,541)	-
March Auction	51	\$ 5.33	840,120	1,029,900	972,500	1,130,161	57,400	157,661
June Auction	52	\$ 5.25	885,374	1,069,100	981,300	1,212,119	87,800	230,819
Total auction receipts:				<u>\$ 4,280,200</u>	<u>\$ 4,193,148</u>	<u>\$ 4,581,628</u>	<u>\$ 87,052</u>	<u>\$ 388,480</u>
							<u>2.1%</u>	<u>9.3%</u>

**Connecticut Green Bank  
FY 2021 RSIP Budget - DRAFT  
REC Revenue**

Tranche	Description	FY21 Budget - DRAFT					Total Fiscal 2021	Total Fiscal 2020 Budget	YOY Budget Incr / (Decr)	FY20 Actual / Estimate	FY20 Budget vs. Actual
		Fiscal Q1 2021	Fiscal Q2 2021	Fiscal Q3 2021	Fiscal Q4 2021	Total Fiscal 2021					
		Calendar Q1 2020	Calendar Q2 2020	Calendar Q3 2020	Calendar Q4 2020	Total Calendar Year 2020					
	<b>Generation Month</b>										
SHREC T1	P90 Generation (mWh)	8,751	15,135	14,606	6,644	45,136	50,559	(5,423)	46,491	(4,068)	
SHREC T1	Revenue @ \$50 / mWh	\$ 437,549	\$ 756,774	\$ 730,295	\$ 332,176	\$ 2,256,795	\$ 2,527,949	\$ (271,154)	\$ 2,324,550	\$ (203,399)	
SHREC T2	P90 Generation (mWh)	11,127	18,867	18,252	8,484	56,729	57,639	(909)	58,274	635	
SHREC T2	Revenue @ \$49 / mWh	\$ 545,200	\$ 924,481	\$ 894,337	\$ 415,727	\$ 2,779,745	\$ 2,824,310	\$ (44,564)	\$ 2,855,426	\$ 31,116	
SHREC T3	P90 Generation (mWh)	7,272	12,750	12,338	5,522	37,882	39,942	(2,060)	39,383	(559)	
SHREC T3	Revenue @ \$48 / mWh	\$ 349,032	\$ 612,021	\$ 592,216	\$ 265,070	\$ 1,818,339	\$ 1,917,200	\$ (98,861)	\$ 1,890,384	\$ (26,816)	
SHREC T4	P90 Generation (mWh)	11,890	18,598	18,057	9,422	57,968	-	57,968	-	-	
SHREC T4	Revenue @ \$47 / mWh	\$ 558,836	\$ 874,114	\$ 848,673	\$ 442,855	\$ 2,724,478	\$ -	\$ 2,724,478	\$ -	\$ -	
	<b>Total SHREC Revenue</b>	<b>\$ 1,890,617</b>	<b>\$ 3,167,390</b>	<b>\$ 3,065,522</b>	<b>\$ 1,455,828</b>	<b>\$ 9,579,357</b>	<b>\$ 7,269,459</b>	<b>\$ 2,309,898</b>	<b>\$ 7,070,360</b>	<b>\$ (199,099)</b>	
	<b>Generation Month</b>										
Non-SHREC Residential	Residential P90 Generation (mWh)	8,328	13,257	12,940	6,475	41,000	47,603	(6,603)	40,000	(7,603)	
Non-SHREC Residential	Revenue @ \$14.378 / mWh	\$ -	\$ -	\$ -	\$ 589,500	\$ 589,500	\$ 744,516	\$ (155,016)	\$ 1,014,260	\$ 269,744	
Non-SHREC Commercial	Commercial P90 Generation (mWh)	-	-	-	-	-	14,500	(14,500)	-	(14,500)	
Non-SHREC Commercial	Revenue @ \$14.378* / mWh	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 226,780	\$ (226,780)	\$ -	\$ (226,780)	
	Commission Expense	-	-	-	(10,250)	(10,250)	(16,000)	5,750	(12,432)	3,569	
	<b>Total Non-SHREC Revenue</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 579,250</b>	<b>\$ 579,250</b>	<b>\$ 955,296</b>	<b>\$ (376,046)</b>	<b>\$ 1,001,829</b>	<b>\$ 46,533</b>	
	<b>Total REC Revenue</b>	<b>\$ 1,890,617</b>	<b>\$ 3,167,390</b>	<b>\$ 3,065,522</b>	<b>\$ 2,035,078</b>	<b>\$ 10,158,607</b>	<b>\$ 8,224,755</b>	<b>\$ 1,933,852</b>	<b>\$ 8,072,189</b>	<b>\$ (152,566)</b>	

**Notes:**

The Green Bank manages its price risk by selling its RECS in advance to buyers. To date we have sold 23,000 @ \$13.50/REC, 18,000 @ \$15.50/REC. \$14.378 is the Weighted average price of all contracts entered into by the Green Bank for vintage 2020 RECS and it is used for all budget estimates.



**Connecticut Green Bank**  
**FY 2021 Operations and Program Budget - DRAFT**  
**Staffing Plan**

Position / Department	Name	Staffing Budget Hours			Staffing Budget FTEs			Staffing Budget \$\$		
		FY21	FY20	YOY Variance	FY21	FY20	YOY Variance	FY21	FY20	YOY Variance
<b><u>Employees Employed Year Over Year</u></b>										
Manager, Community Partnerships	Basham, Emily	2,080	2,080		1.00	1.00				
Controller	Cartelli, Shawne	2,080	2,080		1.00	1.00				
Senior Manager of Resources and Impact Assessment	Charpentier, Lucy	2,080	2,080		1.00	1.00				
Senior Manager, Incentive Programs	Colonis, Bill	2,080	2,080		1.00	1.00				
Associate Director, Clean Energy Finance	Della Pesca, Louise	2,080	2,080		1.00	1.00				
Senior Loan Investment Administrator	Duncan, Catherine	2,080	2,080		1.00	1.00				
VP - Financing Programs and Officer	Dykes, Mackey	2,080	2,080		1.00	1.00				
VP - Legal, General Counsel & Chief Legal Officer	Farnen, Brian	2,080	2,080		1.00	1.00				
Senior Contracts Administrator	French, Loyola	2,080	2,080		1.00	1.00				
President & Chief Executive Officer	Garcia, Bryan	2,080	2,080		1.00	1.00				
Manager, Incentive Programs	Hazlewood, Isabelle	2,080	2,080		1.00	1.00				
Executive Vice President and Chief Investment Officer	Hunter, Bert	2,080	2,080		1.00	1.00				
Manager, Marketing	Janecko, Andrea	2,080	2,080		1.00	1.00				
Administrative Coordinator	Johnson, Barbara	2,080	2,080		1.00	1.00				
Senior Manager & Senior Counsel, Financing Programs	Kovtunenکو, Alex	2,080	2,080		1.00	1.00				
Manager, Incentive Programs	Kranich, Ed	2,080	2,080		1.00	1.00				
Manager, Financing Programs	Lembo-Buzzelli, Alysse	2,080	2,080		1.00	1.00				
Senior Assistant, Incentive Programs	Lewis, Lynne	2,080	2,080		1.00	1.00				
Legislative Liaison & Associate Director	Macunas, Matt	2,080	2,080		1.00	1.00				
Senior Manager, Clean Energy Finance	Miller, Desiree	2,080	2,080		1.00	1.00				
VP, Finance and Administration	Murphy, Jane	2,080	2,080		1.00	1.00				
Director, Incentive Programs	Price, Selya	2,080	2,080		1.00	1.00				
Manager, Incentive Programs	Pyne, Sara	2,080	2,080		1.00	1.00				
Executive Assistant	Samuels, Cheryl	2,080	2,080		1.00	1.00				
Manager, Marketing	Schmitt, Robert	2,080	2,080		1.00	1.00				
Managing Director of Operations	Shrago, Eric	2,080	2,080		1.00	1.00				
Senior Accountant	Soares, Natalia	2,080	2,080		1.00	1.00				
Manager, Clean Energy Finance	Stewart, Fiona	2,080	2,080		1.00	1.00				
Senior Manager, Marketing	Sturk, Rudy	2,080	2,080		1.00	1.00				
Accounting Specialist	Turker, Irene	2,080	2,080		1.00	1.00				
Senior Assistant, Incentive Programs	Vigil, Marycruz	2,080	2,080		1.00	1.00				
Associate Director, Marketing	Waters, Barbara	2,080	2,080		1.00	1.00				
Director, Clean Energy Finance	Yu, Mike	2,080	2,080		1.00	1.00				
Senior Manager, Financing Programs	Zuba, Nicholas	2,080	2,080		1.00	1.00				
	<b>Subtotal</b>	<b>70,720</b>	<b>70,720</b>	<b>-</b>	<b>34.00</b>	<b>34.00</b>	<b>-</b>	<b>\$ 3,606,244</b>	<b>\$ 3,454,106</b>	<b>\$ 152,138</b>
<b><u>Employees Hired for Open Positions</u></b>										
Associate, Incentive Programs (Durational)	Attruia, Stephanie	2,080	2,080		1.00	1.00				
New FY20 - Associate, Incentive Programs (Durational)	Saavedra, Emma	2,080	-		1.00	-				
Senior Assistant, Asset Management and Compliance	Johnson, Karl	2,080	2,080		1.00	1.00				
Staff Accountant	Schneider, Ariel	2,080	2,080		1.00	1.00				
	<b>Subtotal</b>	<b>8,320</b>	<b>6,240</b>	<b>2,080</b>	<b>4.00</b>	<b>3.00</b>	<b>1.00</b>	<b>\$ 224,000</b>	<b>\$ 200,000</b>	<b>\$ 24,000</b>

**Connecticut Green Bank  
FY 2021 Operations and Program Budget - DRAFT  
Staffing Plan**

Position / Department	Name	Staffing Budget Hours			Staffing Budget FTEs			Staffing Budget \$s		
		FY21	FY20	YOY Variance	FY21	FY20	YOY Variance	FY21	FY20	YOY Variance
<b>Open Positions - Vacancies</b>										
Open - Senior Manager, Financing Programs <sup>(1)</sup>		2,080	2,080		1.00	1.00				
Open - Operations Assistant <sup>(2)</sup>		2,080	2,080		1.00	1.00				
Open - Senior Accountant <sup>(3)</sup>		1,040	1,560		0.50	0.75				
Open FY20 - Assistant, Financing Programs		2,080	1,600		1.00	0.77				
Open FY20 - Senior Manager, Clean Energy Finance		2,080	1,600		1.00	0.77				
	<b>Subtotal</b>	<b>9,360</b>	<b>8,920</b>	<b>440</b>	<b>4.50</b>	<b>4.29</b>	<b>0.21</b>	<b>\$ 500,770</b>	<b>\$ 498,096</b>	<b>\$ 2,674</b>
<b>Open Positions - New Hires</b>										
New FY21 - Special Advisor to President and CEO <sup>(4)</sup>		2,080	-		1.00	-				
New FY21 - Residential Asset Manager		2,080	-		1.00	-				
	<b>Subtotal</b>	<b>4,160</b>	<b>-</b>	<b>4,160</b>	<b>2.00</b>	<b>-</b>	<b>2.00</b>	<b>\$ 255,600</b>	<b>\$ -</b>	<b>\$ 255,600</b>
<b>Open Positions - Contingent (Battery Storage)</b>										
New FY21 - Associate Director of Incentive Programs		1,040	-		0.50	-				
New FY21 - Manager of Incentive Programs		1,040	-		0.50	-				
New FY21 - Associate, Incentive Programs		1,040	-		0.50	-				
	<b>Subtotal</b>	<b>3,120</b>	<b>-</b>	<b>3,120</b>	<b>1.50</b>	<b>-</b>	<b>1.50</b>	<b>\$ 125,777</b>	<b>\$ -</b>	<b>\$ 125,777</b>
<b>Eliminated Positions</b>										
Director, Multifamily Housing Programs	Stevenson, Kim	-	320		-	0.15				
	<b>Subtotal</b>	<b>-</b>	<b>320</b>	<b>(320)</b>	<b>-</b>	<b>0.15</b>	<b>(0.15)</b>	<b>\$ -</b>	<b>\$ 21,392</b>	<b>\$ (21,392)</b>
	<b>Total Employees</b>	<b>95,680</b>	<b>86,200</b>	<b>9,480</b>	<b>46.00</b>	<b>41.44</b>	<b>4.56</b>	<b>\$ 4,712,391</b>	<b>\$ 4,173,594</b>	<b>\$ 538,797</b>
<b>Interns</b>										
Intern - Finance 1		480	480		0.23	0.23				
Intern - CI&I 1		480	480		0.23	0.23				
Intern - SI 1		480	480		0.23	0.23				
Intern - SI 2		480	-		0.23	-				
Intern - SI 3		480	-		0.23	-				
Intern - Legal 1		480	-		0.23	-				
	<b>Total Interns</b>	<b>2,880</b>	<b>1,440</b>	<b>1,440</b>	<b>1.38</b>	<b>0.69</b>	<b>0.69</b>	<b>\$ 60,000</b>	<b>\$ 30,000</b>	<b>\$ 30,000</b>
	<b>Total Employees and Interns</b>	<b>98,560</b>	<b>87,640</b>	<b>10,920</b>	<b>47.38</b>	<b>42.13</b>	<b>5.25</b>			

<b>Compensation Dollars</b>			
Employees	\$ 4,712,391	\$ 4,173,594	\$ 538,797
Merit Pool - 3.0%	136,671	119,951	16,721
Promotion Pool - 1.5%	71,157	65,061	6,096
Intern Pool	60,000	30,000	30,000
<b>Subtotal Compensation Employees and Interns:</b>	<b>4,980,219</b>	<b>4,388,606</b>	<b>591,613</b>
Temporary Employees	20,000	163,525	(143,525)
<b>Total Compensation Employees, Interns and Temps:</b>	<b>\$ 5,000,219</b>	<b>\$ 4,552,131</b>	<b>\$ 448,088</b>

<sup>(1)</sup> Position vacant due to departure of Anthony Clark in FY20.  
<sup>(2)</sup> Position vacant due to departure of Craig Connolly in FY20.  
 Support MD of Operations for additional responsibilities.  
<sup>(3)</sup> Position vacant due to departure of Joe Landry in FY20.  
<sup>(4)</sup> Transition of Selya Price from Director of Incentive Programs

**Connecticut Green Bank  
FY 2021 Program Budget - DRAFT  
Program Loans**

<b>Program Type - CGB portfolio loan (Asset) advances</b>												
Dept	Prg Code	Prg Name	Description	Interest Rate	Term in Years	FY21 Budget					FY20 Budget	FY20 YTD Actuals
						Q1	Q2	Q3	Q4	Total		
Multi	52250	Multifamily Pgms	C4C Lime facility draws	3.0%	10	\$ -	\$ -	\$ 250,000	\$ 250,000	\$ 500,000	\$ 2,000,000	\$ 5,823,001
<b>Total MultiFamily Program Loans:</b>						<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250,000</b>	<b>\$ 250,000</b>	<b>\$ 500,000</b>	<b>\$ 2,000,000</b>	<b>\$ 5,823,001</b>
Resi	52220	LMI Programs	Posigen	5.0%	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,378,727
<b>Total Resi 1-4 Program Loans:</b>						<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,378,727</b>
CI&I	51800	CPACE	CGB Portfolio	Current/Future Pipeline	5.83%	16	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 5,000,000	\$ 5,380,431
CI&I	51800	CPACE	3rd party lending RFP	Greenworks Lending	5.25%	5	2,000,000	1,000,000	-	-	3,000,000	2,000,000
CI&I	51810	New Product Dev.	LBE Solar PPA and Solar MAP		5.0%	10	2,500,000	2,500,000	2,500,000	2,500,000	10,000,000	-
CI&I	51810	New Product Dev.	PPA Development 3rd Party Loans		5.0%	10	500,000	625,000	625,000	750,000	2,500,000	4,688,408
CI&I	53002	SBEA/BEA	Regular Loan Purchases		4.75%	4	511,000	511,000	511,000	511,000	2,044,000	1,091,288
<b>Total CI&amp;I Program Loans:</b>						<b>\$ 6,761,000</b>	<b>\$ 5,886,000</b>	<b>\$ 4,886,000</b>	<b>\$ 5,011,000</b>	<b>\$ 22,544,000</b>	<b>\$ 19,000,000</b>	<b>\$ 13,160,127</b>
Finance	52200	CE Finance Prg	PPA Sub Debt into IPC Fund	Debt financing	5.5%	15	\$ 250,000	\$ 250,000	\$ 500,000	\$ 500,000	\$ 1,500,000	\$ -
Finance	52200	CE Finance Prg	Strategic Investments	Fort Hill Ag-Grid	5.0%	10	300,000	450,000	-	-	750,000	61,610
Finance	52200	CE Finance Prg	Strategic Investments	FuelCell Groton	5.0%	10	2,000,000	-	-	-	2,000,000	3,000,000
Finance	52305	Hydro Projects	Strategic Investments	Canton Hydro	5.0%	10	-	-	-	-	-	615,330
Finance	52200	CE Finance Prg	Strategic Investments	Unspecified	5.0%	10	1,250,000	1,250,000	1,250,000	1,250,000	5,000,000	-
<b>Total CE Finance Program Loans:</b>						<b>\$ 3,800,000</b>	<b>\$ 1,950,000</b>	<b>\$ 1,750,000</b>	<b>\$ 1,750,000</b>	<b>\$ 9,250,000</b>	<b>\$ 16,875,000</b>	<b>\$ 3,676,940</b>
<b>Total of all Program Loans:</b>						<b>\$ 10,561,000</b>	<b>\$ 7,836,000</b>	<b>\$ 6,886,000</b>	<b>\$ 7,011,000</b>	<b>\$ 32,294,000</b>	<b>\$ 37,875,000</b>	<b>\$ 28,038,795</b>

<b>Program Type - CGB Loans: Additions to Provision for Loan Losses for FY21 Investments</b>												
	Prob.	Ratio		Interest Rate	Term	FY21 Budget					FY20 Budget	FY20 YTD Actuals
						Q1	Q2	Q3	Q4	Total		
<b>Total MultiFamily Program Loans:</b>			85%	10%		\$ -	\$ -	\$ 21,250	\$ 21,250	\$ 42,500	\$ 255,000	\$ 9,000
<b>Total Resi 1-4 Program Loans:</b>			100%	10%		-	-	-	-	-	-	-
<b>Total CI&amp;I Program Loans-CPACE:</b>			85%	10%		276,250	191,250	106,250	106,250	680,000	807,500	1,962,674
<b>Total CI&amp;I Program Loans-Other CI&amp;I Pgms:</b>			85%	10%		255,000	265,625	265,625	276,250	1,062,500	637,500	436,916
<b>Total CE Finance Program Loans:</b>			75%	10%		285,000	146,250	131,250	131,250	693,750	1,265,625	357,477
<b>Total Provision for Loan Losses:</b>						<b>\$ 816,250</b>	<b>\$ 603,125</b>	<b>\$ 524,375</b>	<b>\$ 535,000</b>	<b>\$ 2,478,750</b>	<b>\$ 2,965,625</b>	<b>\$ 2,766,066</b>

<b>Program Type - Interest Expense</b>												
Dept	Prg	Prg Name	Description	Interest Rate	Term	FY21 Budget					FY20 Budget	FY20 YTD Actuals
						Q1	Q2	Q3	Q4	Total		
Multi	52251	Multifamily	HDF/MacArthur Interest Expense - \$5.0m draw	1.0%	15	\$ 12,500	\$ 12,500	\$ 12,500	12,500	\$ 50,000	\$ 50,000	\$ 37,500
CI	51830	Kresge	Kresge Note	2.0%	15	-	-	-	-	-	-	11,232
SI	51100	RSIP	Interest Expense-SHREC ABS - Class A	5.1%	15	439,840	436,709	425,549	415,077	1,717,175	1,822,205	1,945,747
SI	51100	RSIP	Interest Expense-SHREC ABS - Class B	7.0%	15	29,762	29,550	28,794	28,072	116,178	123,287	-
SI	51100	RSIP	Interest Expense-Green Liberty Bond	3.5%	15	-	264,883	-	264,883	529,765	-	-
SI	51100	RSIP	Liberty/Webster SHREC Warehouse - Tranche 3	4.5%	1	32,000	-	-	-	32,000	263,669	113,107
SI	51100	RSIP	Liberty/Webster SHREC Warehouse - Tranche 4	4.5%	1	30,000	30,000	30,000	30,000	120,000	-	-
Finance	52200	CE Finance Prg	Amlagamated LOC - CTSL1/CTSLN1	4.1%	1	18,000	18,000	18,000	18,000	72,000	208,417	54,547
Finance	52200	CE Finance Prg	Amlagamated LOC - HACPACE	4.1%	1	-	-	12,500	37,500	50,000	-	-
Finance	52302	CREBs	New England Hydro CREBs net of Treasury Subsidy	4.09%	20	-	3,541	-	8,497	12,038	16,535	5,453
Finance	52302	CREBs	CSCU CREBs net of Treasury Subsidy	4.9%	20	-	46,710	-	80,055	126,765	152,559	54,877
						<b>\$ 562,101</b>	<b>\$ 841,893</b>	<b>\$ 527,343</b>	<b>\$ 894,583</b>	<b>\$ 2,825,921</b>	<b>\$ 2,636,672</b>	<b>\$ 2,222,463</b>

**Connecticut Green Bank  
FY 2021 Program Budget - DRAFT  
Credit Enhancements**

Credit Enhancements - Additions to Loan Loss Reserves - ARRA Funds										
Dept	Prg Code	Prg Name	Description	FY21 Budget					FY20 Budget	FY20 Actual
				Q1	Q2	Q3	Q4	Total		
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				-	-	-	-	-	-	-
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Credit Enhancements - Additions to Loan Loss Reserves - DEEP Funds										
Dept	Prg Code	Prg Name	Description	FY21 Budget					FY20 Budget	FY20 Actual
				Q1	Q2	Q3	Q4	Total		
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ 500,000	\$ -
				-	-	-	-	-	500,000	-
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ 500,000	\$ -

Credit Enhancements - Additions to Loan Loss Reserves - CGB Funds										
Dept	Prg Code	Prg Name	Description	FY21 Budget					FY20 Budget	FY20 Actual
				Q1	Q2	Q3	Q4	Total		
Resi	52210	SmartE	CGB/Smart E loans	\$ 59,479	\$ 70,447	\$ 45,559	\$ 52,308	\$ 227,794	\$ 850,000	\$ -
Multi	52230	CHIF PEL	CHIF/MPEL product	-	-	-	-	-	120,000	-
				\$ 59,479	\$ 70,447	\$ 45,559	\$ 52,308	\$ 227,794	\$ 970,000	\$ -

Credit Enhancements - Interest rate Buydowns - ARRA Funds										
Dept	Prg Code	Prg Name	Description	FY21 Budget					FY20 Budget	FY20 Actual
				Q1	Q2	Q3	Q4	Total		
Resi	52211	SmartE ARRA IRB	CGB/Smart E loans	\$ 415,817	\$ 492,493	\$ 318,498	\$ 365,683	\$ 1,592,491	\$ 1,570,800	\$ -
				-	-	-	-	-	-	-
				\$ 415,817	\$ 492,493	\$ 318,498	\$ 365,683	\$ 1,592,491	\$ 1,570,800	\$ -

Credit Enhancements - Interest rate Buydowns - CGB Funds										
Dept	Prg Code	Prg Name	Description	FY21 Budget					FY20 Budget	FY20 Actual
				Q1	Q2	Q3	Q4	Total		
Resi	52210	SmartE	CGB/Smart E EV Loans	-	-	-	-	-	125,000	-
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ 125,000	\$ -

**Connecticut Green Bank  
FY 2021 Program Budget - DRAFT  
Financial Incentives - Grants and Rebates**

**FY21 Budget**

<b>Program Name</b>	<b>Description</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total</b>	<b>FY20 Budget</b>	<b>FY20 YTD Actuals</b>
RSIP	PBI Incentives	\$ 2,029,255	\$ 3,423,913	\$ 3,673,352	\$ 1,894,749	\$ 11,021,268	\$ 10,492,705	\$ 9,890,918
RSIP	EPBB Incentives	1,514,916	1,234,523	1,432,905	1,512,926	5,695,271	5,012,426	5,202,478
Pre-FY2013 Programs	Legacy Project Grants	-	-	-	-	-	100,000	-
Federal Programs	CESA Grant	5,400	5,400	5,400	5,400	21,600	-	-
Federal Programs	Other Federal Grants	2,100	2,100	2,100	2,100	8,400	30,000	26,055
GenOps	Sustainable CT Grant <sup>(1)</sup>	-	100,000	-	-	100,000	-	100,000
GenOps	General CGB Grants	-	-	-	-	-	-	25,000
		<b>\$ 3,551,671</b>	<b>\$ 4,765,936</b>	<b>\$ 5,113,757</b>	<b>\$ 3,415,175</b>	<b>\$ 16,846,539</b>	<b>\$ 15,635,131</b>	<b>\$ 15,244,451</b>

<sup>(1)</sup> Sustainable CT FY20 Budget of \$100,000 is reflected in Research and Development on Schedule S-4.

**Connecticut Green Bank  
FY 2021 General Operations Budget - DRAFT  
Research and Development Expenditures**

Project	Purpose	FY21 Budget	FY20 Budget	FY20 Actuals
Renewable Thermal Technology	RH&C	\$ 40,000	\$ 5,000	\$ -
Community Engagement	Sustainable CT <sup>(1)</sup>	-	100,000	-
EV Carbon Credits	EV Carbon Credits	-	50,000	80,625
GHHI	Completion of Phase 2	-	45,000	-
LMI	Energy Burden in Transportation Study	21,000	50,000	26,833
Community Solar	Identify opportunities for investment (e.g., brownfields)	-	50,000	-
EMV	Joint Jobs Study with EEB	10,000	10,000	6,167
		<u>\$ 71,000</u>	<u>\$ 310,000</u>	<u>\$ 113,624</u>

<sup>(1)</sup> Sustainable CT FY21 Budget of \$100,000 and FY20 Actuals of \$100,000 are reflected in Grants on Schedule S-3.

**Connecticut Green Bank  
FY 2021 General Operations Budget - DRAFT  
Capital Expenditure Budget**

	FY21 Budget	FY20 Budget	FY20 Actuals
<b><u>IT Hardware &amp; Software</u></b>			
New/Replacement Desktops & Laptops	\$ 30,000	\$ 30,000	\$ 9,034
Phones	-	15,000	-
	<u>\$ 30,000</u>	<u>\$ 45,000</u>	<u>\$ 9,034</u>
<b><u>Office Furniture &amp; Equipment</u></b>			
New Location-Cubicles/Furniture	\$ 325,000	\$ -	\$ -
New Location-AV Equipment	52,000	-	-
New Location-EV Charging Stations	30,000	-	-
	<u>\$ 407,000</u>	<u>\$ -</u>	<u>\$ -</u>
<b><u>Leasehold Improvements</u></b>			
New Location-Buildout in excess of allowance	\$ 100,000	\$ -	\$ -
New Location-Security	19,500	-	-
New Location-Cabling	52,000	-	-
New Location-Architecture/Engineering	65,000	-	-
New Location-Project Management	50,000	-	-
New Location-Contingency	75,000	-	-
	<u>\$ 361,500</u>	<u>\$ -</u>	<u>\$ -</u>
Total Capital Expenditures	<u>\$ 798,500</u>	<u>\$ 45,000</u>	<u>\$ 9,034</u>

**Connecticut Green Bank**  
**FY 2021 General Operations Budget - DRAFT**  
**Strategic Partners**

Partner	Department	Year of		Work Performed	FY21 Budget	FY20 Budget
		RFP	RFP			
Adnet Technologies, LLC	General Operations	Y	2017	IT Outsourcing	\$ 380,000	\$ 420,000
Clean Power Research, LLC	Infrastructure	Y	2016	PowerClerk Software	475,000	448,895
Alter Domus (formerly Cortland)	Financing Programs	Y	2013	CPACE - Loan Servicing	127,600	130,000
CSW, LLC.	Financing Programs	Y	2019	State & Municipal PPA Development	250,000	177,000
Inclusive Prosperity Capital	Multiple	N <sup>(1)</sup>		Program Execution and Investment Management	1,366,220	1,297,956
Locus Energy LLC	Infrastructure	Y	2016	Monitoring Platform, Active Monitoring, RGM replacement	985,000	830,000
ReCurve Analytics	Financing Programs	Y	2018	CPACE EM&V	75,000	135,000
ERS	Financing Programs	Y	2018	CPACE Technical Administrator	122,000	200,000
BlumShapiro	General Operations	Y	2020	Auditing Services	125,000	72,000
Guidehouse (aka Navigant)	Incentives	Y	2018	Battery storage and social impact methodologies	100,000	-
Sustainable CT	Marketing	N <sup>(2)</sup>		Support with financing programs in communities	100,000	-
GO, LLC	Marketing	Y	2018	Support for CPACE and Green Liberty Bonds marketing	231,000	212,500
Adams & Knight	Marketing	Y	2019	Smart-E Digital Marketing; web hosting	120,000	276,000
Strategic Environmental Associates	Financing Programs	N <sup>(3)</sup>		Carbon Offset Customer Acquisition	150,000	100,000
Environmental Control, Inc., d.b.a ENCON	General Operations	Y	2017	Servicing PPA systems from a technical perspective	275,000	307,000
					<b>\$4,881,820</b>	<b>\$4,606,351</b>

**Inclusive Prosperity Capital Breakdown**

PSA	Human Capital Component	Administrative Component	FY21 Budget	FY20 Budget
Commercial Solar	\$ 226,979	\$ 8,800	\$ 235,779	\$ 274,772
LMI / Inv Management	348,462	13,500	\$ 361,962	227,365
Smart-E	260,737	10,100	\$ 270,837	296,656
Multifamily	479,292	18,350	\$ 497,642	499,163
	<b>\$ 1,315,470</b>	<b>\$ 50,750</b>	<b>\$1,366,220</b>	<b>\$1,297,956</b>

<sup>(1)</sup> The Board of Directors of the Green Bank, per the Sustainability Strategy Pathway which was approved on December 15, 2017, reviewed and approved a series of agreements between the Green Bank and Inclusive Prosperity Capital on July 27, 2018 and July 18, 2019. Per the Comprehensive Plan of the Green Bank, IPC is a strategic partner of the organization.

<sup>(2)</sup> The Board of Directors of the Green Bank reviewed and approved a \$100,000 grant as a Strategic Selection for Sustainable CT on September 12, 2019 as part of the Research and Development budget to deliver measurable impact for the Solar PPA, C-PACE, and Solar for All programs. Per the Comprehensive Plan of the Green Bank, Sustainable CT is a strategic partner of the organization.

<sup>(3)</sup> The Green Bank has been working with Strategic Environmental Associates for several years on developing the methodology for the EV Carbon Offsets program. We have not done an RRP for their current role due to their unique familiarity with the standards they developed.





# Comprehensive Plan

Green Bonds US

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# **Comprehensive Plan**

Fiscal Year 2020 & Beyond

July 2019

Revised July 2020

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## 1. Executive Summary

*"The civilization of New England has been like a beacon lit upon a hill, which, after it has diffused its warmth around, tinges the distant horizon with its glow."*

*Alexis de Tocqueville, Democracy in America*

Although Connecticut is one of the smallest states in the country, its decades of legislative leadership on climate change has had an influential impact across the country and around the world. One example of this was on July 1, 2011, when in a bipartisan manner, Public Act 11-80<sup>1</sup> was passed. Within Section 99 of that seminal act, the nation's first state-level green bank was formed. The Connecticut Green Bank ("the Green Bank") is a public policy innovation, a catalyst that helps mobilize greater local and global investment to address climate change.

Since its inception, the Green Bank has mobilized nearly \$1.7 billion of investment into Connecticut's clean energy economy at nearly a 7 to 1 leverage ratio of private to public funds, supported the creation of over 20,000 direct, indirect, and induced job-years, reduced the energy burden on over 40,000 families (in particular low-to-moderate income families) and businesses, deployed nearly 360 MW of clean energy that will help avoid over 5.8 million tons of CO<sub>2</sub> emissions and save over \$200 million of public health costs over the life of the projects, and helped generate \$87.1 million in individual income, corporate, and sales tax revenues to the State of Connecticut.<sup>2</sup>

As a result of the Green Bank's success as an integral public policy tool addressing climate change in Connecticut, there has been growing national public policy interest at the local,<sup>3</sup> federal,<sup>4</sup> and international<sup>5</sup> levels to realize similar results. This green bank movement is about increasing and accelerating the flow of private capital into markets that energize the green economy to confront climate change and provide all of society a healthier, more prosperous future. As the "spark" to the green bank movement, the Green Bank was awarded the prestigious 2017 Innovations in American Government Awards by the Ash Center at Harvard University's Kennedy School of Government<sup>6</sup>.

<sup>1</sup> An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future.

<sup>2</sup> [FY19 Comprehensive Annual Financial Report](#)

<sup>3</sup> American Green Bank Consortium – <https://greenbankconsortium.org/>

<sup>4</sup> US Green Bank Act of 2019 introduced by Senators Blumenthal (CT), Markey (MA), Murphy (CT), Van Hollen (MD), and Whitehouse (RI) in the Senate, National Climate Bank Act of 2019 introduced by Senators Markey (MA) and Van Hollen (MD), with co-sponsors Blumenthal (CT) and Schatz (HI), the US Green Bank Act of 2019 by Representative Himes (CT) and 13 others in the House. Democratic Presidential Candidates Inslee and Bennet proposed \$90 billion and \$1 trillion "green bank" and "climate banks," respectively as part of their campaigns.

<sup>5</sup> Green Bank Network – <https://greenbanknetwork.org/>

<sup>6</sup> <https://ash.harvard.edu/news/connecticut-green-bank-awarded-harvards-2017-innovations-american-government-award>

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At home and abroad, there is agreement that accelerating the flow of capital into the green economy is one key to addressing the climate crisis. The Paris Agreement's third aim (beyond mitigation of greenhouse gas emissions and adaptation to climate change impacts) is making finance flows consistent with a pathway towards reduced emissions and increased climate resilient development. The Center for American Progress estimates that the U.S. needs at least \$200 billion in renewable energy and energy efficiency investment a year for 20 years to reduce carbon emissions and avert climate disaster.<sup>7</sup> In a similar vein, the United Nations estimates that \$90 trillion of investment is needed over the next 15 years to advance sustainable development and confront the worst effects of climate change.<sup>8</sup>

To put these numbers into perspective, this is the equivalent of between \$620 to \$800 of investment per person per year for the next 15 years, respectively – or, the equivalent of nearly \$3 billion a year of investment in Connecticut's green economy!

Faced with the magnitude of investment required to put society on a more sustainable path to confront climate change, the Green Bank convened a group of stakeholders at the Pocantico Conference Center of the Rockefeller Brothers Fund in February of 2019 for a two-day strategic retreat entitled "Connecticut Green Bank 2.0 – From 1 to 2 Orders of Magnitude". Having convened at the Pocantico Conference Center in November of 2011 to establish the Green Bank's first strategic plan (i.e., Green Bank 1.0), this new group of stakeholders met to reflect on the past seven years and then to envision an even bigger future for the Green Bank (i.e., Green Bank 2.0) consistent with the larger investment required.<sup>9</sup>

The retreat identified several key findings and recommendations for the Green Bank, including:

- **Commitment to Address Climate Change** – as the most urgent issue to address, the Green Bank needs to increase and accelerate the impact of its model to support the implementation of Connecticut's climate change plan;<sup>10</sup>
- **Scaling Up Investment and Impact in Connecticut and Beyond** – in order to achieve the climate change goals set forth, more investment from private capital sources leveraged by innovative public sector financing will be needed to scale-up and scale-out the green bank model's impact; and
- **Green Bonds to Increase Access to Capital** – with the ability to issue bonds, the Green Bank is able to increase its access to capital beyond the current sources of funding to scale-up its investment activity, while providing more opportunities to engage citizens in new ways to invest in the state's growing green economy, including through

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<sup>7</sup> "Green Growth: A U.S. Program for Controlling Climate Change and Expanding Job Opportunities" by the Center for American Progress (September 2014).

<sup>8</sup> "Financing Sustainable Development: Moving from Momentum to Transformation in a Time of Turmoil" by the UNEP (September 2016).

<sup>9</sup> "Connecticut Green Bank 2.0 – From 1 to 2 Orders of Magnitude" at the Pocantico Conference Center of the Rockefeller Brothers Fund (February 6-7, 2019)

<sup>10</sup> "Building a Low Carbon Future for Connecticut – Achieving a 45% GHG Reduction by 2030" recommendations from the Governor's Council on Climate Change (December 18, 2018)

the issuance of “mini green bonds” (i.e., bonds with denomination values of \$1,000 or less) that will engage citizens in making investments alongside the Green Bank.

Increasing and accelerating investment in the green economy by using limited public resources to attract and mobilize multiples of private capital investment is paramount to society’s efforts to pursue sustainable development, while confronting climate change. More investment in the green economy creates more jobs in our communities, reduces the burden of energy costs on our families and businesses (especially the most vulnerable), and reduces fossil fuel pollution that causes local public health problems and global climate change.

Investment for the sake of investment is not enough unless we have an engaged citizenry that is active in communities across the state! Whether through markets or within communities in partnership with other community-based organizations, the Green Bank is bringing people together and strengthening the bonds we share with one another. In order to confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy, the Green Bank is launching the “Green Bonds US” campaign, that seeks to promote a simple but critically important message; green brings us together, green bonds us.

As the cover to the Comprehensive Plan of the Green Bank suggests, by making clean energy more accessible and affordable to everyone – Green Bonds US – society will reap significant gains from moving forward in the same direction together – for we can’t have environmentalism without humanitarianism.

## **2. Organizational Overview**

The Green Bank<sup>11</sup> was established by Governor Malloy and Connecticut’s General Assembly on July 1, 2011 through Public Act 11-80 as a quasi-public agency that supersedes the former Connecticut Clean Energy Fund (“CCEF”). As the nation’s first state green bank, the Green Bank leverages public and private funds to drive investment and scale-up clean energy deployment in Connecticut.

The Green Bank’s statutory purposes are:

- To develop programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such other programs as the Green Bank may determine;
- To support financing or other expenditures that promote investment in clean energy sources to foster the growth, development and commercialization of clean energy sources and related enterprises; and

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<sup>11</sup> Public Act 11-80 repurposed the Connecticut Clean Energy Fund (CCEF) administered by Connecticut Innovations, into a separate quasi-public organization called the Clean Energy Finance and Investment Authority (CEFIA). Per Public Act 14-94, CEFIA was renamed to the Connecticut Green Bank.

- To stimulate demand for clean energy and the deployment of clean energy sources within the state that serves end-use customers in the state.

The Green Bank’s purposes are codified in Section 16-245n(d)(1) of the Connecticut General Statutes (“CGS”) and restated in the Green Bank’s Board approved [Resolution of Purposes](#).

The Green Bank is a public policy innovation that exemplifies Connecticut’s nearly two-decade history of bipartisan gubernatorial leadership on the issue of climate change. Other leadership highlights include:

- **Governor Rowland** – co-chaired the New England Governors and Eastern Canadian Premiers Conference, which established a regional commitment to reduce greenhouse gas emissions (i.e., 1990 levels by 2010, 10% below 1990 levels by 2020, and 80% below 2001 levels by 2050);<sup>12</sup>
- **Governor Rell** – supported Public Act 08-98<sup>13</sup> codifying the regional commitment into state law, appointing Gina McCarthy to be the Commissioner of the Department of Environmental Protection who would help lead the development of the Regional Greenhouse Gas Initiative and later become the EPA Administrator under President Obama leading the development of the Clean Power Plan and the U.S. participation in the Paris Agreement;
- **Governor Malloy** – led the passage of PA 11-80 establishing the Department of Energy and Environmental Protection (“DEEP”), creating the Green Bank, and other policies catalyzing the market for clean energy, as well as Public Acts 18-50<sup>14</sup> and 18-82<sup>15</sup> increasing the state’s renewable portfolio standard to 40% by 2030 and establishing a midterm greenhouse gas emissions reduction target of 45% below 2001 levels by 2030, respectively; and
- **Governor Lamont** – his campaign plan for Connecticut<sup>16</sup> seeks to achieve carbon neutrality by 2050 and setting a 100% renewable portfolio standard by 2050 which would help the state realize green jobs in energy efficiency and clean energy (e.g., fuel cells, offshore wind, solar PV, etc.), while reducing energy costs.

The Connecticut General Assembly has worked hand-in-hand with these Governors and the citizens of the state over the years to devise and support public policies that promote clean energy and lead the movement on climate change action.

## 2.1 Vision

...a world empowered by the renewable energy of community.

<sup>12</sup> NEG-ECP Resolution 26-4 adopting the “Climate Change Action Plan 2001” (August 2001 in Westbrook, CT)

<sup>13</sup> An Act Concerning Connecticut Global Warming Solutions

<sup>14</sup> An Act Concerning Connecticut’s Energy Future

<sup>15</sup> An Act Concerning Climate Change Planning and Resiliency

<sup>16</sup> Ned’s Plan for Connecticut – Addressing Climate Change & Expanding Renewable Energy



## 2.2 Mission

Confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.<sup>17</sup>

## 2.3 Goals

To achieve its vision and mission, the Green Bank has established the following three goals:

1. To leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.
2. To strengthen Connecticut's communities by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses.
3. To pursue investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability.

The vision, mission, and goals support the implementation of Connecticut's clean energy policies be they statutorily required (e.g., CGS 16-245ff), planning (e.g., Comprehensive Energy Strategy), or regulatory (e.g., [Docket No. 17-12-03](#)) in nature.

## 2.4 Definition – Clean Energy

The Green Bank's investment focus is on "clean energy" as defined by CGS Section 16-245n:

- **Clean Energy** – clean energy means solar photovoltaic energy, solar thermal, geothermal energy, wind, ocean thermal energy, wave or tidal energy, fuel cells, landfill gas, hydropower that meets the low-impact standards of the Low-Impact Hydropower Institute, hydrogen production and hydrogen conversion technologies, low emission advanced biomass conversion technologies, alternative fuels, used for electricity generation including ethanol, biodiesel or other fuel produced in Connecticut and derived from agricultural produce, food waste or waste vegetable oil, provided the Commissioner of Energy and Environmental Protection determines that such fuels provide net reductions in greenhouse gas emissions and fossil fuel consumption, usable electricity from combined heat and power systems with waste heat recovery systems, thermal storage systems, other energy resources and emerging technologies which have significant potential for commercialization and which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission, financing of energy efficiency projects, projects that seek to deploy electric, electric hybrid, natural gas or alternative fuel vehicles and associated infrastructure, any related storage, distribution, manufacturing technologies or facilities and any Class I renewable energy source, as defined in section 16-1.

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<sup>17</sup> Reducing greenhouse gas emissions and confronting climate change is supported by a number of public policies, including, but not limited to PA 17-3, PA 18-82, PA 19-71, Governor Lamont's Executive Orders [1](#) and [3](#), Comprehensive Energy Strategy, Governor Malloy's Council on Climate Change, and many other past acts, plans, or policies.

### 3. Governance and Organizational Structure

The Green Bank is overseen by a governing Board of Directors comprised of ex officio and appointed members, while the organization of the Green Bank is administered by a professional staff overseeing two business units – Incentive Programs and Financing Programs.

#### 3.1 Governance

Pursuant to Section 16-245n of the CGS, the powers of the Green Bank are vested in and exercised by a Board of Directors<sup>18</sup> that is comprised of eleven voting and one non-voting members each with knowledge and expertise in matters related to the purpose of the organization – see Table 1.<sup>19</sup>

**Table 1. Board of Directors of the Connecticut Green Bank**

Position	Status	Appointer	Voting
State Treasurer (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DEEP (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DECD (or designee)	Ex Officio	Ex Officio	Yes
Residential or Low-Income Group	Appointed	Speaker of the House	Yes
Investment Fund Management	Appointed	Minority Leader of the House	Yes
Environmental Organization	Appointed	President Pro Tempore of the Senate	Yes
Finance or Deployment of Renewable Energy	Appointed	Minority Leader of the Senate	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Labor	Appointed	Governor	Yes
R&D or Manufacturing	Appointed	Governor	Yes
President of the Green Bank	Ex Officio	Ex Officio	No

There are four (4) committees of the Board of Directors of the Green Bank, including Audit, Compliance and Governance Committee, Budget, Operations, ~~and Compensation~~ Committee, Deployment Committee, and the Joint Committee of the Energy Efficiency Board (“EEB”) and the Green Bank.<sup>20</sup>

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To support the Joint Committee of the EEB and the Green Bank, the following is a principal statement to guide its activities:

The EEB and the Green Bank have a shared goal to implement state energy policy throughout all sectors and populations of Connecticut with continuous innovation towards greater leveraging of ratepayer funds and a uniformly positive customer experience.

The Board of Directors of the Green Bank is governed through enabling legislation, as well as by an [Ethics Statement](#) and [Ethical Conduct Policy](#), Resolutions of Purposes, [Bylaws](#), [Joint](#)

<sup>18</sup> <https://www.ctgreenbank.com/about-us/governance/board-of-directors/>

<sup>19</sup> <https://www.ctgreenbank.com/about-us/governance/>

<sup>20</sup> Pursuant to Section 16-245m(d)(2) of the Connecticut General Statutes

[Committee Bylaws](#), and a Comprehensive Plan. All meetings, agendas, and materials of the Green Bank's Board of Directors and its Committees are publicly available on the organization's website.<sup>21,22</sup>

### 3.2 Organizational Structure

The organizational structure of the Green Bank is comprised of two (2) business units, including:

- **Incentive Programs** – the Governor and the Connecticut General Assembly from time-to-time may decide that there are certain incentive (or grant) programs that they seek to have the Green Bank administer (e.g., CGS 16-245ff). The Green Bank administers such programs with the goal of delivering on the public policy objectives, while at the same time ensuring that funds invested by the Green Bank are cost recoverable. For example, the Green Bank administers the Residential Solar Investment Program ("RSIP") whereby through a declining incentive block structure no more than 350 MW of new residential solar PV systems are deployed, while nurturing the sustained orderly development of a local state-based solar PV industry. Through the public policy creation of a Solar Home Renewable Energy Credit ("SHREC"), the Green Bank is able to recover its costs for administering the RSIP by selling such credits to the Electric Distribution Companies ("EDCs") through a Master Purchase Agreement ("MPA") to support their compliance under the Class I Renewable Portfolio Standard ("RPS"). Costs recovered from such mechanisms are expected to cover the incentive, administrative expenses, and financing expenses of the Incentive Programs business unit.
- **Financing Programs** – the Green Bank's core business is financing projects. The Green Bank's focus is to leverage limited public funds to attract and mobilize multiples of private capital investment to finance clean energy projects. In other words, the use of resources by the Green Bank are to be invested with the expectation of principal and interest being paid back over time. For example, the Green Bank administers the Commercial Property Assessed Clean Energy ("C-PACE") program. Through C-PACE, the Green Bank provides capital to building owners to make clean energy improvements on their properties that is paid back over time from a benefit assessment on the building owner's property tax bill. The interest from these types of investments, over time, is expected to cover the operational expenses and a return for the Financing Programs business unit.

These two business units – Incentive Programs and Financing Programs – serve the purposes of the Green Bank. To support the business units and their investments, the Green Bank has administrative support from finance, legal, marketing and operations.

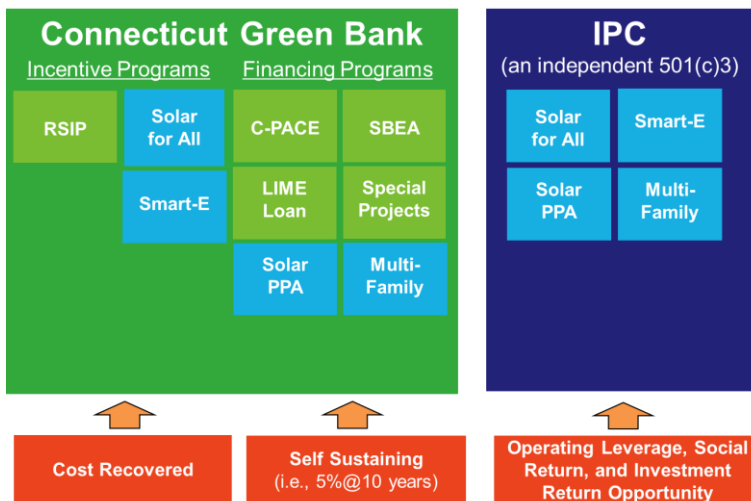
<sup>21</sup> <http://www.ctgreenbank.com/about-us/board-member-resources/connecticut-grboard-meetings/>

<sup>22</sup> <http://www.ctgreenbank.com/about-us/board-member-resources/connecticut-grittee-meetings/>

An Employee Handbook and [Operating Procedures](#) have been approved by the Board of Directors and serve to guide the staff to ensure that it is following proper contracting, financial assistance, and other requirements.

In 2018, the Green Bank, in partnership with DEEP and the Kresge Foundation, formed a nonprofit organization called Inclusive Prosperity Capital ("IPC"). The mission of IPC is to attract mission-oriented investors in underserved clean energy market segments (e.g., low-to-moderate income single and multifamily properties) of the green economy. Although not an affiliate, nor a component unit of the Green Bank, IPC serves an important role supporting the goals of Connecticut public policy by administering programs on behalf of the Green Bank. For an overview of the organizational structure of the Green Bank, and its partnership with IPC – see Figure 1.

**Figure 1. Organizational Structure of the Green Bank with Support from Inclusive Prosperity Capital**



#### 4. Incentive Programs

The Green Bank manages incentive programs. That is to say that it oversees grant or subsidy program(s) (including credit enhancements – interest rate buydowns and loan loss reserves) that deploy clean energy, while at the same time cost recovering the expenses associated with those programs within the business unit – including, but not limited to, incentives, administrative expenses, and financing expenses, as well as loan loss reserves on the balance sheet.

Per CGS 16-245ff, updated by Public Act 19-35<sup>23</sup>, the Green Bank administers the RSIP that includes a declining incentive block structure to deploy no more than 350 megawatts of new

<sup>23</sup> An Act Concerning a Green Economy and Environmental Protection

residential solar PV systems on or before December 31, 2022, while ensuring the sustained orderly development of a local state-based solar PV industry. The RSIP also requires that participating households undergo a Home Energy Solutions assessment, or equivalent audit. It should be noted that the Green Bank has also strategically sought to ensure that low-to-moderate income households have equal access to residential solar PV than non-low-to-moderate income households.<sup>24</sup> Through the Solar for All program, the Green Bank and its partners are enabling low-to-moderate income households to reach “solar parity” such that the proportion of solar PV installed on low-to-moderate income households is no less than non-low-to-moderate income households.

As of June ~~1, 2020, 326~~ megawatts of residential solar PV systems have been approved through RSIP, supporting ~~40,821~~ projects across the state and nearly \$~~1.24~~ billion of investment.<sup>25</sup>

To support the Green Bank’s implementation of the RSIP, the EDCs are required to purchase the SHRECs to assist them in their compliance with the RPS. The SHREC price is established by the Green Bank to recover its costs for administering the RSIP through a 15-year MPA with the EDCs. The cash flow from the sale of current and future SHRECs produced by these systems can be sold as a “green bond”<sup>26</sup> to generate cash flow upfront to support the cost recovery of the program – see Figure 2.

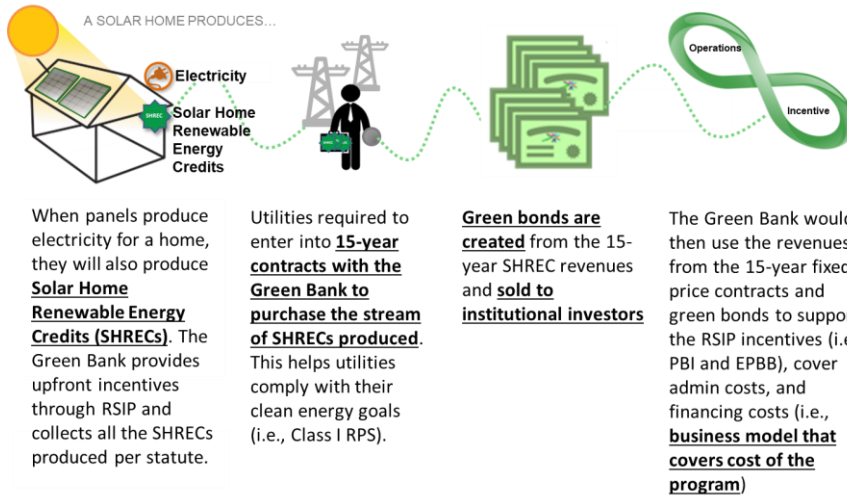
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<sup>24</sup> Sharing Solar Benefits – Reaching Households in Underserved Communities of Color in Connecticut by the Connecticut Green Bank (May 2019) – [click here](#).

<sup>25</sup> Prior to the RSIP, through incentives provided by the Connecticut Clean Energy Fund, the predecessor of the Green Bank, there are another 2,018 residential solar PV projects totaling 13.4 MW.

<sup>26</sup> <https://www.ctgreenbank.com/cgb-enters-green-bond-market/>

Figure 2. Incentive Program – Overview of the RSIP and the SHREC

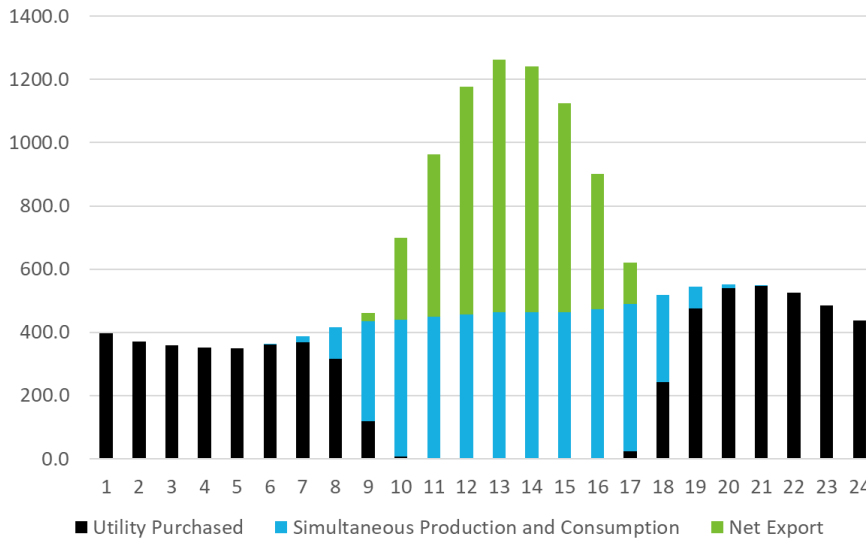


The Green Bank, through its partner C-Power, aggregates and registers residential solar PV systems in ISO-NE's On-Peak Hours Resource Program for which it receives Forward Capacity Market payments.<sup>27</sup>

In general, over the course of a year, a typical residential solar PV system produces, and the household simultaneously consumes, about fifty percent of the production from the system – meaning that about fifty percent of the system's production is being exported to the grid – see Figure 3.

<sup>27</sup> <https://www.iso-ne.com/markets-operations/markets/forward-capacity-market>

Figure 3. Average Residential Consumption and Solar PV Production Over the Course of a Year by Hour of the Day



In order to store the system’s production that would have been exported to the grid for the purposes of later using it for (1) back-up power that would benefit the household, and/or (2) reducing demand, specifically peak demand, that would benefit all ratepayers, [in FY 2019](#), the Green Bank submitted an application into the Electric Efficiency Partners Program (EEPP) ([i.e., Docket No. 18-12-35](#)) demonstrating the “cost effectiveness” of residential solar PV in combination with battery storage.<sup>28</sup> [In FY 2021, the Green Bank will also be submitting into the Public Utility Regulatory Authority’s \(“PURA”\) Equitable Modern Grid process \(i.e., Docket No. 17-12-03\(RE03\), an incentive program with a focus on combined residential solar PV and battery storage.](#) In collaboration with DEEP and the EDCs through the Joint Committee,<sup>29</sup> efforts are being made to enable residential solar PV in combination with battery storage to deliver greater benefits to participating households as well as all ratepayers on the electric grid – [through a combination upfront incentive in support of passive demand response in conjunction with a performance-based incentive in support of active demand response.](#)

[The EnergizeCT Smart-E Loan in partnership with local community banks and credit unions, provides easy access to affordable capital for homeowners to finance energy, as well as health & safety, improvements on their properties through a partnership between local contractors and financial institutions, IPC, and the Green Bank. As the Green Bank provides credit enhancements to the Smart-E Loan in the form of interest rate buydowns \(i.e., subsidy\) and](#)

<sup>28</sup> Section 94 of Public Act 07-242

<sup>29</sup> Pursuant to Section 16-245m(d)(2) of the Connecticut General Statutes

loan loss reserves from its balance sheet, it is considered an incentive program since there is no direct financial return (e.g., principal and interest) to the organization like financing programs.

The Green Bank has set targets for its Incentive Programs business unit for FY 2020<sup>30</sup> and FY 2021 in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Tables 2 and 3.

Table 2. Revised FY 2020 Targets for the Incentive Programs Business Unit

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Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (kW)
Residential Solar Investment Program	7,059	\$214.2	60,000
Solar for All Program	615	\$17.2	4,200
Electric Efficiency Partners Program <sup>31</sup>	0-500	\$0.0-\$5.5	0-2,000
EnergizeCT Smart-E Loan	540	\$7.2	500
<b>Total<sup>32</sup></b>	<b>8,099</b>	<b>\$226.9</b>	<b>62,500</b>

Table 3. Proposed FY 2021 Targets for the Incentive Programs Business Unit

Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (kW)	Ann. GHG Emissions Avoided (TCO2)
Residential Solar Investment Program	2,824-4,706	\$85.9-\$143.2	24,000-40,000	15,107-25,178
Solar for All Program	177-304	\$4.3-\$7.4	1,200-2,000	-
Equitable Modern Grid <sup>33</sup>	0-400	\$0.0-\$3.5	0-2,000	-
EnergizeCT Smart-E Loan	270-540	\$3.6-\$7.1	0.3-0.6	3,630-7,247
<b>Total<sup>34</sup></b>	<b>3,094-5,646</b>	<b>\$89.5-\$153.8</b>	<b>25,200-44,000</b>	<b>18,737-32,425</b>

Starting in FY 2021, the Green Bank has added annual GHG emissions avoided as a target for its Incentive Programs. It should be noted that there are two factors impacting the FY 2021

<sup>30</sup> Revised by the Board of Directors on January 24, 2020.

<sup>31</sup> The Connecticut Green Bank has submitted a Technology Application (i.e., Docket No. 18-12-35) into PURA through the Electric Efficiency Partners Program in support of a residential battery storage incentive program that would retrofit existing residential solar PV systems installed through the RSIP. Beyond existing solar PV systems that could be retrofitted with battery storage, RSIP Step 15 proposes a combined residential solar PV and battery storage upfront incentive for new installations that demonstrates significant "cost effectiveness" of distributed energy systems. Meeting this target was contingent upon PURA's determination in Docket No. 18-12-35. There was not yet a determination by PURA in the docket, and therefore the revision.

<sup>32</sup> The total does not count Solar for All projects separately because all Solar for All projects are also RSIP projects and therefore already counted.

<sup>33</sup> The Connecticut Green Bank will be submitting a proposal into Docket No. 17-12-03(RE03) – Electric Storage. Should the Request for Proposed Designs ("RFPD") be accepted by PURA, then the Green Bank would anticipate administering an upfront electric storage incentive program beginning January 1, 2021.

<sup>34</sup> The total does not count Solar for All projects separately because all Solar for All projects are also RSIP projects and therefore already counted.



targets for the RSIP – COVID-19 impacts on market demand and achieving the 350 MW target<sup>35</sup> – and therefore, the low and high range for the targets.

As a result of successfully achieving these targets, the Green Bank will reduce the energy burden on Connecticut families (including low-to-moderate income households and communities of color, as well as ratepayers by reducing demand, specifically peak demand, through the use of solar PV and battery storage), create jobs in our communities, raise tax revenues for the State of Connecticut, and reduce air pollution causing local public health problems and contributing to global climate change.

## 5. Financing Programs

The Green Bank manages financing programs. That is to say that it oversees financing programs that provide capital upfront to deploy clean energy, while at the same time returning principal and interest over time from the financing of projects, products, or programs to ensure the financial sustainability of the business unit.

The Green Bank has a number of clean energy financing products, including:

- **Commercial Property Assessed Clean Energy ("C-PACE")<sup>36</sup>** – enables building owners to pay for clean energy improvements over time through a voluntary benefit assessment on their property tax bills. This process makes it easier for building owners to secure low-interest capital to fund energy improvements and is structured so that energy savings more than offset the benefit assessment.
- **Green Bank Solar PPA** – third-party ownership structure to deploy solar PV systems for commercial end-use customers (e.g., businesses, nonprofits, municipal and state governments, etc.) that uses a multi-year Power Purchase Agreement ("PPA") to finance projects while reducing energy costs for the host customer.
- **Small Business Energy Advantage ("SBEA")** – Eversource Energy administered on-bill commercial energy efficiency loan program for small businesses, in partnership with low-cost capital provided by Amalgamated Bank with a credit enhancements from the Green Bank (i.e., subordinated debt) and the Connecticut Energy Efficiency Fund (i.e., loan loss guaranty and interest rate buydown).
- **Multifamily Products** – defined as buildings with 5 or more units, the Green Bank provides a suite of financing options through IPC that support property owners to assess, design, fund, and monitor high impact clean energy and health & safety improvements for their properties.
- **EV Offset Program – a Research and Development initiative of the Green Bank in FY 2020, now in FY 2021 this program supports the nationwide voluntary carbon offset standard<sup>37</sup> for electric vehicle recharging stations with partner organizations.**

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<sup>35</sup> Given the devastating impacts of COVID-19 on the local solar industry, the Connecticut Green Bank is proposing an extension to the RSIP should there be a special session in 2020 that takes-up priorities from the Energy & Technology Committee – see April 24, 2020 Board of Directors meeting.

<sup>36</sup> CGS 16a-40g

<sup>37</sup> <https://verra.org/methodology/vm0038-methodology-for-electric-vehicle-charging-systems-v1-0/>

- **Special Projects** – as opportunities present themselves, the Green Bank from time-to-time invests as part of a capital structure in various projects (e.g., fuel cell, hydropower, food waste to energy, LBE-ESA, etc.). These projects are selected based on the opportunity to expand the organization’s experience with specific technologies, advance economic development in a specific locale, or to drive adoption of clean energy that would otherwise not occur, while also earning a rate of return.

The Green Bank has set targets for its Financing Programs business unit for FY 2020<sup>38</sup> and FY 2021 in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Tables 4 and 5.

Table 4. Revised FY 2020 Targets for the Financing Programs Business Unit

Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (kW)
Commercial PACE	56	\$25.0	7,000
Green Bank Solar PPA	33	\$28.0	12,600
Small Business Energy Advantage <sup>39</sup>	1,000	\$20.0	-
<b>Total</b>			
<b>Total</b>	<b>1,718</b>	<b>\$99.2</b>	<b>24,000</b>

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Table 5. Proposed FY 2021 Targets for the Financing Programs Business Unit

Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (kW)	Ann. GHG Emissions Avoided (TCO2)
Commercial PACE	33-48	\$15.2-\$23.3	5,300-7,100	2,624-2,965
Green Bank Solar PPA	30-58	\$4.0-\$6.8	6,200-11,700	7,129-13,392
Small Business Energy Advantage	1,203	\$20.4	-	-
Multifamily Predevelopment Loan	1	\$0.1	-	-
Multifamily Term Loan	2	\$0.2	0.1	68
Multifamily Health & Safety	1	\$0.1	-	-
EV Offset Program	-	-	-	17,770
Strategic Investments	3	\$7.8	-	-
<b>Total</b>	<b>1,273-1,316</b>	<b>\$47.8-\$58.7</b>	<b>11,500-18,800</b>	<b>27,591-34,195</b>

<sup>38</sup> Revised by the Board of Directors on January 24, 2020

<sup>39</sup> In partnership with Eversource Energy and Amalgamated Bank, the Connecticut Green Bank provides capital in support of the utility-administered Small Business Energy Advantage program to provide 0% on-bill financing up to 4-years for energy efficiency projects.

Starting in FY 2021, the Green Bank has added annual GHG emissions avoided as a target for its Financing Programs. Given the uncertain impacts of COVID-19, there are low and high range targets proposed.

The capital provided by the Green Bank, which is a portion of the total investment, is expected to yield a return commensurate with the financial sustainability objectives of the organization and business unit.

As a result of successfully achieving these targets, the Green Bank will contribute to its financial sustainability, while also reducing the energy burden on Connecticut families and businesses, create jobs in our communities, raise tax revenues for the State of Connecticut, and reduce air pollution that cause local public health problems and global climate change.

## **6. Impact Investment**

The Green Bank pursues investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability. With the mission to confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy, the Green Bank leverages limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.

### **6.1 State Funds**

The Green Bank receives public capital from a number of ratepayer and state sources that it leverages to scale-up and mobilize private capital investment in the green economy of Connecticut.

#### **System Benefit Charge – Clean Energy Fund**

As its primary source of public capital, the Green Bank through CGS 16-245n(b) receives a 1 mill surcharge called the Clean Energy Fund ("CEF") from ratepayers of Eversource Energy and Avangrid. The CEF has been in existence since Connecticut deregulated its electric industry in the late 1990's.<sup>40</sup> On average, households contribute between \$7-\$10 a year for the CEF, which the Green Bank leverages to attract multiples of private capital investment in the green economy of Connecticut.<sup>41</sup>

#### **Regional Greenhouse Gas Emission Allowance Proceeds**

As a secondary source of public capital, the Green Bank receives a portion (i.e., 23%) of Connecticut's Regional Greenhouse Gas Initiative ("RGGI") allowance proceeds through the Regulation of Connecticut State Agencies Section 22a-174(f)(6)(B). The Green Bank invests RGGI proceeds from the nation's first cap-and-trade program to finance clean energy improvements (i.e., renewable energy projects).

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<sup>40</sup> Public Act 98-28 "An Act Concerning Electric Restructuring"

<sup>41</sup> The Clean Energy Fund should not be mistaken with the Conservation Adjustment Mechanism (or the Conservation and Loan Management Fund), which is administered by the EDCs

## 6.2 Federal Funds

The Green Bank receives public capital through a number of past, current, and future sources<sup>42</sup> of federal funds as well that it leverages to scale-up and mobilize private capital investment in the green economy of Connecticut.

### **American Recovery and Reinvestment Act**

Through the American Recovery and Reinvestment Act ("ARRA") the CCEF received \$20 million for its programs and initiatives. After nearly \$12 million of those funds were invested as grants, the Green Bank invested the remaining \$8.2 million in financing programs. With nearly \$2 million of ARRA funds left,<sup>43</sup> the Green Bank invested over \$6.4 million of ARRA funds to attract and mobilize more than \$110 million of public and private investment in residential clean energy financing programs.

### **United States Department of Agriculture**

The Green Bank is seeking to apply to the United States Department of Agriculture ("USDA") to seek access to low-cost and long-term federal loan funds for the deployment of clean energy in rural communities.<sup>44</sup> The USDA has vast lending authority under the Rural Electrification Act of 1936, which enables direct loans, project financing and loan guarantees to a variety of borrowers.

## 6.3 Green Bonds

The future of green bonds is growing in the U.S. Thus far in 2019, countries, companies, and local governments have sold nearly \$90 billion of green bonds that fund projects that are good for the environment.<sup>45</sup> In July of 2019, Connecticut Treasurer Shawn Wooden announced that the Clean Water Fund's Green Bond Sale shattered state records. The AAA-rated green bond had a record low interest rate of 2.69% and received retail investor orders topping \$240 million in one day! This is the highest level of retail investor orders (i.e., from Separately Managed Accounts (SMA's) or individuals) in the 20-year history of this program – with the balance of the bonds offered to institutional investors generating an additional \$128 million in orders.

Green Banks have an essential role in leveraging limited public funds with private capital to drive investment in the green economy to achieve climate change goals, create jobs in our communities, and reduce the burden of energy costs on our families and businesses. CGS Section 16-245n(d)(1)(C) is the enabling statute that allows the Green Bank to issue revenues bonds to support its purposes. Green Bonds are bonds whose proceeds are used for projects or activities with environmental or climate benefits, most usually climate change mitigation and adaptation.

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<sup>42</sup> There have been ongoing public policy proposals at the national level that the Connecticut Green Bank has been a part of to create a US Green Bank. If such a public policy were passed, then the Connecticut Green Bank would have access to significant federal funds to leverage to scale-up and mobilize private capital investment in the green economy of Connecticut.

<sup>43</sup> As of July 1, 2019

<sup>44</sup> "Rural" communities are defined by a population bound and the various limits depend on the program; at the broadest, "rural" may be considered a town that has a population not greater than 50,000 people. Despite its positioning in a mostly-developed corridor, we estimate Connecticut would have 69% of towns eligible at the 20,000-person limit and 89% of towns at the 50,000-person limit.

<sup>45</sup> "Green Bonds are Finally Sprouting Up All Over the Globe" by Brian Chappatta of Bloomberg News (June 18, 2019)

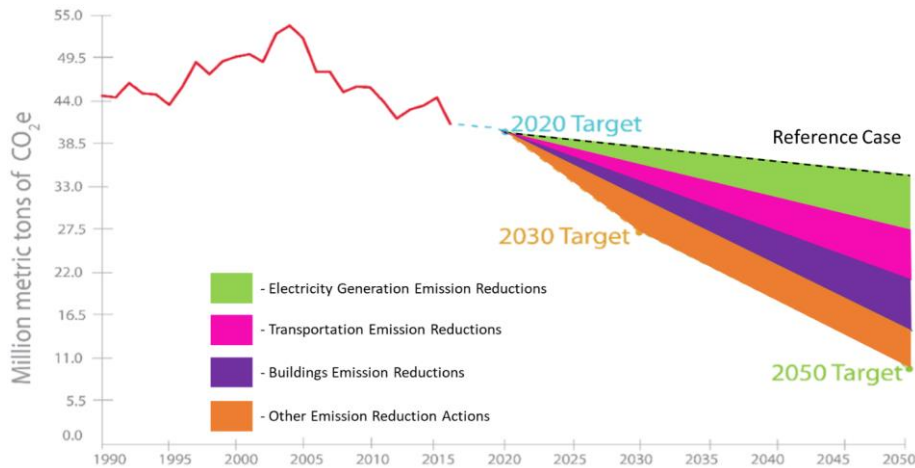
Connecticut's climate change plan<sup>46</sup> focuses on three mitigation wedges (see Figure 4), including:

- **Decarbonizing Electricity Generation** – representing 23% of Connecticut's economy-wide GHG emissions, electricity generation must be transitioned to zero-carbon renewable energy sources. Strategies include financing for in-state or regional utility-scale renewable energy resources (e.g., community solar, wind, run-of-the-river hydro, food-waste-to-energy, etc.) and financing and incentives for in-state distributed energy resources (e.g., behind the meter solar PV, battery storage, fuel cells, combined heat and power, etc.) that assist with the implementation of the Class I and III Renewable Portfolio Standard, Regional Greenhouse Gas Initiative, and other public policies. To ensure a sustainable downward trajectory to meet the State's 2050 target, electricity generation must be 66% and 84% carbon-free by 2030 and 2050, respectively.
- **Decarbonizing Transportation** – representing over 35% of Connecticut's economy-wide GHG emissions, the transportation sector is the largest source of statewide emissions and must be transitioned to zero- and low-carbon technologies. Strategies for zero- and low-carbon transportation include adopting innovative financing models for ZEV deployment (i.e., EVs and FCEVs) and ZEV charging infrastructure, ensuring equitable access to clean transportation options such as electric bus fleets and ride sharing or hailing services. Also important is supporting voluntary (e.g., carbon offset) and regulatory (e.g., Transportation Climate Initiative) markets for cleaner transportation that transitions us away from fossil fuel to renewable energy. More specifically, to meet the 2030 target, 20% of the passenger fleet and 30% of the heavy-duty fleet must be zero emission; and to meet the 2050 target, 95% of the passenger fleet and 80% of the heavy-duty fleet must be zero emission.
- **Decarbonizing Buildings** – representing over 30% of Connecticut's economy-wide GHG emissions, residential, commercial, and industrial buildings are the second largest emitting sector that must transition away from fossil fuels to renewable thermal technology. Strategies for zero-carbon buildings include financing and incentives for energy efficiency (e.g., thermal insulation, appliances, etc.) and renewable heating and cooling (e.g., air source heat pumps, ground source heat pumps, heat pump water heaters, etc.). To meet the economy-wide 2030 and 2050 targets for Buildings, renewable heating and cooling technologies must be significantly deployed to 11% and 26% for residential, and 9% and 20% for commercial, by 2030 and 2050 respectively.

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<sup>46</sup> "Building a Low Carbon Future for Connecticut – Achieving a 45% GHG Reduction by 2030" recommendations from the Governor's Council on Climate Change (December 18, 2018)

Figure 4. Example of Key GHG Emission Reduction Measures (i.e., Mitigation Wedges) for Connecticut to Achieve Targets



The size of investment required and long-term revenue streams from clean energy, lend themselves well to bond structures. Issuing green bonds can provide the Green Bank a lower-cost, longer-term source of capital, enabling the Green Bank to further leverage state and federal funds to increase its impact in Connecticut by attracting and mobilizing private investment in the state’s green economy. The Green Bank has an important role to play in advancing green bonds in the U.S., especially given its history of engaging citizens and communities and its expertise in developing impact methodologies and a thorough and transparent reporting framework.

## 7. Citizen Engagement

The Green Bank, and its predecessor the Connecticut Clean Energy Fund (CCEF), have a long-standing history of citizen engagement within the communities of Connecticut. In 2002, the CCEF partnered with six private foundations<sup>47</sup> to co-found SmartPower – which launched the 20 percent by 2010 campaign and led the administration of the CCEF’s EPA award-winning Connecticut Clean Energy Communities Program.<sup>48</sup> Then in 2013, the Green Bank launched a series of Solarize campaigns in communities across the state in partnership with SmartPower and the Yale Center for Business and the Environment,<sup>49</sup> while also advancing the SunShot Initiative of the U.S. Department of Energy (DOE) in partnership with the Clean Energy States Alliance through projects that reduce soft-costs for solar PV (i.e., customer acquisition,

<sup>47</sup> Emily Hall Tremaine Foundation, The John Merck Fund, Pew Charitable Trust, The Oak Foundation, Rockefeller Brothers Fund, and Surdna Foundation

<sup>48</sup> “Climate Policy and Voluntary Initiatives: An Evaluation of the Connecticut Clean Energy Communities Program,” by Matthew Kotchen for the National Bureau of Economic Research (Working Paper 16117).

<sup>49</sup> “Solarize Your Community: An Evidence-Based Guide for Accelerating the Adoption of Residential Solar” by the Yale Center for Business and the Environment.

permitting, and financing) and provide better access to solar PV for low-to-moderate income households.

Engaging citizens has been in the DNA of the Green Bank since its inception.

### **7.1 Green Bonds US® Campaign**

From the air we breathe to the products we consume; the world's population is inescapably connected. And while that may present challenges in the context of global climate change, it also affords incredible opportunities for collaboration and progress.

Whether through markets or within communities, the Connecticut Green Bank is bringing people together and strengthening the bonds we share with one another. As its name suggests, the "Green Bonds US" campaign, seeks to promote a simple but critically important message; green brings us together, green bonds us. The multimedia, brand awareness and green-bond promotional campaign will promote the benefits of green energy, as well as a brand-new green energy investment opportunity provided by the Green Bank.

#### **Mini Bonds**

Despite the rising demand for green energy in the state, barriers still exist that may prevent more people from participating in Connecticut's growing green economy. For example, a homeowner who, despite having a strong desire to "go solar", is not able to because of factors like price, siting, or other issues. To allow more people to benefit from, and invest in, green energy, the Green Bank is offering another way. For the first time in its history, the Green Bank will issue "mini" green-bonds (e.g., small denomination bonds, certificate of deposits, and/or other fixed income investments) for sale to institutions and retail investors (i.e., SMAs and individuals). Launching as a pilot program, the mini-bonds represent another step forward on the path to inclusive prosperity.

#### **Market Research**

To gauge the public's interest and assess market demand for mini-green-bonds, the Green Bank performed primary and secondary research such as an online survey, interviews with industry professionals, as well as internal review of recent market data and investment reports.

In June of 2019, the Green Bank engaged GreatBlue Research to conduct primary research throughout Connecticut, measuring the market potential for "mini-bonds". A digital survey was sent to two target audiences: 1.) households that have installed solar PV through the RSIP and 2.) the general population (i.e., households that haven't participated in a Green Bank program). When asked "what types of green projects would you support through your private investments," the survey participants had the following responses:

- Recycling and waste reduction – 69.5%
- Clean water – 67.3%
- Roof-top solar – 64.5%
- High efficiency heating and cooling systems – 58.8%
- Home energy efficiency projects – 56.7%

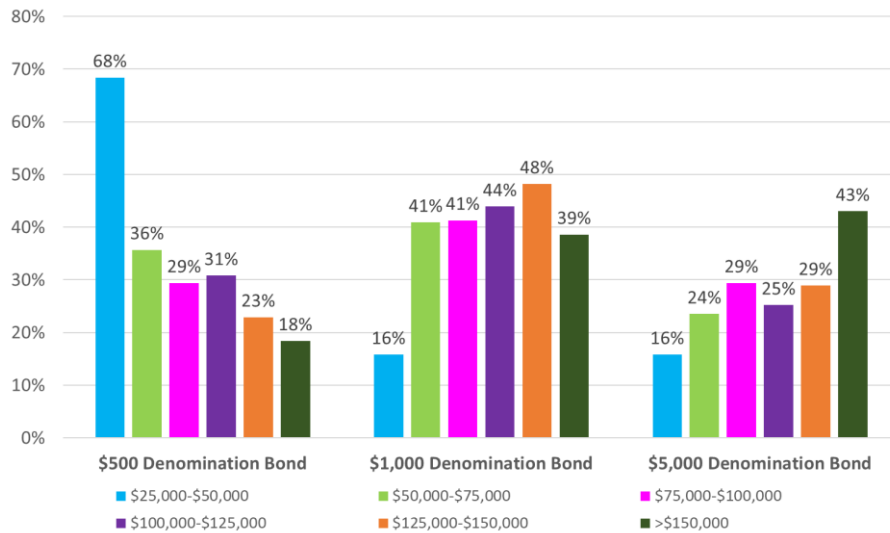
- Land conservation – 49.3%
- Energy efficiency appliance rebates – 45.6%
- Electric vehicles – 41.2%

The Green Bank and GreatBlue research also highlighted that the income of the investor, alongside the denomination of the bond, represents an opportunity for increasing equitable access to greater investment in the environment – see Figure 5.

After taking into account the results of our state-wide primary research, current national trends and conversations with various industry experts, there is sufficient data to suggest that the green bond market for individual investors in Connecticut may be quite large. As a result, the Green Bank intends to issue mini-green-bonds, with proceeds going to support the development of green energy projects within Connecticut.

For more information on the Green Bonds US campaign, visit [www.greenbondsus.com](http://www.greenbondsus.com)

Figure 5. Comparison of Interest in Bond Denomination Value by Income of Survey Respondents



## 7.2 Sustainable CT

Sustainable CT and the Green Bank are developing an engagement and investment platform to raise capital in support of local projects that provide individuals, families, and businesses with investment opportunities to make an impact on sustainability in their communities. The partnership between Sustainable CT and the Green Bank is focused on the following key priorities:



- Driving investment in projects in our communities, with a goal to accelerate over time;
- Community-level engagement, from project origination through financing, that is inclusive, diverse, and “knitted”;
- Creating a structure that harnesses all types of capital for impact – from donations to investment;
- Developing a business model that covers the cost of the program; and
- Creating a measurable impact, both qualitative and quantitative.

Through a partnership between Sustainable CT and IOBY (In Our Backyard), an online crowdfunding platform will enable citizen leaders to have access to financial resources that they need for local sustainability projects.

For more information on Sustainable CT, visit [www.sustainablect.com](http://www.sustainablect.com)

## 8. Evaluation Framework and Impact Methodologies

The Green Bank’s evaluation efforts seek to understand how the increase in investment and deployment of clean energy supported through the Green Bank, result in benefits to society. To that end, the Green Bank has devised an Evaluation Framework and impact methodologies for various societal benefits.

### 8.1 Evaluation Framework

The Green Bank has established an Evaluation Framework to guide the assessment, monitoring and reporting of the program impacts and processes, including, but not limited to energy savings and clean energy production and the resulting societal impacts or benefits arising from clean energy investment.<sup>50</sup> This framework focuses primarily on assessing the market transformation the Green Bank is enabling, including:

- **Supply of Capital** – including affordable interest rates, longer term maturity options, improved underwriting standards, etc.
- **Consumer Demand** – increasing the number of projects, increasing the comprehensiveness of projects, etc.
- **Financing Performance Data and Risk Profile** – making data publicly available to reduce perceived technology risks by current or potential private investors.
- **Societal Impact** – the benefits society receives from more investment and deployment of clean energy.

With the goal of pursuing investment strategies that advance market transformation in green investing, the Green Bank’s evaluation framework provides the foundation for determining the impact it is supporting in Connecticut and beyond.

<sup>50</sup> <https://ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Evaluation-Framework-July-2016.pdf>

## 8.2 Green Bond Framework

The Green Bank's Green Bond Framework ("Framework")<sup>51</sup> provides a structure in which the Green Bank can more efficiently and effectively support its efforts to raise capital and deploy more clean energy through the issuance of green bonds.

Connecticut has been at the forefront of state-level efforts to combat the threat of global climate change. In order to increase investment to meet the 10x goals identified by the United Nations as the level needed to hold off the worst effects of climate change, the Green Bank will use its statutory authority (i.e., CGS 16-245kk) to issue bonds, including Green Bonds. These are key to sourcing capital for clean energy projects and providing a way for all residents, businesses, and institutions of Connecticut to invest in growing our green economy.

The Framework sets out how the Green Bank proposes to use its Master Trust Indenture ("MTI") in a manner consistent with its purpose and provide the transparency and disclosures investors require to make investment decisions through green bonds. This Framework is specifically intended for the MTI approved and adopted April 22, 2020, which establishes the purposes for which the Green Bank may issue green bonds or other public debt. The Framework is established in accordance with the Climate Bonds Initiative ("CBI") Standard and adheres to the Green Bond Principles issued by the International Capital Market Association.

## 8.3 Impact Methodologies

To support the implementation of the Evaluation Framework, the Green Bank, working with various public sector organizations, has developed methodologies that estimate the impact from the investment, installation and operation of clean energy projects, including:

- **Jobs** – working in consultation with the Connecticut Department of Economic and Community Development ("DECD"), through the work of Navigant Consulting, the Green Bank devised a methodology that takes investment in clean energy to reasonably estimate the direct, indirect, and induced job-years resulting from clean energy deployment.<sup>52</sup>
- **Tax Revenues** – working in consultation with the Connecticut Department of Revenue Services ("DRS"), through the work of Navigant Consulting, the Green Bank devised a methodology that takes investment in clean energy to reasonably estimate the individual income, corporate, and sales tax revenues from clean energy deployment.<sup>53</sup>
- **Environmental Protection** – working in consultation with the United States Environmental Protection Agency ("EPA") and DEEP, the Green Bank devised a methodology that takes the reduction in consumption of energy and increase in the

<sup>51</sup> [https://ctgreenbank.com/wp-content/uploads/2020/04/CGB\\_Green-Bond-Framework\\_final-4-22-2020.pdf](https://ctgreenbank.com/wp-content/uploads/2020/04/CGB_Green-Bond-Framework_final-4-22-2020.pdf)

<sup>52</sup> [https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB\\_DECD\\_Jobs-Study\\_Fact-Sheet.pdf](https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf)

<sup>53</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf>

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production of clean energy to reasonably estimate the air emission reductions (i.e., CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub>) resulting from clean energy deployment.<sup>54</sup>

- **Public Health Improvement** – working in consultation with the EPA, DEEP, and the Connecticut Department of Public Health (“DPH”), the Green Bank devised a methodology that takes air emission reductions to reasonably estimate the public health benefits (e.g., reduced hospitalizations, reduced sick days, etc.) and associated savings to society resulting from clean energy deployment.<sup>55</sup>

Each year, the Green Bank develops additional methodologies that value the impact the Green Bank is helping create in Connecticut and all of society. For more information on the Green Bank’s impact methodologies, visit the Impact page of the website.<sup>56</sup> [In FY 2020 and FY 2021, the Green Bank is developing its Equity and Energy Burden impact methodologies to accompany its Economy and Environmental methodologies.](#)

The Green Bank’s efforts to increase investment in and deployment of clean energy projects – which result in increased benefits to Connecticut and all of society – can also be looked at through the lens of the United Nation’s Sustainable Development Goals (“UNSDG’s”).<sup>57</sup> The UNSDG’s include, but are not limited to – reducing poverty, improving health and well-being, making clean energy affordable, increasing economic development, reducing inequalities, supporting sustainable communities, and confronting climate change – areas where the Green Bank is measuring (or will measure) the impacts of its investments.

## 9. Reporting and Transparency

The Green Bank has extensive reporting on its financial management and societal impact through various mechanisms. As an administrator of ratepayer (i.e., Clean Energy Fund) and taxpayer (e.g., Regional Greenhouse Gas Initiative) resources, the Green Bank believes that complete transparency is important to ensure the public’s continued trust in serving its purpose.

### 9.1 Comprehensive Annual Financial Report (CAFR)

A Comprehensive Annual Financial Report (“CAFR”) is a set of government financing statements that includes the financial report of a state, municipal or other government entity that complies with the accounting requirements promulgated by the Governmental Accounting Standards Board (“GASB”). GASB provides standards for the content of a CAFR in its annually updated publication *Codification of Governmental Accounting and Financial Reporting Standards*. A CAFR is compiled by a public agency’s accounting staff and audited by an external American Institute of Certified Public Accountants (“AICPA”) certified accounting firm utilizing GASB requirements. It is composed of three sections – Introductory, Financial, and Statistical. The independent audit of the CAFR is not intended to include an assessment of the financial health

<sup>54</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/01/CGB-Eval-IMPACT-091917-Bv2.pdf>

<sup>55</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB-Eval-PUBLICHEALTH-1-25-18-new.pdf>

<sup>56</sup> <http://www.ctgreenbank.com/strategy-impact/impact/>

<sup>57</sup> <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

of participating governments, but rather to ensure that users of their financial statements have the information they need to make those assessments themselves.<sup>58</sup>

To date, the Green Bank has issued five CAFR's, including:

- [Fiscal Year Ended June 30, 2014 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2015 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2016 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2017 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2018 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2019](#)

As the "gold standard" in government reporting, the CAFR is the mechanism the Green Bank uses to report its fiscal year financial and investment performance – including societal benefits and impacts – to its stakeholders. For each of its five years filing the CAFR with the Government Finance Officers Association the Green Bank has received a Certificate of Achievement for Excellence in Financial Reporting.<sup>59</sup>

## 9.2 Annual Report

Beyond the CAFR, the annual reports of the Green Bank are compiled by the marketing staff and include consolidated financial statement information and narratives of various program achievements in a condensed format that can be widely distributed.

To date, the Green Bank has issued seven annual reports, including:

- [Fiscal Year 2012 Annual Report](#)
- [Fiscal Year 2013 Annual Report](#)
- [Fiscal Year 2014 Annual Report](#)
- [Fiscal Year 2015 Annual Report](#)
- [Fiscal Year 2016 Annual Report](#)
- [Fiscal Year 2017 Annual Report](#)
- [Fiscal Year 2018 Annual Report](#)
- [Fiscal Year 2019 Annual Report](#)

## 9.3 Auditors of Public Account

The office of the Auditors of Public Accounts ("APA") is a legislative agency of the State of Connecticut whose primary mission is to conduct audits of all state agencies, including quasi-public agencies. Included in such audits is an annual Statewide Single Audit of the State of

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<sup>58</sup> The Government Finance Officers Association (GFOA), founded in 1906, represents public finance officials throughout the United States and Canada. GFOA's mission is to enhance and promote the professional management of governmental financial resources by identifying, developing, and advancing fiscal strategies, policies, and practices for the public benefit. GFOA established the Certificate of Achievement for Excellent in Financial Reporting Program (CAFR Program) in 1945 to encourage and assist state and local governments to go beyond the minimum requirements of generally accepted accounting principles to prepare comprehensive annual financial reports that evidence the spirit of transparency and full disclosure and then to recognize individual governments that succeed in achieving that goal.

<sup>59</sup> [GAO has vet to designate the FY 2019 CAFR with a Certificate of Achievement](#)

Connecticut to meet federal requirements. The office is under the direction of two state auditors appointed by the state legislature. The APA audited certain operations of the Connecticut Green Bank in fulfillment of its duties under Sections 1-122 and Section 2-90 of the Connecticut General Statutes.

To date, the APA has conducted two audits, including:

- [Fiscal Years 2012 and 2013](#)
- [Fiscal Years 2014 and 2015](#)

#### **9.4 Open Connecticut and Open Quasi**

Open Connecticut centralizes state financial information to make it easier to follow state dollars. In Connecticut quasi-public agencies are required to submit annual reports to the legislature, including a summary of their activities and financial information. In addition to that, the Comptroller's office requested that quasi-public agencies voluntarily provide **payroll and** checkbook-level vendor payment data for display on Open Connecticut. The Green Bank, which was among the first quasi-public organizations to participate, has voluntarily submitted this information since the inception of Open Connecticut.<sup>60</sup> [In June of 2020, the Comptroller launched Open Quasi, which provides payroll and checkbook level data for all quasi-public organizations in Connecticut.](#)

#### **9.5 Stakeholder Communications**

The Green Bank holds quarterly stakeholder webinars to update the general public on the progress it is making with respect to its Comprehensive Plan and annual targets.<sup>61</sup> Through these webinars, the Green Bank staff invite questions from the audience. These webinars are announced through the Green Bank's list serve consisting of thousands of stakeholders as well as the events page of its website.<sup>62</sup>

The Green Bank also issues an e-newsletter through its list serve that provides key topics in the news and important information on products, programs and services.<sup>63</sup>

### **10. Research and Product Development**

As the Green Bank implements its Comprehensive Plan, there will be ongoing efforts to develop new market opportunities for future green investments. With the lessons being learned and best practices being discovered in the green economy, the Green Bank's ability to deliver more societal benefits requires understanding potential opportunities and the development of pilot programs and initiatives to increase impact, including, for example:

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<sup>60</sup> <https://openquasi.ct.gov/>,

<sup>61</sup> <https://www.ctgreenbank.com/news-events/webinars/>

<sup>62</sup> <https://www.ctgreenbank.com/news-events/events-calendar/>

<sup>63</sup> <https://www.ctgreenbank.com/newsletters/>

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- **Shared Clean Energy Facilities** – to support decarbonizing the electricity infrastructure climate change wedge, while reducing the burden of energy costs on Connecticut’s families and businesses, the Green Bank will seek to apply its experience administering the RSIP to supporting and investing in shared clean energy facilities (or community solar projects) with a focus on low-to-moderate income families;
- **Energy Burden from Transportation** – as Operation Fuel has done an exceptional job quantifying the energy burden for electricity use and heating of homes, understanding the energy burden from transportation (i.e., gasoline to alternative fuel vehicles) will help the Green Bank and others (e.g., Department of Housing, Connecticut Housing and Finance Authority, Partnership for Strong Communities, DEEP, etc.) understand its role in addressing the decarbonization of transportation emissions climate change wedge; and
- **Environmental Infrastructure** – if there were an expansion of scope for the Green Bank beyond “clean energy,” the Green Bank could apply the green bank model to mobilize private investment in “environmental infrastructure”.<sup>64</sup> Working with DEEP and other state agencies, local governments, nonprofit organizations, academic institutions, and businesses, the Green Bank could, for example, identify new areas for increased investment in climate change adaptation and resiliency through the issuance of green bonds.<sup>65</sup>

The Green Bank’s research product development efforts are intended to open-up new market channels for private investment in Connecticut’s green economy through studies, pilot projects, and other initiatives that have the potential for expanding the impact of the Green Bank.

## 11. Budget

### 11.1 FY 2020 Budget

For the details on the FY 2020 budget– [click here](#).

For details on the FY 2019 to FY 2020 variance analysis supporting the continuation of the Sustainability Plan – [click here](#).

### 11.2 FY 2021 Budget

[For the details on the FY 2021 budget– click here.](#)

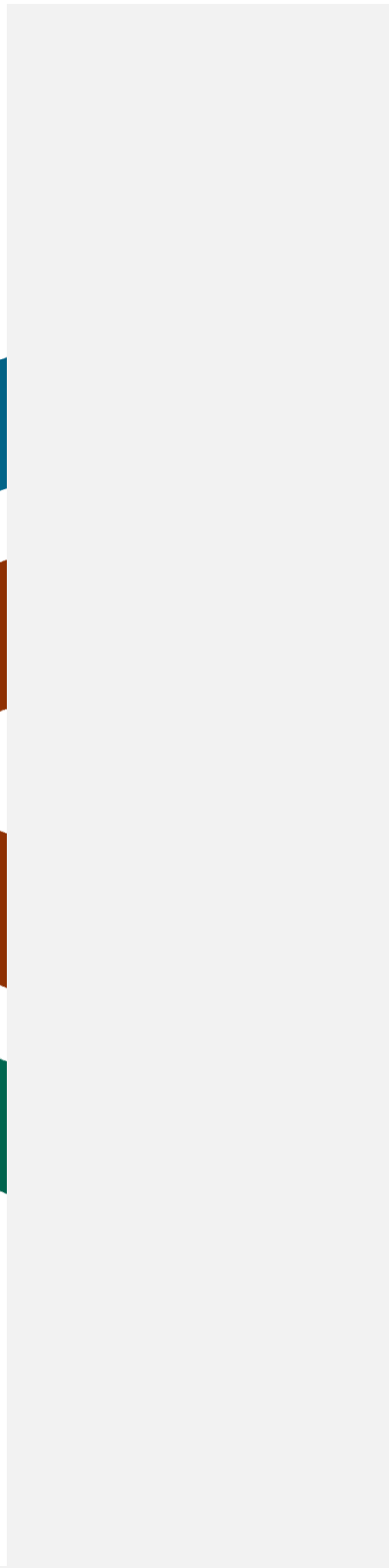
<sup>64</sup> Proposed Senate Bill 927 in the 2019 Legislative Session

<sup>65</sup> Section 10.3 Sustainability of the Comprehensive Plan of the Connecticut Green Bank for FY 2017 through FY 2019 recognizes that other green banks invest beyond “clean energy” and include “environmental infrastructure”.



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for Democratic Governance  
and Innovation







# Memo

**To:** Board of Directors of the Connecticut Green Bank  
**From:** Mackey Dykes, Vice President, Commercial, Industrial, and Institutional Programs  
**Date:** June 19, 2020  
**Re:** C-PACE Program Guidelines Update

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## Overview

Conn. Gen. Stat. Section 16a-40g authorizes what has come to be known as the Commercial Property Assessed Clean Energy Program (“C-PACE”). The statute designates the Connecticut Green Bank (“Green Bank”) as the state-wide administrator of the program and charges Green Bank to “develop program guidelines governing the terms and conditions under which state and third-party financing may be made available to the commercial sustainable energy program” and to “adopt standards to ensure that the energy cost savings of the energy improvements over the useful life of such improvements exceed the costs of such improvements”. Since 2013, Green Bank has developed and maintained the “Program Guidelines” for the C-PACE program in accordance with this statutory requirement. The Program Guidelines set out such key aspects of the program as:

- Benefits of C-PACE
- Statutory and programmatic criteria such as mortgage lender consent, building eligibility criteria, project eligibility criteria and municipality opt-in
- “Open-market” C-PACE platform which allows private capital providers to offer financing secured by C-PACE directly to building owners
- Technical standards, encompassed in the program’s Savings to Investment Ratio (SIR) criteria, to meet the statutory requirement that the energy cost savings of the energy improvements over the useful life of such improvements exceed the cost.

Staff is seeking approval for an update to the Program Guidelines, which includes minor changes throughout as well as the following three substantive changes to the program:

- 1) Clarifies eligibilities for properties that contain residential dwellings;
- 2) Makes one-year “look-back” project eligibility based on overall project completion date rather than individual measures; and
- 3) Allows the capital provider/third-party owner of a solar PV project in a C-PACE-backed power purchase agreement (PPA) to certify the SIR criteria is met rather than requiring an independent technical review.

## Residential Dwellings

A property must be a commercial or industrial property in order to qualify for C-PACE. The authorizing statute defines a commercial or industrial property as “any real property other than a residential dwelling containing less than five dwelling units.” Since “residential dwelling” isn’t defined in the statute, the Program Guidelines define it as “a structure used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons. Residential dwelling shall not include any structure which is: . . . Primarily used for business, commercial, charitable, not-for-profit, or agricultural purposes.” Essentially this means a single-family home or multifamily property with four or less units would be ineligible. The Program Guidelines currently applies this eligibility by saying that a property “must not *contain* a Residential Dwelling or four units or less”. This has had the unintended consequence of creating ambiguity around the eligibility of a small subset of property types that staff believes should be eligible under the statute.

The first subset is a property that contains both multifamily buildings of five or more units as well as single-family homes and/or multifamily buildings of less than five units. Staff has only seen one example of this but, in that case, the property and all the buildings on it had the same ownership and were rented out by the owner of the property. The owner wanted to install solar on one or more of the multifamily buildings. In this example, the entire parcel contains more five or more dwelling units and is therefore eligible.

The second subset is mixed-use properties whose residential portion has less than four units. In this example, if the parcel is primarily used for business, commercial, charitable, not-for-profit, or agricultural purposes (based on square footage allocation) then it is eligible.

Staff proposes changing the eligibility criteria from “must not *contain* a Residential Dwelling” to “must not *be* a Residential Dwelling.” This would dispel any ambiguity associated with the properties cited above while continuing to disqualify properties that only contain a single-family home or a single multifamily building with less than five units. Language is also proposed to disqualify any property that contains a residential mortgage.

## “Look-back” Period

The Program Guidelines allow for energy measures that have been completed within a year of approval for C-PACE financing to be eligible for financing. This allows building owners to phase projects over time and “look-back” up to a year to include already completed eligible measures as part of the C-PACE financing. However, large, complex projects with multiple energy measures can take more than a year to complete, with some energy measures completing before the one year “look-back” period. Staff proposes changing measure eligibility from the “individual measure” completing within the last year to the “overall project” completing within the last year. This would allow earlier measures in the overall project which had been completed more than a year ago to be included in the C-PACE financing for the project.

## SIR Review for PPAs

The C-PACE statute states the Green Bank must “adopt standards to ensure that the energy cost savings of the energy improvements over the useful life of such improvements exceed the costs of such improvements.” To implement this requirement, the Program Guidelines set up the SIR calculation and required a third-party review of the energy savings in order to check that the energy baseline is calculated appropriately and that the energy savings estimates are

reasonable. At present, for certain projects which include third party-owned renewable energy system(s), the SIR may be reviewed and approved by Green Bank or by an approved third-party technical reviewer. The former option has been used for many C-PACE-secured power purchase agreement (PPA) and lease agreements in the various solar funds that Green Bank has developed.

Much of the rationale behind the energy savings requirement as well as the third-party review is to protect the building owner. The performance risk of the project in a typical C-PACE project rests with the building owner, who may benefit from OEM warranties or other performance assurances agreed with the project developer. Qualifying projects are designed so that the energy and associated savings from the project are enough to cover the C-PACE repayments. However, the building owner is contractually obligated to pay the C-PACE repayments regardless of whether the project performs as modeled at the time of review and the savings actually materialize. The third-party review adds a layer of oversight on the initial energy modeling process to make sure contractors and capital providers aren't making unreasonable projections of savings in order to sell the projects to the building owner. However, in the case of a PPA, the performance risk of a project rests with the owner of the energy system rather than the building owner. The energy system owner provides the upfront capital to build the project and the building owner only pays for electricity that the system actually produces. If the project doesn't perform as expected, then it is the system owner who doesn't recoup their upfront investment rather than the building owner. Due to the fact that the benefit assessment lien is filed with a fixed payment schedule based on "expected" production of the energy system, the Program Guidelines require that any C-PACE-secured PPA have a true-up mechanism, whereby a property owner must be adequately compensated should the "actual" production of the system be deficient of "expected" production, regardless of the fixed payments made to the municipality through the benefit assessment lien mechanism.

Furthermore, in the context of solar PPAs, the SIR analysis is a basic financial calculation using (1) current energy payment rate, based on utility bills, (2) PPA payment rate, which may include an escalator, (3) assumed energy cost escalator, (4) system size, estimated production and degradation.<sup>1</sup>

Now that there is increased interest from third-party capital providers in offering a C-PACE-secured PPA directly to property owners, the Green Bank staff believes that it is not worth imposing the cost of a third-party technical review on these projects and, instead, have such capital providers provide their PPA SIR analysis and certify to Green Bank that SIR has been met. Green Bank will require a feasibility study with certain components to document the assumptions in the SIR analysis and will check to ensure the analysis is done correctly. Also, given the increased interest with increased review volume as well as Green Bank not desiring to play the role of technical reviewer (as this could lead to claims that Green Bank is liable for energy system performance), in this very limited context of solar PPA C-PACE secured transaction, this would replace the need for Green Bank to have to conduct this technical and financial SIR calculation.

## Recommendation

Staff recommends that the Green Bank Board of Directors (the "Board") approve the updated C-PACE Program Guidelines, materially in the form of attached to this memo. These Program

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<sup>1</sup> Degradation is the term used to describe the gradual expected decline in energy production by a solar PV energy system throughout its useful life. Annual declines of 0.5% to 0.7% are typical.

Guidelines would then go through a thirty-day public comment period. If, after public comments are received, Green Bank staff considers that significant changes are needed to the Program Guidelines as currently drafted, then staff will come back to the Board for an updated approval. If no significant changes result from the public comment process, then the final form of the Program Guidelines shall be deemed approved by the Board and Green Bank staff would proceed with implementation of such Program Guidelines.

## Resolutions

**WHEREAS**, Conn. Gen. Stat. Section 16a-40g (the “Authorizing Statute”) authorizes the Commercial Property Assessed Clean Energy Program (“C-PACE”) and designates the Connecticut Green Bank (“Green Bank”) as the state-wide administrator of the program; and

**WHEREAS**, the Authorizing Statute charges Green Bank to develop program guidelines governing the terms and conditions under which state and third-party financing may be made available to C-PACE.

**NOW**, therefore be it:

**RESOLVED**, the Green Bank Board of Directors (the “Board”) approves the updated C-PACE program guidelines (the “Program Guidelines”), substantially in the form of attached to that certain memo to the Board dated June 19, 2020. The Program Guidelines shall then go through a thirty-day public comment period in accordance with Conn. Gen. Stat. Section 1-120 et seq.

**RESOLVED**, If, after the expiration of public comment period, Green Bank staff considers that significant changes are needed to the Program Guidelines as currently drafted, then Green Bank staff will seek an updated approval from the Board. If no significant changes result from the public comment process, then the final form of the Program Guidelines, as may be edited by Green Bank staff, shall be deemed approved by the Board and Green Bank staff will proceed with implementation of such Program Guidelines.

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned Program Guidelines.



SPARKED BY  
**CONNECTICUT GREEN BANK**

## **C-PACE PROGRAM GUIDELINES**

**Version Date: October 29, 2018**

Connecticut Green Bank  
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Rocky Hill, CT 06067  
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## Article I. INTRODUCTION

Capitalized terms used below which are not otherwise defined shall have the meaning ascribed to them in Article VI hereof.

In 2012, the Connecticut legislature passed the C-PACE Legislation (defined below), which authorized the commercial sustainable energy program more commonly known as the Commercial & Industrial Property Assessed Clean Energy Program (“C-PACE”). C-PACE is a financing program that allows Connecticut building owners to access cleaner, cheaper, and more reliable energy. The C-PACE Legislation authorized Connecticut Green Bank, a Connecticut quasi-public agency (“Green Bank”), to administer C-PACE and establish program guidelines for the implementation of the program.

C-PACE allows qualifying commercial real property owners to access financing to undertake qualifying energy efficiency and clean energy improvements on their buildings and repay the investment through an additional charge/assessment along with their real property tax bill. Similar to a sewer assessment, projects financed through C-PACE are secured by a benefit assessment lien on the improved real property, which lien is repaid over time. Like other benefit assessments, C-PACE is a non-accelerating, senior lien secured by the property. The repayment obligation transfers automatically to the next owner if the property is sold and in the event of default, only the payments in arrears come due. This arrangement spreads the cost of clean energy improvements – such as energy efficient boilers, upgraded insulation, new windows, or solar PV installations – over the expected life of the measure. Because the payment is tied to the property’s real property tax billing, a secure payment stream, C-PACE projects are seen as less risky than typical loans, and low interest capital can be raised from the private sector with little or no government financing required.

Benefit assessments are a familiar tool which municipalities levy on real estate parcels to finance projects including street paving, water and sewer systems, and street lighting. C-PACE builds on a long history of using such benefit assessments and serves a public purpose through reducing energy costs, stimulating the economy, improving property valuation, reducing greenhouse gas emissions and creating jobs. C-PACE is a proven and effective tool to attract private capital into the clean energy and energy efficiency market.

This document sets forth the program guidelines established by Green Bank for the implementation of C-PACE (as may be updated, supplement, amended or otherwise modified by Green Bank, the “Program Guidelines”), which Program Guidelines govern all C-PACE participants.

All Appendixes attached hereto are supplemental program documents used by Green Bank in implementation of the Program Guidelines and may be modified or amended by Green Bank, in its sole discretion, from time to time. Current versions of all Appendixes may be found at [www.cpace.com/guidelines](http://www.cpace.com/guidelines).

## Article II. OUTLINE OF C-PACE BENEFITS

PACE offers multiple benefits to a broad range of stakeholders, including but not limited to: building owners, municipalities, mortgage holders, lenders and energy efficiency/renewable energy contractors.

**Section 1. For Building Owners:** C-PACE helps minimize the up-front investment, installation, and performance risk of energy upgrades, while helping owners lower their operating costs, improve the value and market competitiveness of their asset, and comply with energy mandates. C-PACE does this in several ways:

- *Many owners lack capital to implement energy improvements.* C-PACE provides up to 100% up-front, long-term financing to property owners for qualified energy upgrades. Audits, construction costs, commissioning and post-construction performance measurement and verification (M&V) can be wrapped into C-PACE financing.
- *Owners often want to sell the building before an energy upgrade loan is repaid.* The C-PACE assessment obligation is attached to the property and can transfer to the new owner. Payments do not accelerate in case of default.
- *Many owners feel energy improvements do not yield an adequate return on investment.* The C-PACE program requires that the estimated energy savings from a project exceed the up-front investment and financing costs, leading the expected cash flow to be positive over the useful life of the equipment. Moreover, C-PACE requires an independent third-party technical review of the project energy savings estimates, thereby ensuring confidence in the projected energy savings. Deeper energy upgrades and savings are possible because assessments match the useful life of equipment, which for certain improvements can extend up to 25 years.
- *Other owners are uncertain that energy savings will perform as advertised.* C-PACE helps building owners understand their future energy savings by requiring that an energy audit and/or feasibility study be conducted to estimate energy savings and commissioning to ensure that equipment is installed correctly. Buildings owners are encouraged to develop an equate measurement & verification plan to track energy consumption or production over time.
- *Owners need tenants to share in the costs of energy upgrades.* As a benefit assessment, C-PACE payments – as well as energy savings – may, if permitted by the lease agreement, be passed along to tenants.

**Section 2. For Energy Auditors and Contractors:** The biggest barrier to converting leads to deals for energy upgrades is the lack of access to acceptable finance terms from traditional lenders. C-PACE solves this. By allowing a property owner to access up to 100% up-front financing for up to 25 years, deeper energy efficiency and clean energy improvements are now affordable. The Green Bank also provides energy auditors and contractors access to training, support services, market research, and marketing materials.

**Section 3. For Municipalities:** C-PACE is an economic development tool for municipalities. Energy upgrades create a more competitive environment for retaining and attracting new businesses by lowering energy costs. Energy upgrades also create jobs and reduce greenhouse gases and other pollutants. Green Bank facilitates municipal outreach and coordination with municipalities, and their legislative bodies, interested in entering into the Participation Agreement (as defined below).



**Section 4. For Third-Party Capital Providers:** C-PACE has created a very secure, clean energy financing product for Third-Party Capital Providers (TCP). The security comes from its position similar to a tax lien on a property. The lien, like other public benefit assessments, sits in a senior position to other encumbrances on the property, including mortgage debt and liens other than municipal real property tax liens. Repayment is managed by local property tax administrators in the normal course of their billing and collection practices, thereby creating a very secure stream of collections and remittances.

Finally, the C-PACE Legislation requires C-PACE approved projects to have a “Savings to Investment Ratio” (SIR) greater than one, meaning that projected lifetime savings from the measures must exceed the total investment, inclusive of financing costs, over the lifetime of the measures. Connecticut streamlined the C-PACE program by establishing a single statewide C-PACE program administered by the Green Bank. Connecticut’s C-PACE program maintains an open market approach, encouraging private capital to be the primary financier of these assessments and supporting building owners who wish to source their own C-PACE lender (see Article V below). Additionally, the Green Bank currently has dedicated capital to invest in C-PACE projects. At certain intervals through the year, the Green Bank may periodically “sell-down” its portfolio of C-PACE transactions to TCP(s) (as defined herein) who desire to be the secondary financiers of these assessments. The sell-down process replenishes the Green Bank’s capital, enabling a sustainable source of funding for C-PACE projects.

**Section 5. For Mortgage Holders:** The structure of C-PACE allows participating building owners to pay for improvements to their property out of the savings the project creates. Connecticut statutes require C-PACE approved projects to have an SIR greater than 1, meaning that projected lifetime savings from the energy measures must exceed the total investment, inclusive of financing costs, over the lifetime of the measures. The Green Bank has instituted technical underwriting standards for C-PACE that provides a robust framework for measuring the estimated SIR (Appendix D), which all C-PACE Projects must meet. Under the C-PACE financing structure, the building should experience increased net operating income, often an immediate return on investment, and therefore becomes more attractive to current and potential tenants and future buyers. Additionally, C-PACE Assessments do not accelerate. In the event of a foreclosure of the property for any reason, only the amount of the C-PACE assessment currently due and/or in arrears, a relatively small proportion of the entire C-PACE assessment, would come due. In the event of a property sale, C-PACE assessments can automatically transfer to the new property owner unless the buyer or seller decides to prepay the assessment. Finally, the C-PACE Legislation requires that property owners receive the written consent of their existing mortgage holder before being eligible for C-PACE financing (Appendix C). Mortgage lenders will be at the table helping to determine whether a property can undertake this voluntary assessment.

### Article III. C-PACE STATUTORY AND PROGRAMMATIC REQUIREMENTS

This section outlines certain requirements set forth in the C-PACE Legislation as well as additional programmatic requirements established by the Green Bank.

#### Section 1. Mortgage Lender Consent

- A. Pursuant to the C-PACE Legislation, Benefited Property Owners must:
  - i. Provide written notice to any existing mortgage holder of the Qualifying Property (as defined below), at least thirty days before the recording of a benefit assessment lien on such property, of the property owner's intent to finance a project through C-PACE, and
  - ii. Obtain the written consent to the C-PACE financing from any existing mortgage holder of the Qualifying Property.
- B. Green Bank's model mortgage holder notice and consent is attached as Appendix C. C-PACE participants may elect to use a different agreement to evidencing mortgage holder notice and consent, however any other such agreement will be subject to review and approval by Green Bank in its sole discretion.
- C. In accordance with the U.S. Department of Housing and Urban Development ("HUD") Notice H2017-01 dated January 11, 2017, as may be modified, amended or superseded, in the event that the mortgage holder is HUD, the mortgage holder notice and consent as well as the Financing Agreement associated with such consent shall provide, in the event of a default on the associated Benefit Assessment Lien payment, for notice and a reasonable opportunity for the mortgage holder to cure any such non-payment.

#### Section 2. Real Property Eligibility

To be considered a "Qualifying Property" eligible for C-PACE Financing, a Qualifying Commercial Real Property (as defined below) must meet the following requirements:

- A. Must be located within a Participating Municipality (as defined below), or multiple abutting Participating Municipalities.
- B. Must be owned by a Benefited Property Owner (as defined below), who is not a state, municipality, or any political subdivision thereof.
- C. Must not be a Residential Dwelling (as defined below) of four units or less. Multifamily properties of five units or more are eligible. Mixed-use, not-for-profit and agricultural properties may also be eligible. If the eligibility of a certain property is not clear, Green Bank may determine property eligibility in its reasonable discretion based on site specific considerations including, but not limited to, zoning designation and current/past/future land use. Multiple abutting parcels may be included in the legal description of one Benefit Assessment Lien (as defined below) if (1) each parcel, by itself, is a Qualifying Property (2) each parcel is owned by the same Benefited Property Owner, and (3) each parcel benefits from the same Qualifying Project.
- D. Must not be subject to any mortgage, deed of trust or other equivalent consensual security interest securing a loan primarily for personal, family or household use in a Residential Dwelling of four units or less or on land on which a person intends to construct a Residential Dwelling of four units or less.

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**Section 3. Project Eligibility**

To be considered a "Qualifying Project" eligible for C-PACE Financing, an energy improvement project must meet the following requirements:

- A. Contain at least one Energy Improvement (as defined below).

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B. All costs associated with the Energy Improvement and the financing thereof (e.g. closing/lender fees, consultant/development fees, soft costs, or other associated project costs, each being an “Associated Cost”) may, subject to Green Bank approval, be included in the Financed Amount.

C. Obtain an energy audit or feasibility study for the proposed Energy Improvement(s).

D. The term of the Benefit Assessment associated with the Qualifying Project may not exceed the weighted average effective useful life (“EUL”) of the Energy Improvement(s). EUL is determined through the energy audit, based on industry best practice, and is subject to approval by (1) either the Technical Administrator or a Technical Reviewer, and (2) the Green Bank. Regardless of a Project’s EUL, the term of the Benefit Assessment may not exceed 25 years unless approved by Green Bank, in its sole discretion.

E. Projected Total Cost Savings must exceed the Projected Financing Cost. In other words, the savings-to-investment ratio (“SIR”) of the project must be greater than one. To demonstrate that the SIR requirement has been satisfied the project must be either (1) reviewed and approved by the Technical Administrator, (2) reviewed and approved by a Technical Reviewer, (3) be certified as Investor Confidence Project “Investor Ready Energy Efficiency”<sup>2</sup> Project, or (4), for certain projects which include third party-owned renewable energy system(s), reviewed and approved by Green Bank, or certified by a Qualified Capital Provider, as applicable and more particularly described in Appendix E. For the avoidance of doubt, the SIR calculation for the project must meet the requirements set forth in Article IV below.

F. All Projects require the written approval of the Green Bank, as the statewide administrator of the C-PACE Program.

G. All Benefited Property Owner(s) associated with the project must sign a Disclosure of Risk Form.

H. If the Energy Improvement(s) are wholly owned by any party or parties which is/are not the Benefited Property Owner(s), then such project must meet the requirements set forth in Section 4 of Appendix E.

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Energy Improvement(s) which have already been made to a Qualifying Property may be eligible for financing if such Energy Improvement(s) were completed less than a calendar year prior to Green Bank approval of such Qualifying Project. Additionally, subsequent Energy Improvement(s) made to a Qualifying Property which has previously received C-PACE financing for previous Energy Improvement(s), made within one calendar year from the close of C-PACE financing for the initial Energy Improvement(s), may be considered as one Qualifying Project for the purposes herein.

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Notwithstanding subparagraph C above, projects which closed on C-PACE financing may not be eligible for refinancing through the C-PACE Program.

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#### Section 4. Restrictions on completed Qualifying Projects and consolidated Qualifying Projects

Qualifying Project improvements which have already been made to a Qualifying Property may be eligible for financing if such Qualifying Project was completed less than a calendar year prior to the complete submission of documents necessary for Green Bank approval (See Appendix F) of such Qualifying Project. Additionally, subsequent Energy Improvement(s) made to a Qualifying Property which has previously received C-PACE financing for a previous Qualifying Project, made within one calendar year from the close of C-PACE financing for the initial Qualifying Project, may be considered as one Qualifying Project for the purposes herein.

#### Section 5. Restrictions on Refinancing within the C-PACE Program

Qualifying Projects which closed on C-PACE financing may not be eligible for Refinancing through the

<sup>2</sup> For more information on Investor Ready Energy Efficiency certification, please visit <http://www.eepformance.org/iree-certification.html>.

C-PACE Program. For the purposes of this section “Refinancing” includes, but is not limited to, entering into a Financing Agreement with a different C-PACE capital provider for the purpose of repaying an existing Benefit Assessment and filing of a new Benefit Assessment associated with the same Qualifying Project. Refinancing does not include, restructuring, amendment, restatement, Benefit Assessment refiling, or any other modification of the existing Benefit Assessment or Financing Agreement with the original C-PACE capital provider (or its assignee), subject to all other applicable program requirements.

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<sup>2</sup> For more information on Investor Ready Energy Efficiency certification, please visit <http://www.eepformance.org/iree-certification.html>.

## **Article IV. TECHNICAL STANDARDS OVERVIEW**

The Green Bank requires a third-party review of the proposed project to demonstrate that the SIR requirement has been met. The following provides a summary of the technical review process. Please refer to the Technical Standards (Appendix D) for a full description of audit requirements, technical review methodology and standards, and eligible and ineligible measures. Technical review may be completed by the Green Bank's selected Technical Administrator or Technical Reviewer, in accordance with the Technical Standards. As an alternative to this process, the Green Bank will also accept Investor Confidence Project-certified Investor Ready Energy Efficiency Projects that demonstrate the SIR is greater than one. Additionally, Green Bank may, in its sole discretion, perform technical review for projects which include third party-owned renewable energy system(s), as more particularly described in Appendix E.

### **Section 1. Defining a Scope of Work**

Benefited Property Owners should work with a qualified energy auditor and/or contractor with demonstrated experience to define a scope of work for their proposed project. This scope can range from installation of a single Energy Improvement, such as a new high efficiency boiler or a renewable energy system, to a whole building energy upgrade involving multiple, interactive Energy Improvements. A general list of eligible Energy Improvements and their typical energy saving characteristics can be found in the Technical Standards. The scope of work for the proposed project must be prepared and submitted by a Qualified Contractor or Registered Contractor. Projects require the applicant to conduct an energy audit or renewable energy feasibility study. For all projects involving the installation of Energy Improvements, depending on project type, size and complexity, the energy audit may range from a simple walkthrough of the building to an investment grade audit.<sup>3</sup> The Qualified Contractor or Registered Contractor will determine the minimum required energy audit level consistent with the Technical Standards (Appendix D). The audit should identify the building's representative baseline energy use, identify and recommend Energy Improvements, estimate the useful life of each Energy Improvement, determine total project capital cost and the projected energy savings that can be confidently achieved, evaluate key financial metrics, and provide an energy savings equipment commissioning plan. All projects involving a renewable energy system are required to complete a feasibility study, Green Bank recommends that any feasible study follow the guidelines set forth in Technical Standards (Appendix D).

### **Section 2. Standard SIR Technical Review**

The Technical Administrator and/or Technical Reviewer will conduct a technical review, the purpose of which is to validate the reasonableness of project costs and energy savings projections. The Technical Administrator and/or Technical Reviewer will also confirm the projected SIR of the project is greater than one.

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<sup>3</sup> Connecticut utilities may provide what can be considered an ASHRAE Level I audit at no cost to applicants. The Green Bank can provide applicants referrals to qualified energy auditors to do higher level audits, the costs of which may be included in C-PACE financing.

In addition, the methodology for tracking energy savings over an agreed upon term will be reviewed, thereby verifying for project stakeholders the extent to which projected energy savings are being achieved in an ongoing fashion.

Technical Review consists of three tasks:

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- A. Verify that the building's baseline energy consumption is representative and reasonable, e.g. weather normalized
- B. Validate the reasonableness of projected energy savings; and
- C. Confirm that an adequate commissioning plan exists.

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The first two tasks are necessary to determine the SIR on the project and verify that it is greater than one. The third task ensures a property owner and the contractor have planned to confirm the correct installation and operational performance of the installed measures.

The Green Bank has developed a methodology for this technical review process, which relies upon two established industry protocols:

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**Baseline Energy Use:** ASTM E2797-15, Building Energy Performance Assessment (BEPA) Standard directed at data collection and baseline calculations for the energy audit;

**Energy Improvement & Energy Savings:** ASHRAE Level I, Level II and Level III Energy Audit Guidelines;

The Technical Administrator or a Technical Reviewer will qualify the proposed Energy Improvement(s) and validate the projected energy savings are consistent with these protocols and, in conjunction with the applicant, will confirm a baseline financing scenario that meets the SIR criteria.

### Section 3. Commissioning; Measurement and Verification

In order to verify that the project was installed according to the evaluated scope, all project applications are required to include a commissioning plan and subsequent report. A report by a Qualified Contractor, Registered Contractor, Technical Reviewer, or the Technical Administrator that confirms the measures were properly installed and that the project is operating as intended must be submitted to the Green Bank once project construction is complete.

Additionally, in order to (i) evaluate the energy savings effectiveness of the measures after they have been installed, and (ii) to collect energy consumption and/or clean energy production data, property owners are encouraged to work with their contractor(s) to implement an adequate measurement and verification plan. The International Performance Measurement and Verification Protocol (IPMVP) provides guidance for measurement and verification of the energy savings, for additional information see the Technical Standards.

The Green Bank may elect to facilitate M&V for projects submitted to the Green Bank for financing, and may elect to offer the same services to TPCP financed projects, at Green Bank's discretion and subject to additional costs/fees. M&V activities may be financed as an Associated Cost of any Qualifying Project.

### Section 4. Alternative to Standard SIR Technical Review Process

As an alternative to the Standard SIR Technical Review process set forth in Section 2 above, and more particularly described in the Technical Standards, Green Bank will also consider projects which meet one of the following requirements as having met the technical review requirement of this Article:

- A. Projects which demonstrate a receipt of an Investor Ready Energy Efficiency certification from the Investor Confidence Project (“ICP”) and provide a letter from the ICP Quality Assurance Provider stating that the SIR for the project is greater than one; or
- B. Certain projects which include third party-owned renewable energy system(s), reviewed and approved by Green Bank, as more particularly described in Appendix E.

**Section 5. Technical Review Auditing**

Green Bank may select and retain a Technical Review Auditor or Technical Review Auditors to conduct periodic reviews of the technical review work performed by any Technical Reviewer, the Technical Administrator or the Green Bank to evaluate compliance with the Program Guidelines and Technical Standards.



## Article V. C-PACE OPEN MARKET AND ELIGIBILITY CRITERIA FOR C-PACE CAPITAL PROVIDERS

### Section 1. Concept of 'Open Market'

Connecticut maintains an "open market" approach to its C-PACE program, encouraging capital providers to be the primary financier of Qualifying Projects and supporting Benefited Property Owners who wish to source their own capital provider. For capital providers wishing to directly offer C-PACE financing, thereby becoming an "Approved Third-Party Capital Provider" or "ATPCP", the Green Bank has created terms and conditions, attached hereto as Appendix F (the "Third-Party Capital Provider Terms and Conditions"), which outline the requirements and process for Third-Party Capital Provider to directly offer C-PACE financing to Benefited Property Owners and interact with Green Bank, as the program administrator.

Additionally, the Green Bank currently maintains dedicated capital to finance C-PACE projects. Benefited Property Owners looking to finance any Qualifying Project with Green Bank sourced capital may apply directly to Green Bank and follow the process outlined in Appendix F. From time to time and through the RFP process, the Green Bank may "sell-down" portfolios of its C-PACE transactions to Qualifying Capital Providers (s) or partner with Qualifying Capital Providers for the purpose of originating transactions, which Qualifying Capital Providers desire to be the secondary or co-financiers of these assessments. The "sell-down" process replenishes or leverages the Green Bank's capital, enabling a sustainable source of funding for C-PACE projects.

The 'open market' program offers multiple financing options to Benefited Property Owners, enabling the Green Bank to achieve its mission of making financing accessible and affordable.

### Section 2. Qualified Capital Provider

Any capital provider or other entity interested in purchasing C-PACE transactions from the Green Bank or offering C-PACE financing directly to borrowers must become a qualified Capital Provider through the C-PACE Program. The process for becoming a "Qualified Capital Provider" is as follows:

1. The interested capital provider must respond to the open [CGB Request for Qualifications from Interested Capital Providers](#).
2. Green Bank shall review the submission and may approve the capital provider. Upon approval, the capital provider will be considered a "Qualified Capital Provider". Qualified Capital Providers are listed on Green Bank's C-PACE website and receive information from the Green Bank regarding financing opportunities as well as pertinent information about C-PACE. Qualified Capital Providers wishing to directly offer C-PACE financing must acknowledge and agree to the Third-Party Capital Provider Terms and Conditions.

### Section 3. C-PACE Approved Third-Party Capital Providers

ONLY Qualified Capital Providers which anticipate directly offering C-PACE financing to Benefited Property Owners in Connecticut need to acknowledge and agree to the Third-Party Capital Provider Terms and Conditions. The Third-Party Capital Provider Terms and Conditions outline the requirements and process for Third-Party Capital Provider to directly offer C-PACE financing to Benefited Property Owners and interact with the Green Bank, as the program administrator. In summary, the process for project origination, funding and administration is as follows:

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- A. The ATPCP or Benefited Property Owners may submit a completed C-PACE application and all associated documents necessary to demonstrate any project’s compliance with the Program Guidelines and any other applicable requirements set forth in the Third-Party Capital Provider Terms and Conditions.
- B. Green Bank shall review such documents for compliance with the Program Guidelines and Third-Party Capital Provider Terms and Conditions, and, in its sole discretion, provide its approval of the Qualifying Project (thereby becoming an “Approved Project”).
- C. The ATPCP may then enter into a Financing Agreement with Benefited Property Owner for such Approved Project (thereby becoming a “Closed Project”).
- D. Concurrently or shortly thereafter, the ATPCP shall enter into an Administration Agreement with the Green Bank for such Closed Project.
- E. Green Bank will facilitate the filing and assignment to the ATPCP of a Benefit Assessment Lien, pursuant to the Administration Agreement.
- F. Green Bank will work with the Participating Municipality to collect any payments received pursuant the Benefit Assessment Lien and remit such payments to the ATPCP, pursuant to the Administration Agreement.

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The ATPCP shall maintain its own financial underwriting criteria and financing terms and conditions for a C-PACE transaction, subject to the requirements set forth in the Program Guidelines.

## Article VI. DEFINED TERMS

**“Approved Third-Party Capital Provider” or “ATPCP”** shall mean a Third-party Capital Provider, which (1) has been approved by Green Bank as a Qualifying Capital Provider, (2) has acknowledged and agreed to Third-Party Capital Provider Terms and Conditions, and (3) is in good standing with the Green Bank.

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**“Associated Cost”** shall have the meaning ascribed to it in Article III Section 3(B).

**“Benefit Assessment”** shall mean an assessment authorized by the C-PACE Legislation. In an event of a conflict between this definition and that which is ascribed in the C-PACE Legislation, the C-PACE Legislation shall govern.

**“Benefit Assessment Lien”** shall mean a lien which evidences a Benefit Assessment and is recorded by a Participating Municipality on the land records against a Qualifying Property at Green Bank’s direction pursuant to the Participation Agreement. The form of such Benefit Assessment Lien is attached hereto as Appendix K, as may be modified or amended from time to time by Green Bank, in its sole discretion.

**“Benefited Property Owner”** shall mean an owner of Qualifying Commercial Real Property who desires to install Energy Improvements and provides free and willing consent to the Benefit Assessment against the Qualifying Commercial Real Property. In an event of a conflict between this definition and that which is ascribed in the C-PACE Legislation, the C-PACE Legislation shall govern.

**“C-PACE”** shall have the meaning ascribed to it in Article I.

**“C-PACE Legislation”** shall mean Section 16a-40g of the Connecticut General Statutes, as may be amended, attached hereto as Appendix A.

**“Commercial or Industrial Property”** shall mean any real property other than a Residential Dwelling containing less than five dwelling units. In an event of a conflict between this definition and that which is set forth in the C-PACE Legislation, the C-PACE Legislation shall govern.

**“Disclosure of Risk Form”** shall mean the disclosure of risk form associated with C-PACE, attached hereto as Appendix H, as may be modified or amended from time to time by Green Bank, in its sole discretion.

**“District Heating and Cooling System”** shall mean a local system consisting of a pipeline or network providing hot water, chilled water or steam from one or more sources to multiple buildings. In an event of a conflict between this definition and that which is ascribed in the C-PACE Legislation, the C-PACE Legislation shall govern.

**“Energy Engineer”** shall mean a professional or entity who/which meets one of the following: (1) holds a Certified Energy Manager or Certified Energy Auditor accreditation, (2) is a Professional Engineer with demonstrated relevant energy experience, or (3) a contractor with relevant demonstrated experience as determined by the Technical Administrator.

**“Energy Improvement”** shall mean (A) participation in a District Heating and Cooling System by Qualifying Commercial Real Property, (B) participation in a microgrid, as defined in Section 16-243y of the Connecticut

General Statutes, including any related infrastructure for such microgrid, by Qualifying Commercial Real Property, provided such microgrid and any related infrastructure incorporate clean energy, as defined in Section 16-245n of the Connecticut General Statutes, (C) any improvement, renovation or retrofitting of Qualifying Commercial Real Property to reduce energy consumption or improve energy efficiency, (D) installation of a renewable energy system to service qualifying commercial real property, or (E) installation of a solar thermal or geothermal system to service qualifying commercial real property, provided such renovation, retrofit or installation described in subparagraph (C), (D) or (E) is permanently fixed to such Qualifying Commercial Real Property. In an event of a conflict between this definition and that which is ascribed in the C-PACE Legislation, the C-PACE Legislation shall govern.

**“EUL”** shall have the meaning ascribed to it in Article III Section 3(E).

**“Financed Amount”** means the combined costs of the Energy Improvement(s) and Associated Cost(s) which has been or will be financed through C-PACE for any Qualifying Project.

**“Financing Agreement”** shall mean a written agreement between a Benefited Property Owner and either a Third-Party Capital Provider or the Green Bank, or any of its subsidiaries, for the financing, leasing or purchasing power from/of Energy Improvement(s). Such financing agreement shall contain, among other things, a provision which allows the Benefited Property Owner to rescind the agreement not later than three business days from the date of such agreement.

**“Green Bank”** shall have the meaning ascribed to it in Article I.

**“Participating Municipality”** shall mean a municipality, as defined in Section 7-369 of the Connecticut General Statutes, that has entered into a Participation Agreement. In an event of a conflict between this definition and that which is ascribed in the C-PACE Legislation, the C-PACE Legislation shall govern.

**“Participation Agreement”** shall mean a written agreement between Green Bank and a Participating Municipality, as approved by its legislative body, pursuant to which the municipality has agreed to assess, collect, remit and assign, Benefit Assessments to Green Bank in return for Energy Improvements for Benefited Property Owners within such municipality and costs reasonably incurred in performing such duties. The template participation agreement is attached hereto as Appendix B, as may be modified or amended from time to time by Green Bank, in its sole discretion.

**“Professional Engineer”** shall mean an individual, or company which employs such individual, who is licensed as a professional engineer and in good standing with the relevant licensing authorities in the State of Connecticut.

**“Program Guidelines”** shall have the meaning ascribed to it in Article I.

**“Projected Associated Savings”** shall mean non-energy savings which have a close nexus to the Energy Improvement(s) which are part of a Project. Examples include, but are not limited to, federal tax credits, depreciation, and revenues from the sale of environmental attributes. Green Bank, in its sole discretion, may determine which types of savings may be considered to fall under this definition.

**“Projected Energy Savings”** shall mean the estimated energy savings, calculated in accordance with the Technical Standards, from any Energy Improvement(s) over the EUL of such improvements.

**“Projected Financing Cost”** shall mean the total projected debt service associated with the Financed Amount for a Qualifying Project including, but not limited to, all principal, interest, and any fees over the term of the financing. This does not include any potential late fees or penalties.

**“Projected Total Cost Savings”** shall mean the combined value of the Projected Energy Savings and the Projected Associated Savings for any Qualifying Project.

**“Qualified Contractor”** shall mean an individual or entity who/which meets one of the following: (1) holds a Certified Energy Manager or Certified Energy Auditor accreditation, (2) is a Professional Engineer with demonstrated relevant energy experience, or (3) a contractor with relevant demonstrated experience.

**“Qualifying Capital Provider” or “QCP”** shall have the meaning ascribed to it in Article V Section 2.

**“Qualifying Commercial Real Property”** shall mean any Commercial or Industrial Property, regardless of ownership, that meets the qualifications established for the C-PACE program. In an event of a conflict between this definition and that which is provided in the C-PACE Legislation shall govern.

**“Qualifying Project”** shall mean an energy improvement project which meets all the requirements set forth in Article III Section 3.

**“Qualifying Property”** shall mean a Qualifying Commercial Real Property which meets all the requirements set forth in Article III Section 2.

**“Registered Contractor”** shall mean a contractor who has registered with Green Bank, via the contractor registration process (<https://www.cpace.com/Contractor/Get-Started/Contractor-Sign-Up>), and remains in good standing with Green Bank.

**“Residential Dwelling”** shall mean a structure used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons. Residential dwelling shall not include any structure which is:

1. A home or residence which is part of public or private institution, if such residence is incidental to provision of medical, geriatric, educational, counseling, religious, or similar services;
2. A campground, hotel, motel, extended stay facility, vacation residential facility, boardinghouse, fraternal or social organization, or similar lodgings; and
3. Primarily used for business, commercial, charitable, not-for-profit, or agricultural purposes.

**“SIR”** shall have the meaning ascribed to it in Article III Section 3(G).

**“Technical Administrator”** shall mean the entity, selected by Green Bank pursuant to an RFP process, which may conduct technical review as well as provide Green Bank with guidance and consultation in the development and implementation of the Technical Standards and Program Guidelines. The Technical Administrator may also work with contractors to help them develop a building’s baseline energy consumption and energy savings estimates

for projects.

**“Technical Reviewer”** shall mean an entity which has been approved by and in good standing with Green Bank in accordance with the standard set forth in Appendix J. Technical reviewers may be proposed to Green Bank for approval by Third-Party Capital Providers. For a list of Technical Reviewers which are currently approved and in good standing with Green Bank, please visit [www.cpace.com/technicalreviewers](http://www.cpace.com/technicalreviewers).

**“Technical Review Auditor”** shall mean an entity or entities, selected by Green Bank pursuant to an RFP process, which may conduct periodic reviews of the technical review work performed by any Technical Reviewer, the Technical Administrator or the Green Bank to evaluate compliance with the Program Guidelines and Technical Standards.

**“Technical Standards”** shall mean the complete description of energy audit requirements, technical review methodology and standards, and eligible and ineligible measures for C-PACE, attached hereto as Appendix D, as may be amended or modified from time to time by Green Bank in its sole discretion.

**"Third-Party Capital Provider"** means an entity, other than the Green Bank or any of its subsidiaries, that enters into one or more Financing Agreement(s). In an event of a conflict between this definition and that which is ascribed in the C-PACE Legislation, the C-PACE Legislation shall govern.

**Appendix A: C-PACE LEGISLATION**

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version]

**Appendix B: PARTICIPATION AGREEMENT**

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version]



**Appendix C: NOTICE AND REQUEST FOR LENDER CONSENT**

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version]

**Appendix D: TECHNICAL STANDARDS**

[attached separately]

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|

**Appendix E: C-PACE FINANCING FOR SOLAR PV SYSTEMS AND FUEL CELLS**

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version]

APPENDIX F: THIRD-PARTY CAPITAL PROVIDER TERMS AND CONDITIONS

Deleted: TERM SHEET

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version]

**APPENDIX G: GREEN BANK C-PACE APPLICATION SUBMISSION & REVIEW  
PROCESS**

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version]

**APPENDIX H: DISCLOSURE OF RISK FORM**

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version ]

**APPENDIX I: THIRD-PARTY CAPITAL PROVIDER ADMINISTRATION AGREEMENT**

[attached separately]

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## APPENDIX J: TECHNICAL REVIEWER APPROVAL PROCESS

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com) for current version]



**APPENDIX K: FORM OF BENEFIT ASSESSMENT LIEN**

[attached separately]

[please visit [www.c-pace.com](http://www.c-pace.com)]



# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Bert Hunter, EVP and CIO, Mike Yu, Director, Clean Energy Finance, Louise Della Pesca, Associate Director, Clean Energy Finance, Rudy Sturk, Senior Manager of Marketing,

**CC:** Bryan Garcia, President and CEO; Brian Farnen, General Counsel and CLO; Selya Price, Director of Incentive Programs; Eric Shrago, Managing Director of Operations; Jane Murphy, Vice President of Accounting and Financial Reporting; Dale Hedman, Consultant (Retiree); Bruce Chudwick (Shipman and Goodwin) and Bob Lamb (Lamont Financial)

**Date:** June 26, 2020

**Re:** Request for Approval: Green Liberty Bond Issuance with Special Capital Reserve Fund

---

## Introduction

The purpose of this memorandum is to request approval to enable Staff to finalize the Green Liberty Bond issuance (see Appendix A – Bond Indenture) with the use of the Special Capital Reserve Fund (SCRF).

## Special Capital Reserve Fund

One of the strategic objectives for the inaugural Green Liberty Bonds soon to be issued is to enable retail access to clean energy investment opportunities. In its last Green Bond update to the Board, and based upon the recommendations of its financial advisor and underwriters, Staff recommended utilizing credit enhancement in a municipal structure via the use of a Special Capital Reserve Fund (“SCRF”) which is available to the Green Bank pursuant to Section 16-245mm of the Connecticut General Statutes (“CGS”). This structure would allow for higher additional proceeds and a greater proportion of retail friendly serial bonds. With the support of a SCRF, the bonds could be rated at or within a “notch” of the credit rating of State of Connecticut General Obligation bonds by the Public Finance Group at S&P. Ramirez expects an ‘A’ rating from S&P will be very attractive to retail investors.

Pursuing a SCRF credit enhancement requires that Staff establish findings that support “self-sufficiency” of the project, which in this case is the Residential Solar Investment Program (the “RSIP”) as supported by SHREC program revenues. Staff established four (4) findings, principal amongst these being forecasts supported by the independent engineer’s confirmation that revenues from Tranche 3 are sufficient to pay the principal of and interest on the bonds to be issued. The presentation of these findings in support of this conclusion were contained in a separate memorandum to the Board for the March 25, 2020 meeting. The Office of the Treasurer (OTT) and the Office of Policy and Management (OPM) have found the Green Liberty Bond to be “self-sufficient,” and therefore have granted access to the Green Bank to use the SCRF.

## Attachments

- Appendix A – Indenture of Trust (Draft)

- Appendix B – Project Support Commitment and Undertaking (Draft)
- Appendix C – Preliminary Official Statement (Draft)
- Green Bank SCRF Self-Sufficiency (Draft) – Update Memo (June 24, 2020)
- Green Bank Presentation to OTT and OPM on SCRF Self-Sufficiency – April 29, June 8, and June 11
- Green Bank Presentation to S&P – May 26, 2020
- DNV-GL Independent Report

## **Resolutions**

**WHEREAS**, Connecticut Green Bank (“Green Bank”) is authorized pursuant to Sections 16-245n and 16-245kk through 16-245mm of the Connecticut General Statutes (the “Act”), to finance and support financing or other expenditures that promote investment in sources of clean energy, as defined in the Act, by issuing its bonds, notes or other obligations in accordance with the Act; and

**WHEREAS**, pursuant to the Act, the Green Bank Board of Directors (the “Board”), at its March 25, 2020 meeting (the “Prior Meeting”) approved a resolution authorizing the issuance of Bonds, to be titled Green Liberty Bonds, in an amount not to exceed \$25,000,000 to finance the SHREC Receivables for SHREC Tranche 3 and to fund cost recovery under the RSIP and provide for long-term financing of the SHRECs (the “Prior Resolution”), which Prior Resolution (containing certain capitalized defined terms therein and as further used herein) also provided, in part, that:

- i) Green Bank enter into a Master Trust Indenture to provide the structure and mechanism for financing Green Bank’s programs; and
- ii) Green Bank enter into an Indenture of Trust to finance the SHREC Receivables; and
- iii) the Findings of Self Sufficiency Report presented to the Board at the Prior Meeting be approved and adopted, with Authorized Officers of Green Bank authorized to make certain revisions to said Report; and
- iv) the Preliminary Official Statement dated on or about April 9, 2020 as presented to the Board at the Prior Meeting be approved, with Authorized Officers of Green Bank authorized to make certain revisions to said the Preliminary Official Statement.

**WHEREAS**, Green Bank has determined that, in order to obtain approval of the SCRF for the Bonds, Green Bank shall not enter into the Master Trust Indenture at this time, but shall, in lieu thereof, enter into a Project Support Agreement or other agreement as determined by an Green Bank and acceptable to the State Treasurer’s Office and the Office of Policy and Management to further support the issuance of the Bonds; and

**WHEREAS**, the Indenture of Trust has been revised and updated to provide for a Project Support Agreement or other agreement in lieu of the Master Trust Indenture; and

**WHEREAS**, the Findings of Self Sufficiency Report have been revised and updated to provide additional information regarding SHREC Tranche 3 and the Bonds.

**NOW, THEREFORE, BE IT RESOLVED**, that the actions taken and included in the Prior Resolution adopted by the Board at the Prior Meeting are hereby ratified and confirmed in all respects, except as otherwise revised or amended by this Resolution, and

**FURTHER RESOLVED**, that Green Bank not enter into a Master Trust Indenture at this time as provided in the Prior Resolution, but shall, in lieu thereof, enter into a Project Support Agreement or other agreement with such terms as determined by the President and any Officer of Green Bank (each, an “Authorized Representative”) and acceptable to the State Treasurer’s Office and the Office of Policy and Management to further support the issuance of the Bonds; and

**FURTHER RESOLVED**, that the revised Indenture of Trust, substantially in the form presented to this meeting, is hereby approved, with such changes to the form, terms and provisions thereof as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds; and

**FURTHER RESOLVED**, that the revised and updated Findings of Self Sufficiency Report (the “Revised Report”), as presented to the Board at this meeting, including each of the Findings and the Determination included therein, is hereby approved and adopted, and an Authorized Representative is (a) authorized to make any additional revisions to the Report, provided such revisions do not materially change the Findings and Determination contained therein, and such Report as revised shall be and is hereby deemed approved by the Board, and (b) authorized to take appropriate actions to secure the SCRF for the Bonds when and if he or she determines, in his or her discretion, that it is in the best interests of Green Bank to secure the SCRF in connection with the issuance of the Bonds, and provided Green Bank complies with all statutory requirements for the SCRF, which will require among other things (1) State of Connecticut Office of Policy and Management approval, and (2) approval by the Office of the State Treasurer and other documentation required under the Act; and

**FURTHER RESOLVED**, that the form, terms and provisions of the revised and updated Preliminary Official Statement for the Bonds dated on or about June 29, 2020 as presented to the Board at this meeting be, and is hereby approved; with such changes to the form, terms and provisions thereof as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds; and

**FURTHER RESOLVED**, that, as provided in the Prior Resolution, in connection with the Bonds, any Authorized Representative be, and each of them acting individually hereby is, authorized and directed in the name and on behalf of Green Bank, to prepare and deliver, or cause to be prepared and delivered, a final Official Statement relating to the Bonds, including any revisions thereof and amendments and supplements thereto, to execute and deliver the Bonds, the Indenture of Trust, the Purchase Contract, the Continuing Disclosure Agreement, and any other documents or instruments, with such changes, insertions and omissions as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds (collectively, the “Financing Documents”) and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Resolution or the Prior Resolution; and

**FURTHER RESOLVED**, that, to the extent that any act, action, filing, undertaking, execution or delivery authorized or contemplated by this Resolution or the Prior Resolution has been previously accomplished, all of the same are hereby ratified, confirmed, accepted, approved and adopted by the Board as if such actions had been presented to the Board for its approval before any such action’s being taken, agreement being executed and delivered, or filing being effected.

**INDENTURE OF TRUST**

Between

**CONNECTICUT GREEN BANK**

And

**THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.,**  
as Trustee

**\$\_\_\_\_\_ SOLAR HOME RENEWABLE ENERGY CREDIT,  
GREEN LIBERTY BONDS,  
SERIES 2020**

**Dated as of**

**July 1, 2020**

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Schedule 1 - Description of the Bonds

Exhibit A - Form of Bond

## INDENTURE OF TRUST

THIS INDENTURE OF TRUST (the "Indenture") dated as of July 1, 2020 is made by and between the Connecticut Green Bank ("Green Bank"), and The Bank of New York Mellon Trust Company, N.A. (the "Trustee"), a national banking association authorized to exercise corporate trust powers:

WHEREAS, Green Bank is established and created as a body politic and corporate constituting a public instrumentality and political subdivision of the State of Connecticut (the "State"); and

WHEREAS, pursuant to Sections 16-245n and 16-245kk through 16-245mm of the Connecticut General Statutes (the "Act"), Green Bank is authorized to support financing or other expenditures that promote investment in clean energy sources, and to enter into contracts with private sources to raise capital for such purposes; and

WHEREAS, on March 26, 2019, Green Bank issued its SHREC Collateralized Notes in the aggregate amount of \$38,600,000 to fund its cost recovery under the Residential Solar Incentive Program ("RSIP") for Solar Home Renewable Energy Credits ("SHRECs") related to SHREC Systems that were aggregated into a tranche in 2017 (the "SHREC Tranche 1") and for SHRECs related to SHREC Systems that were aggregated into a tranche in 2018 (the "SHREC Tranche 2"); and

WHEREAS, pursuant to the Act, Green Bank's Board of Directors (the "Board") has approved a bond authorization of \$25,000,000 to fund its cost recovery under the RSIP by selling its bonds secured by the SHRECs related to SHREC Systems that were aggregated into a tranche in 2019 (the "SHREC Tranche 3"), which bonds shall be secured by amounts receivable (the "SHREC Receivables") under Master Purchase Agreements between Green Bank and Eversource Energy and The United illuminating Company (the "Master Purchase Agreements"); and

WHEREAS, pursuant to the Act, Green Bank is authorized from time to time to issue negotiable bonds for any corporate purpose, as shall be authorized by resolution of the members of the Board; which resolution may contain provisions for Green Bank to pledge all or any part of the revenues from the SHREC Receivables or any revenue-producing contract or contracts to secure the payment of the bonds; and

WHEREAS, pursuant to the Act, at the discretion of Green Bank, any bonds may be secured by a trust agreement by and between Green Bank and a corporate trustee, which trust agreement may secure said bonds by a pledge or assignment of any revenues to be received, any contract or proceeds of any contract, or any other property, revenues, moneys or funds available to Green Bank for such purpose; and

WHEREAS, Green Bank has determined to authorize the issuance of its \$\_\_\_\_\_ Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 (the "Bonds") and to use the proceeds derived from the sale thereof to reimburse Green Bank for

funds previously advanced and to otherwise terminate any Green Bank obligations previously incurred and that remain outstanding in order to release the SHREC Receivables from such obligations, and to otherwise carry out its corporate purposes under the Act and the Connecticut General Statutes; and

WHEREAS, Green Bank has determined that the Bonds shall be secured, in part, by a pledge to the Trustee under this Indenture of all of Green Bank's interests in the SHREC Receivables and the other revenues therefrom.

#### GRANTING CLAUSE

NOW, THEREFORE, THIS INDENTURE WITNESSETH, that to secure the payment of principal of, redemption premium, if any, and interest on the Bonds according to their true intent and meaning, and all other amounts due from time to time under this Indenture, including those due to the Trustee, to secure the performance and observance of all of the covenants, agreements, Bonds and conditions contained in the Bonds and in this Indenture, and to declare the terms and conditions upon and subject to which the Bonds are and are intended to be issued, held, secured and enforced and in consideration of the premises and the acceptance by the Trustee of the trusts created herein and of the purchase and acceptance of the Bonds by the Bondholders and for other good and valuable consideration, the receipt of which is acknowledged, Green Bank has executed and delivered this Indenture and absolutely and irrevocably grants, bargains, sells, conveys, releases, pledges and assigns to the Trustee and to its successors in trust, on the basis set forth herein, and its and their assigns, all right, title and interest of Green Bank in and to the following (collectively, the "Trust Estate"):

(1) the SHREC Receivables and RECs related to SHREC Tranche 3 owned by Green Bank (other than with respect to any SHRECs that are reassigned to Green Bank as Ineligible SHRECs following the issuance of the Bonds);

(2) the Revenues and all other property that may in the future be delivered, or by writing of any kind, conveyed, pledged, assigned or transferred to Green Bank as additional security hereunder for the Bonds;

(3) Green Bank's rights to the revenues under the Master Purchase Agreement related to the SHREC Receivables and under all other agreements that may in the future be delivered, or by writing of any kind, conveyed, pledged, assigned or transferred to Green Bank as additional security hereunder for the Bonds, but specifically reserving all other rights under the Master Purchase Agreements and such other agreements;

(4) the Revenue Fund, the Debt Service Fund, the Redemption Fund and the 2020 SHREC Economic and Energy Security Fund together with any and all receipts, funds or moneys, investments and other property of every kind and nature from time to time hereafter on deposit in or payable to such funds and accounts thereof, including any Project Support Debt Service Amounts paid by Green Bank to the Trustee for deposit into the Debt Service Fund; and

(4) the Special Capital Reserve Fund, including all amounts on deposit in and if necessary certified by Green Bank as necessary to restore the Special Capital Reserve Fund to the Special Capital Reserve Fund Requirement and deemed appropriated by the State and paid to

Green Bank, together with any and all moneys, investments and other property of every kind and nature from time to time hereafter on deposit in or payable to the Special Capital Reserve Fund, including any amounts paid by the Green Bank for deposit into the Special Capital Reserve Fund.

TO HAVE AND TO HOLD all in singular the Trust Estate, whether now owned or hereafter acquired, unto the Trustee and its successors and assigns forever, SUBJECT, HOWEVER, IN ALL CASES to the application thereof for the purposes and on the terms and conditions hereafter set forth in this Indenture;

IN TRUST, NEVERTHELESS, under and subject to the terms and conditions as hereinafter set forth for:

(a) the equal and proportionate benefit, security and protection of all present and future Bondholders from time to time issued and to be issued under and secured by this Indenture without privilege, priority or distinction as to the lien or otherwise of any Bond over any other Bonds equally secured, and for enforcement of the payment of the Bonds in accordance with their terms, and all other sums payable hereunder, on or in connection with the Bonds and for the performance of and compliance with the Bonds, covenants and conditions of and subject to the provisions of this Indenture, permitting the application and investment thereof for the purposes and on the terms and conditions set forth herein;

(b) the enforcement of the payment of the principal of, redemption premium, if any, and interest on the Bonds, and all other amounts due from time to time under this Indenture, including those due to the Trustee, when payable, according to the true intent and meaning thereof and of this Indenture, and

(c) security for the performance and observance of and compliance with the covenants, agreements, obligations, terms and conditions of this Indenture in connection with the issuance of the Bonds,

in each case, without preference, priority or distinction, as to lien or otherwise except as provided herein, of any one Bond over any other by reason of designation, number, date of the Bonds or of authorization, issuance, sale, execution, authentication, delivery or maturity thereof, or otherwise, so that each Bond and all Bonds shall have the same right, lien and privilege under this Indenture and shall be secured equally and proportionately by this Indenture, it being intended that the lien and security of this Indenture shall take effect from the date hereof, without regard to the date of the actual issue, sale or disposition of the Bonds, as though upon that date all of the Bonds were actually issued, sold and delivered to purchasers for value.

PROVIDED, HOWEVER, that upon satisfaction of and in accordance with the provisions of Section 1101, the rights assigned hereby shall cease, terminate and be void to the extent described therein, otherwise such rights shall be and remain in full force and effect; and

It is declared that the Bonds are the only bonds to be issued under and secured by this Indenture, and are to be issued, authenticated and delivered, and that all Revenues assigned or pledged hereby are to be dealt with and disposed of under, upon and subject to, the terms,

conditions, stipulations, covenants, agreements, obligations, trusts, uses and purposes provided in this Indenture; and the Green Bank has agreed and covenanted, and agrees and covenants with the Trustee and with each and all holders of Bonds, as follows:

## **ARTICLE I**

### **DEFINITIONS AND INTERPRETATION**

Section 101. Definitions. In this Indenture the following terms shall have the following meanings unless the context otherwise requires:

"Account" shall mean one of the accounts created and established pursuant to this Indenture.

"Accountant" shall mean any firm of independent certified public accountants selected by Green Bank.

"Act" shall mean Sections 16-245n and 16-245kk through 16-245mm of the Connecticut General Statutes, as amended from time to time.

"Administrative Expenses" shall mean all expenses of Green Bank necessary to produce and assure the Revenues reasonably expected to be produced by SHREC Tranche 3, including overhead expenses and out of pocket costs of Green Bank.

"Authorized Representative" shall mean with respect to Green Bank, the President or any other person designated as an Authorized Representative by resolution of its Board of Directors.

"Bond" or "Bonds" shall mean the \$\_\_\_\_\_ Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020, issued under this Indenture.

"Bond Payment Date" shall mean with respect to the Bonds issued or incurred hereunder, an Interest Payment Date or a Principal Payment Date.

"Bondholder", "owner" or "holder" or words of similar import shall mean, when used with reference to a Bond, the person in whose name the Bond is registered.

"Business Day" means any day other than a Saturday, a Sunday, or a day on which national banking associations or state banking institutions in the State of New York, the State of Connecticut or the State in which the corporate trust office of the Trustee is located are authorized or obligated by law or executive order to be closed.

"Bylaws" shall mean the bylaws of Green Bank, as amended from time to time.

"Certificate" shall mean a written certificate signed in the name of Green Bank by an Authorized Representative or in the name of the Trustee by its responsible officer.

"Code" shall mean the Internal Revenue Code of 1986, as amended.

"Connecticut General Statutes" shall mean the General Statutes of Connecticut, Revision of 1958, as amended.

"Costs of Issuance" shall mean all costs and expenses of Green Bank incurred in connection with the authorization, issuance, sale and delivery of the Bonds, including, but not limited to, underwriting fees and costs, rating fees, legal fees and expenses, financial advisory and other consultant fees, Trustee fees and expenses, paying agent fees and printing costs.

"Costs of Issuance Fund" shall mean the fund by that name established pursuant to Sections 502 and 504 hereof.

"Debt Service" shall mean the sum of (i) the Interest Payment due on the Bonds on an Interest Payment Date, except to the extent that such interest is to be paid from amounts representing investment (but not reinvestment) earnings on the Debt Service Fund or Special Capital Reserve Fund if such amounts shall have been invested in Investment Securities and the amount of such investment earnings taken into account may be determined precisely, and (ii) the Principal Payment due on the Bonds on such Principal Payment Date. Such Interest Payment and Principal Payment shall be calculated on the assumption that no Bonds Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment thereof upon stated maturity or upon mandatory redemption by application of Sinking Fund Installments.

"Debt Service Accounts" shall mean the Interest Account and the Principal Account established in the Debt Service Fund.

"Debt Service Fund" shall mean the fund by that name established pursuant to Sections 502 and 504 hereof.

"Defeasance Obligations" shall mean (A) any bonds or other obligations which as to principal and interest constitute direct obligations of, or are guaranteed by, the United States of America, including obligations of any agency thereof or corporation which has been or may hereafter be created pursuant to an act of Congress as an agency or instrumentality of the United States of America to the extent unconditionally guaranteed as to timely payment of principal and interest by the United States of America or (B) any other receipt, certificate or other evidence of an ownership interest in obligations or in specified portions thereof (which may consist of specified portions of the interest thereon) of the character described in subclause (A).

"Environmental Attributes" shall mean, excluding electric energy and capacity produced, any other emissions, air quality, or other environmental attribute, aspect, characteristic, claim, credit, benefit, reduction, offset or allowance, howsoever entitled or designated, resulting from, attributable to or associated with the generation of energy by a qualifying residential solar photovoltaic system as defined in Connecticut Public Act No. 15-194 and as amended by Connecticut Public Act No. 16-212, whether existing as of the effective date of the Master Purchase Agreements or in the future, and whether as a result of any present or future local, state or federal laws or regulations or local, state, national or international voluntary program, as well as any and all generation attributes under the regulations promulgated pursuant to Section 16-245a of the Connecticut General Statutes, as amended, modified, restated and

superseded from time to time, that require a minimum percentage of electricity sold to end use customers in the State of Connecticut to be derived from certain renewable energy generating resources, regulations and under any and all other international, federal, regional, state or other law, rule, regulation, bylaw, treaty or other intergovernmental compact, decision, administrative decision, program (including any voluntary compliance or membership program), competitive market or business method (including all credits, certificates, benefits, and emission measurements, reductions, offsets and allowances related thereto) that are attributable, now or in the future; and further, means: (a) any such credits, certificates, benefits, offsets and allowances computed on the basis of a SHREC Project's generation using renewable technology or displacement of fossil fuel derived or other conventional energy generation; (b) any certificates issued pursuant to the New England Power Pool Generation Information System in connection with energy generated by a SHREC Project; and (c) any voluntary emission reduction credits obtained or obtainable by Green Bank in connection with the generation of energy by a SHREC Project; provided, however, that Environmental Attributes shall not include: (i) any production tax credits; (ii) any investment tax credits or other tax credits associated with the construction or ownership of a SHREC Project; or (iii) any state, federal or private grants relating to the construction or ownership of a SHREC Project or the output thereof. If during the delivery period, a change in laws or regulations occurs that creates value in Environmental Attributes, then at the applicable Utility's request, Green Bank will cooperate with such Utility to register such Environmental Attributes or take other action necessary to obtain the value of such Environmental Attributes for such Utility.

"Event of Default" shall mean any of the events specified in Section 901 hereof.

"Fiscal Year" shall mean the period adopted by Green Bank as its annual accounting period. The Fiscal Year is initially the twelve month period commencing on July 1 and ending on June 30 in each year.

"Fund" shall mean any fund established pursuant to Sections 502 or 801 hereof.

"Green Bank" shall have the meaning set forth in the recitals to this Indenture.

"Indenture" shall mean this instrument as originally executed and as it may from time to time be supplemented, modified or amended in accordance with the terms hereof.

"Independent Consultant" shall mean a Person that (1) does not have any direct financial interest or any material indirect financial interest in Green Bank and (2) is not connected with an officer, employee, promoter, trustee, partner, director or Person performing similar functions, and designated by Green Bank, qualified to pass upon questions relating to the financial affairs of Green Bank and having a favorable reputation for skill and experience.

"Ineligible SHREC" shall mean a SHREC for which (i) one or more eligibility criteria are found to have been breached at the time such SHREC was conveyed to Green Bank pursuant to the Master Purchase Agreements, which breach materially and adversely affects the value of such SHREC, or (ii) neither Green Bank nor the Trustee has a first priority perfected security interest.



“Interest Payment” shall mean as of any date of calculation and with respect to any Bonds Outstanding, the interest amount on the Bonds due on the next Interest Payment Date.

"Interest Payment Date" shall mean November 15 and May 15 in each year until maturity, commencing on November 15, 2020.

"Investment Securities" shall mean and include any of the following, as confirmed to the Trustee in a Certificate of an Authorized Representative:

(1) Direct bonds issued or guaranteed by the United States of America or the State;

(2) Debt or bonds which are rated “A” or better by Moody’s and S&P if rated by both, or are rated “A” by Moody’s or S&P if not rated by both (without regard to the addition of a number or a plus (+) or a minus (-) to any rating) and are:

(a) Securities which are guaranteed fully as to principal and interest by the United States or the State or for which the full faith and credit of the United States or the State is pledged for the payment of principal and interest;

(b) Securities, including repurchase agreements, the principal and interest of which are irrevocably secured by securities described in clause (1) or subdivision (a) of clause (2) of this definition;

(c) Bonds of any agency of the United States, including government sponsored enterprises, which are not guaranteed fully as to principal and interest by the United States or for which the full faith and credit of the United States is not pledged for the payment of principal and interest; or

(d) Partnership interests in, shares of stock of, units of beneficial interest in or other ownership interest in any one investment company registered under the Investment Company Act of 1940, as from time to time amended, provided the portfolio of such investment company consists solely of investments described in subsections (a) to (c) above;

(3) Deposits of interest-bearing time or demand deposits or certificates of deposit or other similar banking arrangements that are allowable investments for Green Bank and are secured in such manner as Green Bank shall determine;

(4) Participation certificates in the short term investment fund created and existing under Section 3-27a of the Connecticut General Statutes.

“Master Purchase Agreements” shall mean the agreements authorized pursuant to Section 16-245gg of the Connecticut General Statutes (i) by and between Green Bank and The Connecticut Light and Power Company d/b/a Eversource Energy (“Eversource”) and (ii) by and

between Green Bank and The United Illuminating Company (“United Illuminating”) (collectively Eversource and United Illuminating are the “Utilities”), pursuant to which Green Bank is required to sell and the Utilities are required to purchase the SHRECs.

"Notice" shall mean, unless otherwise expressly specified or permitted by the terms of this Indenture, a notice in writing, sent by registered or certified mail, postage prepaid, or by national overnight courier service, or by personal delivery, or by electronic mail with a pdf attachment of such notice (with prompt telephonic confirmation of receipt), to the addresses provided in Section 1210 hereof, or to such other address as Green Bank or the Trustee shall from time to time designate by notice in writing to the other.

“Operating Expenses” means all reasonable and necessary current and future costs and expenses of Green Bank to function as a quasi-public entity in accordance with State law and fulfill its purposes, other than loans to Persons, including all employee wages, salaries and benefits, as provided in its approved budget. Operating Expenses do not include principal of or interest on the Bonds or other indebtedness of Green Bank.

"Opinion of Counsel" shall mean a written opinion signed by an attorney or firm of attorneys who may be counsel for Green Bank.

"Outstanding", when used with reference to Bonds, shall mean, as of any date of determination, all Bonds theretofore issued or incurred and not paid and discharged other than (a) Bonds theretofore cancelled by the Trustee or delivered to the Trustee for cancellation, (b) Bonds in lieu of which other Bonds have been authenticated and delivered or have been paid pursuant to the provisions of a Supplemental Indenture regarding mutilated, destroyed, lost or stolen Bonds unless proof satisfactory to the Trustee has been received that any such Bond is held by a protected purchaser, (c) any Bond held by Green Bank, and (d) Bonds deemed paid and no longer outstanding pursuant to the terms thereof.

“Person” means an individual, corporation, limited liability company, firm, association, partnership, trust, or other legal entity or group of entities, including a governmental entity or any agency or political subdivision thereof.

"President" shall mean the President or any Interim President of Green Bank appointed in accordance with Green Bank's Bylaws.

"Principal Payment" shall mean, as of any date of calculation and with respect to any Bonds Outstanding, (i) the principal amount of the Bonds due on a certain future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance of any Sinking Fund Installments due on a certain future date for the Bonds, or (iii) if such future dates coincide as to different Bonds, the sum of such principal amount of the Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date.

“Principal Payment Date” shall mean November 15 each year until maturity, commencing on November 15, 2021.

“Prior Bond Indenture” means the Indenture of Trust between the Connecticut Green Bank and U.S. Bank National Association as Trustee for \$2,957,971.35 Clean Renewable Energy Bonds (CGB Meriden Hydro LLC Project) dated as of February 2, 2017.

“Prior Lease/Purchase Agreement” means the \$9,101,729.15 Equipment Lease/Purchase Agreement (Taxable Direct Pay New Clean Renewable Energy Bond) Connecticut State Colleges and University System between Banc of America Leasing & Capital, LLC and Green Bank, dated as of December 29, 2017, as amended October 25, 2018.

“Project Support Commitment and Undertaking” means the agreement by Green Bank to pay to the Trustee the Project Support Debt Service Amounts due and payable thereunder.

“Project Support Debt Service Amount” means the amount payable by Green Bank pursuant to the Project Support Commitment and Undertaking and Section 504(a) of this Indenture as follows: (i) on the fifth (5<sup>th</sup>) business day of November and May in each year, beginning in the year 2020, for deposit into the Interest Account within the Debt Service Fund, the amount necessary to make the next succeeding Interest Payment, less any amounts in the Interest Account at each date of deposit; and (ii) on the fifth (5<sup>th</sup>) business day of November of each year, commencing in November 2021, for deposit into the Principal Account within the Debt Service Fund, the amount necessary to make the next succeeding Principal Payment, less any amounts in the Principal Account at each date of deposit.

“Rebate Amount” shall mean any amounts due and owing to the Department of the Treasury of the United States of America as required to obtain and maintain the tax exemption under the Code.

“RECs” shall mean the solar home renewable energy credits produced by qualifying residential solar photovoltaic systems pursuant to Section 16-245gg of the Connecticut General Statutes.

"Record Date" shall mean, unless otherwise determined by the Trustee upon the occurrence of an Event of Default, the last business day of any calendar month proceeding the month in which there occurs a Bond Payment Date.

“Redemption Fund” shall mean the fund by that name established pursuant to Sections 502 and 507 hereof.

"Redemption Price" shall mean, when used with respect to a Bond or portion thereof, the principal amount thereof plus the applicable premium, if any, payable upon redemption thereof pursuant to the terms of this Indenture.

“Related Secured Credit Facility” shall mean the outstanding obligations of Green Bank for which the SHREC Tranche 3 SHRECs have been pledged as security for the repayment thereof, as follows: \_\_\_\_\_.

“Residential Solar Incentive Program” or “RSIP” means the program established by Green Bank pursuant to Section 16-245ff of the Connecticut General Statutes to support the deployment of residential solar photovoltaic installations in the State.

"Revenue Fund" shall mean the fund by that name established pursuant to Sections 502 and 503 hereof.

"Revenues" shall mean all payments, charges, rents, fees, insurance proceeds and other realized income derived or to be derived from or for the ownership of the RECs related to SHREC Tranche 3, including all investment proceeds received by Green Bank, and including all revenues from the Master Purchase Agreements related to the SHREC Receivables, but does not include (i) any amounts received or receivable from the State or the United States (or any agency of either thereof), or (ii) any amounts received by or paid to Green Bank under the terms of any grant agreement with the State or the United States (or any agency of either thereof) and which are received by or paid to Green Bank under such grant agreement.

“SHREC” or “SHRECs” shall mean the solar home renewable energy credits purchased by Green Bank from homeowners and third-party system owners receiving RSIP incentives, including any related Environmental Attributes and certain energy attributes, and which are required to be sold by Green Bank to the Utilities, pursuant to the Master Purchase Agreements.

“SHREC Program Expenditures” means the anticipated incentive payments payable by Green Bank under its Solar Home Renewable Energy Credit program, the deposits required from Green Bank to remove any Ineligible SHRECs, plus payments for administrative, operating and financing costs related thereto.

“SHREC Project” means a qualifying residential solar photovoltaic system, which is a solar photovoltaic project that (i) receives funding from Green Bank, (ii) is certified by the Authority as a Class I renewable energy source, as defined in subsection (a) of Section 16-1 of the Connecticut General Statutes, (iii) emits no pollutants, (iv) is located on the customer-side of the revenue meter of a one-to-four family home, (v) serves the distribution system of an electric distribution company, and (vi) which is capable of producing SHRECs.

“SHREC Receivables” shall mean the revenue received from the Utilities for SHRECs related to SHREC Tranche 3 on and after the date the Bonds are issued.

“SHREC System” shall mean a residential photovoltaic system for which the homeowner or a third-party owner deploying such system has been provided an incentive by Green Bank pursuant to the Residential Solar Incentive Program.

“SHREC Tranche 3” shall mean the SHRECs related to SHREC Systems that were aggregated into a tranche in 2019.

“Sinking Fund Installment” shall mean, as of any particular date of calculation, the amount required by this Indenture to be paid on a future date for the retirement of Outstanding Bonds which are stated to mature subsequent to such future date, but does not include any amount payable by reason only of the maturity of a Bond.

“Special Capital Reserve Fund” or “SCRF” shall mean the fund by that name established pursuant to Sections 502 and 506 hereof.

“Special Capital Reserve Fund Requirement” shall mean as of any date of calculation, an amount equal to the maximum amount of Principal Payments and interest thereon becoming due in the calendar year in which such computation is made, or in any single succeeding calendar year, on Outstanding Bonds.

"State" shall mean the State of Connecticut.

"Supplemental Indenture" shall mean a written agreement of Green Bank amending or supplementing this Indenture, adopted in accordance with Article VIII hereof.

"Trust Estate" shall have the meaning set forth in the Granting Clause in this Indenture.

"Trustee" shall mean The Bank of New York Mellon Trust Company, N.A. and its successor or successors and any other person which may at any time be substituted in its place pursuant to this Indenture.

“Utilities” shall mean, collectively, The Connecticut Light and Power Company, d/b/a Eversource Energy (“Eversource”) and The United Illuminating Company (“United Illuminating”).

"2020 SHREC Economic Energy and Security Fund" shall mean the fund by that name established pursuant to Sections 502 and 508 hereof.

#### Section 102. Interpretation.

(a) Any reference herein to any officer of Green Bank shall include those succeeding to his or her functions, duties or responsibilities pursuant to or by operation of law or who are lawfully performing his or her functions.

(b) Unless the context otherwise indicates, words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. The singular shall include the plural and vice versa.

(c) All accounting terms not specifically defined herein shall be construed in accordance with generally accepted accounting principles consistently applied, except as otherwise stated herein. If any change in accounting principles from those used in the preparation of the financial statements of Green Bank results from the promulgation of rules, regulations, pronouncements and opinions by or required by the Governmental Accounting Standards Board, American Institute of Certified Public Accountants, or other authoritative bodies that determine generally accepted accounting principles (or successors thereto or agencies with similar functions) and such change results in a change in the accounting terms used in this Indenture, the accounting terms used herein shall be modified to reflect such change in accounting principles so that the criteria for evaluating Green Bank’s financial condition shall be the same after such change as if such change had not been made. Any such modification shall be

described in a Certificate of an Authorized Representative filed with the Trustee, which shall contain a certification to the effect that (i) such modifications are occasioned by such a change in accounting principles and (ii) such modifications will not have a material adverse effect on Green Bank's financial condition.

(d) Headings of Articles and Sections herein and the table of contents hereto are solely for convenience of reference, and do not constitute a part hereof and shall not affect the meaning, construction or effect hereof.

Section 103. References to Indenture. The terms "hereby," "hereof," "hereto," "herein," "hereunder," and any similar terms, used in this Indenture refer to this Indenture.

Section 104. Contents of Certificates and Opinions Every Certificate or opinion provided for herein by Green Bank with respect to compliance with any provision hereof shall include: (i) a statement that the Person making or giving such certificate or opinion has read such provision and the definitions herein relating thereto; (ii) a brief statement as to the nature and the scope of the examination or investigation upon which the certificate or opinion is based; (iii) a statement that, in the opinion of such Person, he, she or it has made, or caused to be made, such examination or investigation as is necessary to enable him, her or it to express an informed opinion with respect to the subject matter referred to in the instrument to which his, her or its signature is affixed; and (iv) a statement as to whether, in the opinion of such Person, such provision has been complied with.

Any such Certificate or opinion made or given by an officer of Green Bank or the Trustee may be based, insofar as it relates to legal, accounting or clean energy matters, upon a Certificate or opinion or representation of counsel, an Accountant or Independent Consultant unless such officer knows, or in the exercise of reasonable care should have known, that the Certificate, opinion or representation with respect to the matters upon which such Certificate or opinion may be based, as aforesaid, is erroneous. Any such Certificate, opinion or representation made or given by counsel, an Accountant, or an Independent Consultant, may be based, insofar as it relates to factual matters (with respect to which information is in the possession of Green Bank), upon the Certificate or opinion of, or representation by an officer of Green Bank unless such counsel, Accountant or Independent Consultant knows, or in the exercise or reasonable care should have known, that the Certificate, opinion of or representation by such officer, with respect to the factual matters upon which such Person's Certificate or opinion may be based, as aforesaid, is erroneous. The same officer of Green Bank or the same counsel or Accountant or Independent Consultant, as the case may be, need not certify as to all the matters required to be certified under any provision hereof, but different officers, counsel, Accountants or Independent Consultants may certify as to different matters, respectively.

## **ARTICLE II**

### **AUTHORIZATION AND ISSUANCE OF BONDS**

Section 201. Authorization of Indenture. This Indenture is entered into pursuant to the authority granted to Green Bank by the Act and the Bylaws. Green Bank has ascertained and hereby determines and declares that execution of this Indenture is necessary to carry out its purposes under the Act, that each and every act, matter, thing or course of conduct as to which provision is made herein is necessary in order to carry out and effectuate the corporate purposes of Green Bank in accordance with the Act and the Bylaws and to exercise the powers given thereby, and that each and every covenant or agreement herein contained and made is necessary, useful or convenient in order to better secure the Bonds and the contracts or agreements necessary, useful and convenient to carry out and effectuate its purposes under the Act.

Section 202. Indenture to Constitute Contract. In consideration of the purchase and acceptance of the Bonds by those who shall hold the same from time to time, the provisions of this Indenture shall constitute a contract among Green Bank, the Trustee and the holders from time to time of the Bonds. The pledge hereof and the provisions, covenants and agreements herein set forth to be performed by or on behalf of Green Bank shall be for the equal benefit, protection and security of the holders of any and all such Bonds each of which, regardless of the time or times of its issue or maturity, shall be of equal rank without preference, priority or distinction over any other thereof except as expressly provided in this Indenture.

Section 203. Authorization of Bonds; Obligation of Bonds.

(a) In order to provide sufficient funds for the purposes of financing and refinancing the SHREC Receivables, Bonds of Green Bank are hereby authorized to be issued and such Bonds shall be issued subject to the terms, conditions and limitations established in this Indenture.

(b) The Bonds issued hereunder shall be payable solely out of the Revenues and other receipts, funds and moneys pledged therefor pursuant to this Indenture and are secured by the liens created hereby, including the Trust Estate. The Bonds are not general obligations of Green Bank or the State. The Bonds shall not be deemed to constitute a debt or liability of the State or of any political subdivision thereof, or a pledge of the full faith and credit of the State or any of its political subdivisions, but shall be payable solely from the funds provided for such purposes by this Indenture. The Bonds shall not constitute indebtedness of the State within the meaning of any statutory or constitutional provision.

(c) The Bonds issued pursuant to this Indenture shall be special, limited Bonds of Green Bank and shall not be payable from nor charged upon any funds other than Revenues or other receipts, funds or moneys pledged therefor pursuant to this Indenture, nor shall Green Bank be subject to any liability thereon except to the extent of such Revenues or other receipts, funds and moneys pledged therefor pursuant to this Indenture; provided, however, that the foregoing shall in no way limit Green Bank's duties and obligations hereunder and any rights or remedies the Bondholders may have in respect of such duties and obligations. The issuance of Bonds pursuant hereto shall not directly or contingently obligate Green Bank to make any additional appropriation for their payment. The Bonds shall not constitute a charge, lien or encumbrance, legal or equitable, upon any property of Green Bank, other than Revenues or other receipts, funds or moneys pledged therefor as provided in this Indenture.

Section 204. Issuance and Delivery of the Bonds.

(a) There are hereby authorized to be issued under this Indenture Bonds in the principal amount of \$\_\_\_\_\_, in denominations of \$1,000 or any integral multiple thereof, as follows: Connecticut Green Bank Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020, dated, bearing interest, maturing, and subject to prior optional redemption, as indicated on Schedule 1 hereof. The interest on the Bonds shall be includable in the gross income of the holders thereof for federal income tax purposes under the Code, it having been found and determined by Green Bank that such issuance is necessary, is in the public interest, and is in furtherance of the purposes and powers of Green Bank.

(b) The Bonds shall be issued in fully registered form, without coupons, in the principal amount of the Bonds, initially registered in the name of Cede & Co, the nominee for The Depository Trust Company. Interest on the Bonds will be calculated on the basis of a 360-day year consisting on twelve 30-day months. Subject to the provisions of this Indenture, the form of the Bonds and the Trustee's certificate of authentication shall be substantially in the form of bond in Exhibit A with such changes as are required hereby.

(c) Optional Redemption. The Bonds maturing on November 15, 20\_\_ are subject to redemption prior to maturity, at the option of Green Bank, on or after November 15, 20\_\_ at any time, in whole or in part, in such amounts as Green Bank may determine, at the redemption price or prices (expressed as a percentage of the principal amount of the Bonds to be redeemed) set forth in the following table, plus interest accrued and unpaid to the redemption date:

<u>Redemption Date</u>	<u>Redemption Price</u>
November 15, 20__ and thereafter	100.00%

(d) Mandatory Sinking Fund Redemption. The Bonds maturing on November 15, 20\_\_ shall be subject to redemption, in part, through application of Sinking Fund Installments beginning on November 15, 20\_\_, at the Redemption Price of one hundred percent (100%) of the principal amount of each portion of the Bond to be redeemed, plus accrued interest, if any, to the date of redemption. Unless no portion of the Bonds to be so redeemed shall then be Outstanding and, subject to the provisions of this Indenture permitting amounts to be credited to part or all of any one or more Sinking Fund Installments, there shall be due from, and Green Bank shall be required to pay for the retirement of the Bonds on November 15 in each of the years set forth in Schedule 1 attached hereto, the amount set forth opposite such year in said Schedule 1, and the said amount to be paid on each such date is hereby established as and shall constitute a Sinking Fund Installment for retirement of such portion of the Bonds.

(e) The net proceeds of the Bonds shall be used to reimburse Green Bank for funds previously advanced and to otherwise satisfy any Green Bank obligations previously incurred and that remain outstanding in order to release the SHREC Receivables from the Related Secured Credit Facility.



Section 205. [Not used]

Section 206. Special Capital Reserve Fund.

(a) For purposes of this Section, “required minimum capital reserve” means the maximum amount permitted to be deposited in a special capital reserve fund (i.e., debt service reserve fund) by the Code, to permit the Bonds to be issued on a tax-exempt basis, if the Bonds were to be issued on a tax-exempt basis.

(b) As provided in the Act:

(i) In connection with the issuance of Bonds or to refund Bonds previously issued by Green Bank, Green Bank has in Section 502 established a reserve fund for the Bonds to be known as a Special Capital Reserve Fund, and will pay into such fund (1) any moneys appropriated and made available by the State for purposes of such fund, (2) any proceeds of the sale of Bonds, to the extent provided in the resolution of Green Bank authorizing the issuance thereof, and (3) any other moneys which may be made available to Green Bank for the purpose of such fund from any other source or sources.

(ii) The moneys held in or credited to the Special Capital Reserve Fund, except as hereinafter provided, shall be used for (1) the payment of the principal of and interest, when due, whether at maturity or by mandatory sinking fund installments, on the Bonds of Green Bank as such payments become due, or (2) the purchase of such Bonds and the payment of any redemption premium required to be paid when such Bonds are redeemed prior to maturity, including in any such case by way of reimbursement of a provider of bond insurance or of a credit or liquidity facility that has paid such redemption premiums. Notwithstanding the provisions of subdivisions (1) and (2) of this subsection, Green Bank shall provide that no moneys shall be withdrawn from the Special Capital Reserve Fund at any time in such amount as would reduce the amount of such moneys to less than the maximum amount of principal and interest becoming due by reasons of maturity or a required sinking fund installment in the then current or any succeeding calendar year on the Bonds then Outstanding, or less than the required minimum capital reserve, except for the purpose of paying such principal of, redemption premium and interest on such Bonds becoming due and for the payment of which other moneys of Green Bank are not available. Green Bank shall not issue Bonds secured by the Special Capital Reserve Fund at any time if the required minimum capital reserve on the Bonds then Outstanding and the Bonds then to be issued and secured by the same fund at the time of issuance exceeds the moneys in the fund, unless Green Bank, at the time of the issuance of such Bonds, deposits in such fund from the proceeds of the Bonds so to be issued, or from other sources, an amount which, together with the amount then in such fund, will be not less than the required minimum capital reserve.

(iii) Prior to December first, annually, Green Bank shall deposit, or cause to be deposited, into the Special Capital Reserve Fund, the balance of which has fallen below the required minimum capital reserve of such fund, the full amount required to meet the minimum capital reserve of such fund, as available to Green Bank from any resources of Green Bank not otherwise pledged or dedicated to another purpose. On or before December first,

annually, but after Green Bank has made such required deposit, the State shall deem to be appropriated from the State general fund such sums, if any, as shall be certified by the chairperson or vice-chairperson of Green Bank to the Secretary of the Office of Policy and Management, the State Treasurer and the joint standing committees of the General Assembly having cognizance of matters relating to finance, revenue and bonding and energy, as necessary to restore each such fund to the amount equal to the required minimum capital reserve of such fund, and such amounts shall be allotted and paid to Green Bank for deposit to the Special Capital Reserve Fund. For the purpose of evaluation of any such fund, obligations acquired as an investment for any such fund shall be valued at market value as of the date of calculation. Nothing contained in this Section shall preclude Green Bank from establishing and creating other debt service reserve funds in connection with the issuance of bonds or notes of Green Bank which are not a special capital reserve fund. Subject to any agreement or agreements with holders of outstanding notes and bonds of Green Bank, any amount or amounts allotted and paid to Green Bank pursuant to this Section shall be repaid to the State from moneys of Green Bank at such time as such moneys are not required for any other of Green Bank's corporate purposes, and in any event shall be repaid to the State on the date one year after all bonds and notes of Green Bank theretofore issued on the date or dates such amount or amounts are allotted and paid to Green Bank or thereafter issued, together with interest on such bonds and notes, with interest on any unpaid installments of interest and all costs and expenses in connection with any action or proceeding by or on behalf of the holders thereof, are fully met and discharged.

(iv) No Bonds secured by the Special Capital Reserve Fund shall be issued by Green Bank under this Indenture unless Green Bank is of the opinion and determines that the revenues from the SHREC Receivables shall be sufficient to (1) pay the principal of and interest on the Bonds issued to finance the SHREC Receivables, (2) establish, increase and maintain any reserves deemed by Green Bank to be advisable to secure the payment of the principal of and interest on such Bonds, (3) pay the cost of maintaining the SHREC Receivables, and (4) pay such other costs of the SHREC Receivables as may be required.

(v) Notwithstanding the provisions of this Section, no Bonds secured by the Special Capital Reserve Fund shall be issued by Green Bank until and unless such issuance has been approved by the Secretary of the Office of Policy and Management or his or her deputy. Any such approval by the Secretary pursuant to this subsection shall be in addition to (1) the otherwise required opinion of sufficiency by Green Bank set forth in subsection (b)(v) of this Section, and (2) the approval of the State Treasurer or the Deputy State Treasurer and the documentation by Green Bank otherwise required under subsection (a) of Section 1-124 of the Connecticut General Statutes. Such approval may provide for the waiver or modification of such other requirements of this Section as the Secretary determines to be necessary or appropriate in order to effectuate such issuance, subject to all applicable tax covenants of Green Bank and the State.

(c) The Special Capital Reserve Fund established pursuant to Section 502 hereof shall comply with and be subject to the provisions of the Act as provided in this Section. Green Bank shall take all actions required under the Act to maintain the balance within the Special Capital Reserve Fund at an amount not less than the Special Capital Reserve Fund Requirement.

## ARTICLE III

### GENERAL TERMS AND CONDITIONS OF BONDS

Section 301. Authorization. In addition to the provisions of Section 204 hereof, the Bonds issued hereunder shall contain on the face thereof a statement to the effect that neither the State of Connecticut nor any political subdivision thereof shall be obligated to pay the same or the interest thereon except from the Revenues or the other revenues thereof for which such Bonds are issued, and that neither the full faith and credit nor the taxing power of the State of Connecticut or of any political subdivision thereof is pledged to the payment of the principal of or the interest on such Bonds. The issuance of the Bonds under the provisions of this Section shall not directly, indirectly or contingently obligate the State or any political subdivision thereof to levy or to pledge any form of taxation or to make any appropriation for the payment of such Bonds.

Section 302. Place and Medium of Payment; Form. The Bonds shall be payable at the designated corporate trust office of the Trustee appointed or provided for such Bonds, in any coin or currency of the United States of America which at the time of payment is legal tender for the payment of public and private debts. The Bonds shall be issued in the form of fully registered bonds without coupons payable to a named person or registered assigns.

Section 303. Negotiability, Transfer and Registry.

(a) The Depository Trust Company ("DTC"), New York, NY, will act as securities depository for the Bonds. The Bonds will be issued as fully-registered Bonds registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered Bond certificate will be issued for each maturity of the Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC.

(b) Principal and interest payments on, and redemption premium, if any, with respect to the Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. Purchases of the Bonds under the DTC system must be made by or through DTC participants, which will receive a credit for the Bonds on DTC's records.

Section 304. Regulations with Respect to Exchanges and Transfers. In all cases in which the privilege of exchange Bonds or the registration of transfer Bonds is exercised, Green Bank shall execute and the Trustee shall authenticate and deliver Bonds in accordance with the provision of this Indenture. All Bonds surrendered in such exchanges or registrations of transfer shall forthwith be canceled by the Trustee. For every such change or the registration of transfer of bonds whether temporary or definitive, Green Bank or the Trustee may, as a condition precedent to the privilege of making such change or transfer, make a charge sufficient to reimburse it for its expenses and for any tax, fee or other governmental charge required to be paid with respect to such exchange or transfer. In connection with any such transfer or exchange, the transferor or owner shall provide or cause to be provided to the Trustee all information

necessary to allow the Trustee to comply with any applicable tax reporting obligations, including without limitation any cost basis reporting obligations under Internal Revenue Code Section 6045. The Trustee may rely on the information provided to it and shall have no responsibility to verify or ensure the accuracy of such information.

Section 305. Bonds Mutilated, Destroyed, Stolen or Lost. In any case any Bond shall become mutilated or be destroyed, stolen or lost, Green Bank shall execute, and thereupon the Trustee shall authenticate and deliver, a new Bond, with the same maturity date and in the same principal amount as the Bond so mutilated, destroyed, stolen or lost; provided that (i) in the case of a mutilated Bond, upon surrender and cancellation of such mutilated Bond, and (ii) in the case of any Bond destroyed, stolen or lost, upon filing with the Trustee of evidence satisfactory to Green Bank and the Trustee that such Bond has been destroyed, stolen or lost and proof of ownership thereof, and upon furnishing Green Bank and the Trustee with indemnity satisfactory to them and complying with such other reasonable regulations as Green Bank and the Trustee may prescribe and paying such expenses as Green Bank and Trustee may incur. All Bonds so surrendered to the Trustee shall be canceled by it. Any such new Bonds issued pursuant to this Section in substitution for mutilated Bonds or Bonds alleged to be destroyed, stolen or lost shall constitute original additional contractual Bonds on the part of Green Bank, whether or not the Bonds so alleged to be destroyed, stolen or lost be at any time enforceable by anyone, and shall be equally secured by and entitled to equal and proportional benefits with all other Bonds issued under this Indenture.

Section 306. Preparation of Definitive Bonds, Temporary Bonds.

(a) Until the definitive Bonds are prepared, Green Bank may execute, in the same manner as is provided in Section 307, and, upon the request of Green Bank, the Trustee shall authenticate and deliver, in lieu of definitive Bonds, but subject to the same provisions, limitations and conditions as the definitive Bonds and as to interchangeability and registration of the transfer of Bonds, as permitted by law, one or more temporary Bonds substantially of the tenor of the definitive Bonds in lieu of which such temporary Bond or Bonds are issued in the same denomination as the definitive Bond, and with such omissions, insertions and variations as may be appropriate to temporary Bonds. Green Bank at its own expense shall prepare and execute and, upon the surrender therefor of such temporary Bonds the Trustee shall authenticate and, without charge to the holder thereof, deliver in exchange therefor, the definitive Bond of the same principal amount and maturity as the temporary Bonds surrendered. Until so exchanged the temporary Bonds shall in all respects be entitled to the same benefits and security as definitive Bonds authenticated and issued pursuant to this Indenture.

(b) All temporary Bonds surrendered in exchange either for another temporary Bond or Bonds or for a definitive Bond or Bonds shall be forthwith canceled by the Trustee.

Section 307. Execution and Authentication.

(a) After their authorization, Bonds may be executed by or on behalf of Green Bank and delivered to the Trustee for authentication. The Bonds shall be executed in the name and on behalf of Green Bank by the manual or facsimile signature of an Authorized

Representative of Green Bank and the corporate seal of Green Bank (or a facsimile thereof) shall be thereunto affixed, imprinted, engraved or otherwise reproduced thereon, and attested by the manual or facsimile signature of another Authorized Representative of Green Bank, or in such other manner as may be required by law. In case any one or more of the officers or employees who shall have signed or sealed any of the Bonds shall cease to be such officer or employee before the Bonds so signed and sealed shall have been actually delivered, such Bonds may, nevertheless, be delivered as herein provided, and may be issued as if the person who signed or sealed such Bonds had not ceased to hold such offices or be so employed. Any Bond may be signed and sealed on behalf of Green Bank by such persons as at the actual time of the execution of such Bond shall be duly authorized to hold the proper office in or employment by Green Bank, although at the date of the Bonds such person may not have been so authorized to have held such office or employment.

(b) The Bonds shall bear thereon a certificate of authentication, in the form set forth in the form of Bonds, executed manually by the Trustee. No Bond shall be entitled to any right or benefit under this Indenture or shall be valid or obligatory for any purpose until such certificate of authentication shall have been duly executed by the Trustee. Such certificate of the Trustee upon any Bond executed on behalf of Green Bank shall be conclusive evidence that the Bond so authenticated has been authenticated and delivered under this Indenture and that the owner thereof is entitled to the benefits hereof.

## **ARTICLE IV**

### **APPLICATION OF BOND PROCEEDS**

Section 401. Application of Bond Proceeds. The proceeds (including accrued interest) from the sale of the Bonds shall be applied simultaneously with the delivery of such Bonds for the purposes of paying Green Bank's current secured indebtedness in order to release the SHREC Receivables from the Related Secured Credit Facility, and making deposits in the Funds and Accounts, as shall be provided in a Certificate of Authorized Representative, and all amounts not otherwise deposited shall be deposited in the Revenue Fund.

## **ARTICLE V**

### **FUNDS AND ACCOUNTS**

Section 501. The Pledge Effected by this Indenture. All Bonds issued pursuant to this Indenture shall be special, limited obligations of Green Bank. Pursuant to the Granting Clauses set forth herein, Green Bank has pledged the Trust Estate as security for the payment of the Bonds and the performance of any other obligation of Green Bank under this Indenture, in accordance with the terms and the provisions of this Indenture, subject only to the provisions of this Indenture permitting the application thereof for or to the purposes and on the terms and conditions herein set forth. As provided in the Act: this pledge shall be valid and binding from

the time when the pledge is made; the lien of this pledge shall be valid and binding as against all parties having claims of any kind in tort, contract or otherwise against Green Bank, irrespective of whether the parties have notice of the claims; notwithstanding any provision of the Uniform Commercial Code, no instrument by which such pledge is created need be recorded or filed except in the records of Green Bank; any revenues, contract or proceeds of any contract, or other property, revenues, moneys or funds so pledged and thereafter received by Green Bank shall be subject immediately to the lien of the pledge without any physical delivery thereof or further act, and such lien shall have priority over all other liens.

Section 502. Establishment of Funds and Accounts.

(a) The following Funds and Accounts are hereby established:

- (1) Revenue Fund
- (2) Debt Service Fund
  - (a) Interest Account
  - (b) Principal Account
- (3) Costs of Issuance Fund
- (4) Special Capital Reserve Fund
- (5) Redemption Fund
- (6) 2020 SHREC Economic and Energy Security Fund

(b) In addition to the Accounts established in subsections (a) above, the Trustee shall, at the written request of Green Bank, establish such additional Funds, or within any Fund held by the Trustee such Accounts as shall be designated in the written instructions of an Authorized Representative of Green Bank and shall in like manner establish within any Account such subaccounts for the purposes of such Accounts as shall be so designated.

(c) Unless otherwise expressly provided in this Indenture, all of the Funds and Accounts shall be held by the Trustee.

Section 503. Revenue Fund.

(a) The Trustee shall establish, maintain and hold in trust a separate fund designated as the "Revenue Fund," and within said fund one or more separate accounts as directed by Green Bank from time to time, and administer said fund and such accounts as set forth in this Section. The Trustee shall deposit into the Revenue Fund, as and when such amounts are received, (i) all Revenues, (ii) all amounts delivered by or at the written direction of Green Bank to the Trustee for deposit therein, and (iii) any other amounts required to be deposited therein pursuant to this Indenture.

(b) The Trustee shall use and withdraw amounts in the Revenue Fund on the second Business Day immediately following the last day of each calendar month and apply such amounts as follows:

FIRST: to the Trustee's unpaid fees, charges and expenses;

SECOND: to the Interest Account in the Debt Service Fund, the amount necessary to make the payment of the next succeeding Interest Payment, less any amounts in the Interest Account at each date of deposit;

THIRD: to the Principal Account in the Debt Service Fund, the amount necessary to make the next succeeding Principal Payment, less any amounts in the Principal Account at each date of deposit;

FOURTH: to the Special Capital Reserve Fund, the amount, if any, necessary to make the total on deposit equal the Special Capital Reserve Fund Requirement;

FIFTH: to the Redemption Fund, the amount, if any, required pursuant to Section 605 hereof; and

SIXTH: to the 2020 SHREC Economic Energy and Security Fund, the balance.

Section 504. Debt Service Fund.

(a) The Trustee shall pay from the moneys or deposits in the respective Accounts in the Debt Service Fund (i) on each Interest Payment Date, the amounts required for the payment of the Interest Payment due on such date, (ii) on each Principal Payment Date, the amounts required for the payment of the Principal Payment (including any Sinking Fund Installments) due on such date, and (iii) on any redemption date or date of purchase, the amounts required for the payment of accrued interest on Bonds to be redeemed or purchased on such date unless the payment of such accrued interest shall be otherwise provided. Thirty (30) days prior to each Interest Payment Date and Principal Payment Date, the Trustee shall determine whether the moneys or deposits in the respective Accounts within the Debt Service Fund are sufficient to make the next succeeding Interest Payment and Principal Payment. If such moneys or deposits are not sufficient to make such payments, the Trustee shall, no later than the next Business Day, provide a Notice to Green Bank of such insufficiency. Green Bank shall thereafter pay to the Trustee the Project Support Debt Service Amount as provided in the Project Support Commitment and Undertaking.

(b) The amounts accumulated in the Principal Account of the Debt Service Fund for each Sinking Fund Installment shall, if so directed in writing by an Authorized Representative, be applied (together with amounts with respect to interest on the Bonds for which such Sinking Fund Installment was established) by the Trustee prior to the forty-fifth (45<sup>th</sup>) day preceding the due date of such Sinking Fund Installment to the purchase of the Bonds and maturity for which such Sinking Fund Installment was established, at prices (including any brokerage and other charges) not exceeding the Redemption Price payable for such Bonds when such Bonds are redeemable by application of such Sinking Fund Installment, plus unpaid interest

accrued to the date of purchase, such purchases to be made by the Trustee as directed in writing by an Authorized Representative.

(c) Upon the purchase of any Bond pursuant to subsection (b) of this Section, an amount equal to the principal amount of the Bond so purchased or redeemed shall be credited toward the next Sinking Fund Installment thereafter to become due and the amount of any excess of the amounts so credited over the amount of such Sinking Fund Installment shall be credited against future Sinking Fund Installments in direct chronological order.

(d) In connection with each Sinking Fund Installment, the Trustee shall provide notice of redemption to the Bondholders, pursuant to Section 604, of the Bonds for which such Sinking Fund Installment was established in such amount as shall be necessary to complete the retirement of the principal amount specified for such Sinking Fund Installment of the Bonds. The Trustee shall so call such Bonds for redemption whether or not it then has moneys in the Debt Service Fund sufficient to pay the applicable Redemption Price thereof on the redemption date.

Section 505. Costs of Issuance Fund.

(a) Upon the delivery of the Bonds, Green Bank shall, as provided in a Certificate of an Authorized Representative, pay to the Trustee, for deposit into the Costs of Issuance Fund, the Costs of Issuance.

(b) Moneys on deposit in the Costs of Issuance Fund shall, as provided in a Certificate of an Authorized Representative, be applied to pay the Persons entitled thereto the Costs of Issuance relating to the issuance of the Bonds. Any moneys remaining on hand in the Costs of Issuance Fund upon the earlier of (i) payment of all Costs of Issuance or (ii) one hundred twenty (120) days after the issuance of the Bonds, shall be transferred by the Trustee to the Revenue Fund.

Section 506. Special Capital Reserve Fund.

(a) Upon the delivery of the Bonds, Green Bank shall, as provided in a Certificate of an Authorized Representative, pay to the Trustee, for deposit into the Special Capital Reserve Fund, an amount equal to the Special Capital Reserve Fund Requirement.

(b) [Not Used]

(c) Green Bank shall, as provided in a Certificate of an Authorized Representative, pay to the Trustee upon receipt thereof any moneys allotted and paid to Green Bank by the State pursuant to the Act for the purpose of restoring the Special Capital Reserve Fund to the amount of the Special Capital Reserve Fund Requirement.

(d) If at any time any Principal Payment, including any Sinking Fund Installment, or any interest due thereon, or any Redemption Price of Bonds has become due and payable and payment thereof in full has not been made or provided for, the Trustee shall (i) forthwith withdraw from the Special Capital Reserve Fund an amount which together with other amounts available for such payment shall be sufficient to provide for such payment in full and



apply the amount so withdrawn to such payment, and (ii) no later than the next Business Day after such withdrawal, provide a Notice to Green Bank that Green Bank immediately pay to the Trustee any and all amounts available to Green Bank necessary to restore the Special Capital Reserve Fund to the amount of the Special Capital Reserve Fund Requirement no later than November 30 of any calendar year after such Notice is given.

(e) In the case of any purchase, redemption in whole or in part, or payment of principal at maturity, of any Bonds, Green Bank may, as provided in a Certificate of an Authorized Representative, direct the Trustee to apply moneys in the Special Capital Reserve Fund to the payment of the principal or Redemption Price of and interest on the Bonds being paid or redeemed up to the amount by which such amounts in the Special Capital Reserve Fund exceed the Special Capital Reserve Fund Requirement after giving effect to such purchase, redemption or payment.

(f) On December 1 of each year if:

- (1) the amount in the Special Capital Reserve Fund exceeds the Special Capital Reserve Fund Requirement, and
- (2) all withdrawals from the Special Capital Reserve Fund provided for in subsections (d) and (e) have been made, the Trustee shall withdraw the excess from the Special Capital Reserve Fund and deposit the amount so withdrawn into the Green Bank Programs Account within the 2020 SHREC Economic Energy and Security Fund hereof.

(g) Amounts in the Special Capital Reserve Fund shall be invested in Investment Securities maturing not later than the next succeeding Principal Payment Date or Interest Payment Date.

Section 507. Redemption Fund. There shall be deposited into the Redemption Fund amounts required to be deposited therein pursuant to Section 605 hereof. Amounts in the Redemption Fund may be applied as directed by Green Bank, as provided in a Certificate of an Authorized Representative, to the purchase of Bonds at prices not exceeding the Redemption Price thereof applicable on the next redemption date plus accrued interest to such next redemption date (such redemption date shall be the earliest date upon which Bonds are subject to redemption from such amounts) or to the redemption of Bonds pursuant to Article VI hereof.

Section 508. 2020 SHREC Economic and Energy Security Fund. The Trustee shall, no later than the second Business Day of each calendar month, transfer moneys credited to the 2020 SHREC Economic and Energy Security Fund to Green Bank.

Section 509. Investment of Funds.

(a) Moneys held in the Funds and Accounts established hereunder shall, as provided in a Certificate of an Authorized Representative, be invested and reinvested by the Trustee to the fullest extent practicable in Investment Securities which mature not later than such times as shall be necessary to provide moneys when needed for payments to be made from such

Funds and Accounts. The Trustee shall make all such investments of moneys held by it in accordance with the Certificate of an Authorized Representative, such instructions to specify the particular investment to be made. The Trustee shall bear no responsibility hereunder other than to follow the written instructions of Green Bank as provided in the Certificate of an Authorized Representative.

(b) Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) and other investment earnings (but not profits or losses) on any moneys or investments in the Funds and Accounts, other than the Special Capital Reserve Fund, shall be paid into the Green Bank Programs Account of the 2020 SHREC Economic Energy and Security Fund as and when received. Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) and other investment earnings (but not profits or losses) on any moneys or investments in the Special Capital Reserve Fund shall be paid into the Debt Service Fund.

(c) All Investment Securities acquired with moneys in any Fund or Account shall be held by the Trustee in favor of the Trustee. Although Green Bank recognizes that it may obtain a broker confirmation or written statement containing comparable information at no additional cost, Green Bank agrees that confirmations of Investment Securities are not required to be issued by the Trustee for each month in which a monthly statement is rendered.

(d) Nothing in this Indenture shall prevent any Investment Securities acquired as investments for Funds or Accounts held under this Indenture from being issued or held in book-entry form on the books of the United States Treasury.

#### Section 510. Valuation and Sale of Investments.

(a) Bonds purchased as an investment of moneys in any Fund or Account created under the provisions of this Indenture shall be deemed at all times to be a part of such Fund or Account and any profit realized from the liquidation of such investment shall be credited to such Fund or Account and any loss resulting from the liquidation of such investment shall be charged to such Fund or Account.

(b) In computing the amount in any Fund or Account created under the provisions of this Indenture for any purpose provided in this Indenture, Bonds purchased as an investment of moneys therein shall be valued at the cost of such Bonds or the market value thereof, whichever is lower; provided, however, that in the case of Bonds scheduled to mature, or subject to redemption at the option of the holder, in ten (10) years or less, such Investment Securities shall be valued at amortized cost; provided further, however, that funds held in the Special Capital Reserve Fund shall be valued at market price and Defeasance Obligations held in the Redemption Fund shall be valued at cost plus interest earned thereon. The accrued interest paid in connection with the purchase of any obligation shall be included in the value thereof until interest on such obligation is paid. Such computation shall be made by the Trustee as of July 1 of each year and on the date of the refunding of any Bonds and at such other times as Green Bank shall determine or as may be required by this Indenture.

(c) Except as otherwise provided in this Indenture, the Trustee shall sell or present for redemption, any obligation so purchased as an investment whenever it shall be directed in writing by Green Bank, as provided in a Certificate of an Authorized Representative. Whenever it shall be necessary in order to provide moneys to meet any payment or transfer from any Fund or Account held by the Trustee, the Trustee shall present for redemption such obligation or obligations designated by Green Bank, as provided in a Certificate of an Authorized Representative, or in the absence of such designation by Green Bank, as the Trustee shall elect, necessary to provide sufficient moneys for such payment or transfer. The Trustee shall not be liable or responsible for any loss, fee, tax or other charge resulting from the making of any such investment, reinvestment or the sale of any obligation pursuant to this Indenture.

Section 511. Financial and Other Reporting.

(a) Green Bank shall provide to the Trustee by December 31 of each year financial statements audited by an Accountant of all of the Revenues, expenses and accounts for the preceding Fiscal Year which shall be prepared in accordance with the provisions of generally accepted accounting principles related to accounting, auditing and financial reporting, and otherwise as required by the Connecticut General Statutes.

(b) The Trustee shall, upon becoming aware of a failure of Green Bank to comply with the above-referenced conditions, give notice of such non-compliance to Green Bank. Green Bank shall comply with the provisions of this Section as soon as practicable but no later than thirty (30) days after receipt of such notice by Green Bank.

## ARTICLE VI

### REDEMPTION OF BONDS

The provisions contained in the following Sections of this Article VI are applicable to the Bonds.

Section 601. Privilege of Redemption and Redemption Price. Bonds subject to redemption prior to maturity shall be redeemable, upon notice as provided in this Article, at such times, at such Redemption Prices and upon such terms as may be specified in this Indenture.

Section 602. Redemption at the Election of Green Bank. In the case of any redemption of Bonds as provided in Section 204(c), Green Bank shall, as provided in a Certificate of an Authorized Representative, give written notice to the Trustee of the election so to redeem, of the redemption date, of the principal amounts of the Bonds to be redeemed (principal amounts thereof to be redeemed shall be determined by Green Bank in its sole discretion) and whether such notice and such redemption are unconditional or conditional on funds being available on the redemption date to pay the Redemption Price. Such notice shall be given to the Trustee at least twenty (20) days prior to the redemption date.

Section 603. Redemption Other Than at Green Bank Election. Whenever by the terms of this Indenture Bonds are required to be redeemed otherwise than at the election of Green

Bank, the Trustee shall select the Bonds to be redeemed, in any manner which the Trustee may determine, give the notice of redemption and apply the moneys available therefor to redeem on the redemption date at the Redemption Price therefor, together with accrued interest to the redemption date, of the Bonds to be redeemed.

Section 604. Notice of Redemption. The Trustee shall give notice, in the name of Green Bank, of the redemption of such Bonds, which notice shall specify the Bonds to be redeemed, the redemption date and the place or places where amounts due upon such redemption will be payable and, if less than all of the Bonds are to be redeemed, the numbers or other distinguishing marks of such Bonds so to be redeemed. Such notice shall further state whether the notice and the redemption are unconditional or conditional; if unconditional, that on such date there shall become due and payable upon each Bond to be redeemed the Redemption Price thereof, together with interest accrued to the redemption date; if conditional, that on such date that, if there shall be sufficient funds available to effect such redemption on the redemption date, there shall become due and payable upon each Bond to be redeemed the Redemption Price thereof, together with interest accrued to the redemption date, and, in either case, that if there shall be sufficient funds available to effect such redemption on the redemption date, then from and after such date interest thereon shall cease to accrue and be payable. The Trustee shall mail a copy of such notice by first class mail, postage prepaid, not less than thirty (30) days before the redemption date, to the owners of the Bonds which are to be redeemed, at their last addresses appearing upon the registry books.

Section 605. Payment of Redeemed Bonds. Notice having been given in the manner provided in Section 604, if there shall be sufficient funds available to effect such redemption on the redemption date, the Bonds so called for redemption shall become due and payable on the redemption date so designated at the Redemption Price, plus interest accrued and unpaid to the redemption date, and, upon presentation and surrender thereof at the office specified in such notice such Bonds shall be paid at the Redemption Price plus interest accrued and unpaid to the redemption date. If, on the redemption date, moneys for the redemption of all the Bonds to be redeemed together with interest to the redemption date, shall be held by the Trustee as to be available therefor on said date and if notice of redemption shall have been given as aforesaid, then, from and after the redemption date interest on the Bonds so called for redemption shall cease to accrue and become payable. If said moneys shall not be so available on the redemption date, such Bonds or portions thereof shall continue to bear interest until paid at the same rate as they would have borne had they not been called for redemption.

## **ARTICLE VII**

### **REPRESENTATIONS AND COVENANTS OF GREEN BANK**

Green Bank represents, covenants and agrees with the Trustee and the holders of the Bonds as follows:

Section 701. Payment of Bonds. Green Bank shall duly and punctually pay or cause to be paid, solely from the Trust Estate pledged hereunder for such payments, the Principal

Payment or Redemption Price of every Bond and the Interest Payment thereon, at the dates and places and in the manner stated in the Bonds.

Section 702. Offices for Servicing Bonds. Green Bank shall at all times maintain an office or agency where Bonds may be presented for registration, transfer or exchange, and where notices, presentations and demands upon Green Bank in respect of the Bonds or of this Indenture may be served. Green Bank hereby appoints the Trustee as its agent to maintain such office or agency for the registration, transfer or exchange of the Bonds and for the service of such notices, presentations and demands upon Green Bank.

Section 703. Further Assurance. At any and all times, Green Bank shall, so far as each may be authorized by law, pass, make, do, execute, acknowledge and deliver, all and every such further resolutions, acts, deeds, conveyances, assignments, transfers and assurances as may be necessary or desirable for the better assuring, conveying, granting, pledging, assigning and confirming all and singular, the rights, assets, revenues and other moneys, securities, funds and property hereby pledged or assigned, or intended so to be, or which Green Bank, may become bound to pledge or assign.

Section 704. Power to Issue Bonds and Pledge Revenues. Green Bank is duly authorized under the Act and all applicable laws to authorize and issue and deliver the Bonds. Green Bank is duly authorized to execute and enter into this Indenture and to pledge the Revenues and assets purported to be pledged and assigned hereby in the manner and to the extent herein provided. Except to the extent permitted under this Indenture, the Revenues and assets so pledged and assigned are and will be free and clear of any pledge, lien, charge or encumbrance thereon or with respect thereto prior to, or of equal rank with, the pledge created hereby and all corporate or other action on the part of Green Bank to that end has been and will be duly and validly taken. The Bonds are and will be the valid and legally enforceable limited obligations of Green Bank in accordance with their terms and the terms of this Indenture. Green Bank shall at all times, to the extent permitted by law, defend, preserve and protect the pledge of the Revenues and other assets, including rights herein pledged and assigned under this Indenture and all the rights of the Bondholders under this Indenture against all claims and demands of all persons whomsoever. Green Bank shall not take any action or permit any action to be taken (unless taken by the State), to dissolve Green Bank.

Section 705. Green Bank Not to Amend Indenture. Green Bank agrees that it will not amend this Indenture in any way that impairs the funding to the funds and accounts herein pursuant to Section 504(a) hereof without the prior written consent of the Secretary of the Office of Policy and Management and the State Treasurer, unless all of the Bonds, together with the interest thereon, and all costs and expenses in connection with any action or proceeding by or on behalf of such holders, are fully met and discharged.

Section 705A. Green Bank to Maintain Funds; Not Subordinate Its Obligations Supported by State. Green Bank agrees that:

a. It shall maintain sufficient funds to make timely payment of the Project Support Debt Service Amounts due and payable under the Project Support Commitment and Undertaking.

b. It shall not enter into any agreement, including any indenture, that results in its obligations to make timely payment of the Project Support Debt Service Amounts under the Project Support Commitment and Undertaking, or the amounts due and payable under the Prior Bond Indenture or Prior Lease/Purchase Agreement, to be subordinate to its obligations under such agreement; provided, for a specific Green Bank program or project, Green Bank may pledge the assets or revenues related thereto as security for its obligations thereunder.

c. It shall cause to be included in Operating Expenses all Administrative Expenses hereunder, and cause to be paid when due all such Administrative Expenses.

Section 706. Accounts and Periodical Reports and Certificates. Green Bank shall keep or cause to be kept proper books of record and account (separate from all other records and accounts) in which complete and correct entries shall be made of its transactions under this Indenture and which, together with all other books and papers of Green Bank, shall at all reasonable times be subject to the inspection of the Trustee, the State or the representative, duly authorized in writing, of the holder or holders of not less than a majority of the principal amount of the Bonds then Outstanding. Green Bank shall use its best efforts to direct all payments on the SHREC Receivables to the Trustee for deposit into the Funds and Accounts under this Indenture, and if such payments are misdirected or erroneously deposited into another Green Bank fund or account, Green Bank shall promptly transfer the applicable amount to the Trustee for deposit hereunder.

Section 707. Indebtedness and Liens. Green Bank shall not issue any bonds, notes or other evidences of indebtedness, other than the Bonds, secured by a pledge of or other lien or charge on the Revenues and shall not create or cause to be created any lien or charge on such Revenues or on any amounts held by the Trustee, under this Indenture; but this Section shall not prevent Green Bank from issuing notes payable from the proceeds of the Bonds or bonds or notes or other Bonds for the corporate purposes of Green Bank payable out of, or secured by a pledge of, Revenues to be derived on and after such date as the pledge of the Revenues provided in this Indenture shall be discharged and satisfied as provided in Section 1101.

Section 708. Special Capital Reserve Fund.

(a) Green Bank shall at all times maintain the Special Capital Reserve Fund pursuant to Section 506 and do and perform or cause to be performed each and every act and thing with respect to the Special Capital Reserve Fund provided to be done or performed by or on behalf of Green Bank or the Trustee pursuant to Section 206 and the other terms and provisions of this Indenture, or of the Act.

(b) In order to better secure the Bonds issued under this Indenture as Bonds secured by the Special Capital Reserve Fund, and in furtherance of the provisions of the Act, Green Bank shall cause the Chair of its Board of Directors annually, on or before the first day of December of each year, to make and deliver to the Secretary of the Office of Policy and Management and the Treasurer of the State a certificate stating such sums, if any, and after the transfers contemplated by Sections 503 and 506 hereof, as shall be necessary to restore the Special Capital Reserve Fund to the Special Capital Reserve Fund Requirement, and accompany

such certificate with a request that such sums be paid directly to the Trustee for the account of Green Bank for deposit into the Special Capital Reserve Fund.

Section 709. General. Green Bank shall do and perform or cause to be done and performed all acts and things required to be done or performed by or on behalf of them under the provisions of the Act, the Bylaws and this Indenture in accordance with the terms of such provisions.

Section 710. Agreement of Green Bank. Green Bank agrees that it will not in any way impair the rights and remedies of Bondholders, until the Bonds, together with the interest thereon, and all costs and expenses in connection with any action or proceeding by or on behalf of such holders, are fully met and discharged.

Section 711. State Not to Impair Bonds of Green Bank. Pursuant to the Act, the State has pledged to and agreed with the Bondholders of Bonds issued under this Indenture pursuant to the Act, and with those parties who may enter into contracts with Green Bank or its successor agency pursuant to the Act, that the State will not limit or alter the rights vested in the Green Bank until such Bonds, together with the interest thereon, are fully met and discharged and such contracts are fully performed on the part of Green Bank, provided nothing contained in this Section shall preclude such limitation or alteration if and when adequate provisions shall be made by law for the protection of the Bondholders described in this Section or those entering into such contracts with Green Bank.

Section 712. Continuing Disclosure Requirements. Green Bank shall undertake all responsibility for compliance with continuing disclosure requirements related to the Bonds, and the Trustee shall have no liability to the Bondholders or any other Person with respect to such disclosure matters. Notwithstanding any other provision of this Indenture, failure of Green Bank to comply with the continuing disclosure requirements shall not be considered an Event of Default hereunder.

Section 713. Removal of Ineligible SHRECs. Green Bank shall remove any Ineligible SHREC pledged by Green Bank to the Trustee hereunder by depositing an amount established by Green Bank equal to the fair market value equivalent of the Ineligible SHREC originally pledged. Upon payment for the Ineligible SHREC, the Trustee shall release the Ineligible SHREC from the lien of the Indenture (if requested). If the Trustee receives written notice of an Ineligible SHREC, the Trustee shall give written notice thereof within five (5) Business Days of receipt thereof to Green Bank. If Green Bank discovers or receives notice of an Ineligible SHREC, Green Bank shall provide written notice thereof to the Trustee. The Trustee shall have no duties or responsibilities hereunder or otherwise in respect of an Ineligible SHREC other than those referred to in this Section.

## **ARTICLE VIII**

### **SUPPLEMENTS AND AMENDMENTS**

Section 801. Supplements Not Requiring Consent of Bondholders. Green Bank and the Trustee may, without the consent of any of the Bondholders, enter into any Supplemental Indenture for one or more of the following purposes:

(a) To add to the covenants and agreements of Green Bank contained in this Indenture, other covenants and agreements thereafter to be observed relative to the application, custody, use and disposition of the proceeds of the Bonds; or

(b) To confirm, as further assurance, any pledge under and the subjection to any lien on or pledge of the Revenues created or to be created by this Indenture; or

(c) To cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in this Indenture, unless such modification would result in a material reduction of the rights or interests of the Bondholders under this Indenture; or

(d) To grant to or confer on the Trustee for the benefit of the Bondholders any additional rights, remedies, powers, or security that Green Bank may lawfully be granted or conferred and which are not contrary to or inconsistent with this Indenture as theretofore in effect; or

(e) To create any additional Funds or Accounts hereunder; or

(f) To modify, alter, amend or supplement any provision of this Indenture if, prior to the execution of any such amendment there shall be delivered to the Trustee an Opinion of Counsel to the effect that such amendment will not have a material adverse effect on the security, remedies or rights of the Bondholders.

Section 802. Supplements Requiring Consent of Bondholders.

(a) Other than Supplemental Indentures referred to in Section 801 hereof, Green Bank and the Trustee may, with the consent of the Bondholders of not less than a majority in aggregate principal amount of the Bonds then Outstanding and anything contained herein to the contrary notwithstanding, enter into one or more Supplemental Indentures as Green Bank shall deem necessary and desirable for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained herein; provided, however, that nothing in this Section shall permit or be construed as permitting a Supplemental Indenture which would:

(i) Extend the stated maturity of or time for paying interest on any Bond or reduce the principal amount of or the redemption premium or rate of interest or method of calculating interest payable on any Bond without the consent of the Bondholder of such Bond;

(ii) Modify, alter, amend, add to or rescind any of the terms or provisions contained in Article IX hereof so as to affect the right of the Bondholders of any Bonds in default as to payment to compel the Trustee



to declare the principal of all Bonds to be due and payable, without the consent of the Bondholders of all Bonds then Outstanding; or

(iii) Reduce the aggregate principal amount of Bonds then Outstanding the consent of the Bondholders of which is required to authorize such Supplemental Indenture without the consent of the Bondholders of all Bonds then Outstanding.

(b) If at any time Green Bank shall request the Trustee to enter into a Supplemental Indenture pursuant to this Section, which request is accompanied by a copy of the resolution or other action of its Board of Directors certified by its secretary (or, if it has no secretary, its comparable officer) together with a copy of the proposed Supplemental Indenture, and if the Trustee shall receive an instrument or instruments, which instruments may be in electronic format, purporting to be executed by the Bondholders of not less than the aggregate principal amount of the Bonds specified in subsection (a) for the Supplemental Indenture in question, which instrument or instruments shall refer to the proposed Supplemental Indenture and shall specifically consent to and approve the execution thereof in substantially the form of the copy thereof as on file with the Trustee, the Trustee may execute such Supplemental Indenture in substantially such form, without liability or responsibility to any Bondholder of any Bond, whether or not such Bondholder shall have consented thereto.

(c) Any such consent shall be binding upon the Bondholder of the Bond giving such consent and upon any subsequent Bondholder of such Bond and of any Bond issued in exchange therefor (whether or not such subsequent Bondholder thereof has notice thereof), unless such consent is revoked in writing by the Bondholder of such Bond giving such consent or by a subsequent Bondholder thereof by filing with the Trustee, prior to the execution by the Trustee of such Supplemental Indenture, such revocation and, if such Bond or Bonds are transferable by delivery, proof that such Bonds are held by the signer of such revocation. At any time after the Bondholders of the required principal amount or number of Bonds shall have filed their consents to the Supplemental Indenture, the Trustee shall make and file with Green Bank a written statement to that effect. Such written statement shall be conclusive that such consents have been so filed.

(d) If the Bondholders of the required principal amount of the Outstanding Bonds shall have consented to and approved the execution of such Supplemental Indenture as herein provided, no Bondholder of any Bond shall have any right to object to the execution thereof, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the execution thereof, or to enjoin or restrain the Trustee or Green Bank from executing the same or from taking any action pursuant to the provisions thereof.

Section 803. Execution and Effect of Supplemental Indentures.

(a) In executing any Supplemental Indenture permitted by this Article, the Trustee shall be entitled to receive and to rely upon an Opinion of Counsel stating that the execution of

such Supplemental Indenture is authorized or permitted hereby. The Trustee may but shall not be obligated to enter into any such Supplemental Indenture which materially and adversely affects the Trustee's own rights, duties or immunities.

(b) Upon the execution and delivery of any Supplemental Indenture in accordance with this Article, the provisions hereof shall be modified in accordance therewith and such Supplemental Indenture shall form a part hereof for all purposes and every Bondholder theretofore or thereafter authenticated and delivered hereunder shall be bound thereby.

(c) Any Bond authenticated and delivered after the execution and delivery of any Supplemental Indenture in accordance with this Article may, and, if required by Green Bank shall, bear a notation in form approved by Green Bank as to any matter provided for in such Supplemental Indenture. If Green Bank shall so determine, new Bonds so modified as to conform, as determined by Green Bank, to any such Supplemental Indenture may be prepared and executed by Green Bank and authenticated and delivered by the Trustee in exchange for and upon surrender of Bonds then Outstanding.

(d) The Trustee shall give notice, by first class mail, to the Bondholders then Outstanding of the execution and delivery of any Supplemental Indenture, setting forth the effective date of such Supplemental Indenture and a summary of the terms thereof (or, in lieu of such a summary, by attaching the form of such Supplemental Indenture to such notice).

## **ARTICLE IX**

### **DEFAULTS; REMEDIES ON DEFAULT**

Section 901. Events of Default. If one or more of the following events (in this Indenture called "Events of Default") shall occur:

(1) a failure to make due and punctual payment of a Principal Payment or the Redemption Price of any Bond when and as the same shall become due and payable, whether at maturity or upon call for redemption, or otherwise; or

(2) a failure to make due and punctual payment of any Interest Payment on any Bond, when and as such interest payment shall become due and payable; or

(3) with respect to Bonds secured by the Special Capital Reserve Fund, Green Bank shall fail or refuse to comply with the provisions of Sections 206 and 506 of this Indenture, or such amounts as shall be certified by the chairperson of Green Bank to the Secretary of the Office of Policy and Management and Treasurer of the State pursuant to such provisions of the Act shall not be allotted and paid by the State to Green Bank for deposit therein and such allotment and payment is not made prior to the second day succeeding the final adjournment of (i) the session of the General Assembly of the State convening when such certification shall have been made or, if the General

Assembly is not then in session, (ii) the first session of the General Assembly of the State convening after such certification shall have been made; or

(4) a failure by Green Bank in the performance or observance of any other of its covenants, agreements or conditions in this Indenture, and such default shall continue for a period of sixty (60) days after the giving of written notice thereof stating that such notice is a "Notice of Default" to Green Bank by the Trustee, or to Green Bank and to the Trustee by the holders of not less than a majority in principal amount of the Bonds Outstanding, except that, in each case, if such failure can be remedied but not within such 60-day period, such failure shall not become an Event of Default for so long as Green Bank shall commence such cure within such 60-day period and diligently proceeds to remedy the same within 180 days of the commencement of such cure.

Section 902. Remedies Upon Default.

(a) Upon the occurrence and continuance of any Event of Default, the Trustee may, and upon the written request of the Bondholders of not less than a majority in principal amount of the Bonds then Outstanding shall, subject to Section 906 hereof, proceed, in its own name, to protect and enforce the rights of the Bondholders by such of the following remedies, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights:

(1) by mandamus or other suit, action or proceeding at law or in equity, to enforce all rights of the Bondholders, including the right to require Green Bank to receive and collect the Revenues adequate to carry out the covenants and agreements as to the pledge of such Revenues, and to require Green Bank to carry out any other covenants or agreements with Bondholders and to perform its duties under the Act;

(2) by bringing suit upon the Bonds;

(3) by action or suit in equity, to require Green Bank to account as if it were the Trustee of an express trust for the Bondholders as provided in Section 903 hereof; and

(4) by action or suit in equity, to enjoin any acts or things which may be unlawful or in violation of the rights of the Bondholders.

Section 903. Accounting and Examination of Records After Default. Green Bank covenants that if an Event of Default shall happen and shall not have been remedied, Green Bank will account, as if it were the trustee of an express trust, for all Revenues and other moneys, securities and funds pledged or held under this Indenture for such period.

Section 904. Application of Revenues and Other Moneys After Default.

(a) Green Bank covenants that if an Event of Default shall occur and shall not have been remedied, Green Bank, upon demand of the Trustee, shall pay over or cause to be paid over to the Trustee forthwith, any moneys, securities and funds then held by Green Bank and included in the Trust Estate hereof not already held in any Fund or Account established under

this Indenture. Amounts on deposit in the Special Capital Reserve Fund shall be applied solely to the Bonds.

(b) During the continuance of an Event of Default, unless otherwise directed by the owners of a majority in principal amount of the Bonds at the time Outstanding, the Trustee shall apply such Revenues and the income therefrom as follows and in the following order:

- (1) to the payment of the reasonable and proper charges and expenses of the Trustee and its counsel;
- (2) to the payment of the interest and principal or Redemption Price then due on the Bonds, as follows:
  - (i) unless the principal of all of the Bonds shall be due and payable,

First: To the payment to the Persons entitled thereto of all installments of interest then due in the order of the maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the Persons entitled thereto, without any priority or preference; and

Second: To the payment to the Persons entitled thereto of the unpaid principal or Redemption Price of any Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all the Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or Redemption Price due on such date, to the Persons entitled thereto, without any priority or preference.

- (ii) If the principal of all of the Bonds shall be due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal, interest and net interest on notional amounts, to the Persons entitled thereto, without any priority or preference.

(c) if and when all overdue installments of interest on all Bonds, together with the reasonable and proper charges and expenses of the Trustee and its counsel, and all other sums payable by Green Bank under this Indenture, including the principal and Redemption Price of and accrued unpaid interest on all Bonds which shall then be payable by declaration or otherwise, shall either be paid by or for the account of Green Bank, and all defaults under this Indenture or the Bonds shall be made good or secured, the Trustee shall pay over to Green Bank

all such Revenues then remaining unexpended in the hands of the Trustee (except Revenues deposited or pledged, or required by the terms of this Indenture to be deposited or pledged, with the Trustee), and thereupon Green Bank and the Trustee shall be restored, respectively, to their former positions and rights under this Indenture, and all Revenues shall thereafter be applied as provided in Article V. No such payment over to Green Bank by the Trustee or resumption of the application of Revenues as provided in Article V shall extend to or affect any subsequent default under this Indenture or impair any right consequent thereon.

Section 905. Proceedings Brought by Trustee.

(a) If an Event of Default shall occur and shall not have been remedied, then and in every such case, the Trustee, by its agents and attorneys, may proceed to protect and enforce its rights and the rights of the holders of the Bonds under this Indenture forthwith by a suit or suits in equity or at law, whether for the specific performance of any covenant herein contained, or in aid of the execution of any power herein granted, or for an accounting against Green Bank as if it were the trustee of an express trust, or in the enforcement of any other legal or equitable right as the Trustee, being advised by counsel, shall deem most effectual to enforce any of its rights or to perform any of its duties under this Indenture.

(b) All rights of action under this Indenture may be enforced by the Trustee without the possession of any of the Bonds or the production thereof at the trial or other proceedings, and any such suit or proceedings instituted by the Trustee shall be brought in its name.

(c) The holders of a majority in principal amount of the Bonds at the time Outstanding, may direct by instrument in writing the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, provided that the Trustee shall have the right to decline to follow any such direction if the Trustee shall be advised by counsel that the action or proceeding so directed may not lawfully be taken, or if the Trustee in good faith shall determine that the action or proceeding so directed would subject the Trustee to personal liability or be unjustly prejudicial to the Bondholders not parties to such direction.

(d) Upon commencing a suit in equity or upon other commencement of judicial proceedings by the Trustee to enforce any right under this Indenture, the Trustee shall be entitled to exercise any and all rights and powers conferred in this Indenture and provided to be exercised by the Trustee upon the occurrence of an Event of Default; and, as a matter of right against Green Bank, without notice or demand and without regard to the adequacy of the security for the Bonds, the Trustee shall, to the extent permitted by law, be entitled to the appointment of a receiver of the moneys, securities and funds then held by Green Bank in any Fund or Account established under this Indenture and, subject to application of the Revenues, with all such powers as the court or courts making such appointment shall confer; but notwithstanding the appointment of any receiver, the Trustee shall be entitled to retain possession and control of and to collect and receive income from, any moneys, securities and funds deposited or pledged with it under this Indenture or agreed or provided to be delivered or pledged with it under this Indenture.

(e) Regardless of the happening of an Event of Default, the Trustee shall have the power to, but (unless requested in writing by the holders of a majority in principal amount of the Bonds then Outstanding, and furnished with security and indemnity satisfactory to it) shall be under no obligation to, institute and maintain such suits and proceedings as it may be advised shall be necessary or expedient to prevent any impairment of the security under this Indenture by any acts which may be unlawful or in violation of this Indenture, and such suits and proceedings as the Trustee may be advised shall be necessary or expedient to preserve or protect its interests and the interests of the Bondholders.

Section 906. Restriction on Bondholders' Action.

(a) No holder of any Bond shall have any right to institute any suit, action or proceeding at law or in equity for the enforcement of any provision of this Indenture or the execution of any trust under this Indenture or for any remedy under this Indenture, unless such holder shall have previously given to the Trustee written notice of the happening of an Event of Default, as provided in this Article, and the holders of at least a majority in principal amount of the Bonds then Outstanding shall have filed a written request with the Trustee, and shall have offered it reasonable opportunity, either to exercise the powers granted in this Section or to institute such action, suit or proceeding in its own name, and unless such holders shall have offered to the Trustee security and indemnity acceptable to the Trustee against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee shall have refused to comply with such request within a reasonable time; it being understood and intended that no one or more holders of Bonds shall have any right in any manner whatever by his/her or their action to affect, disturb or prejudice the pledge created by this Indenture, or to enforce any right under this Indenture, except in the manner therein provided; and that all proceedings at law or in equity to enforce any provision of this Indenture shall be instituted, had and maintained in the manner provided in this Indenture and for the equal benefit of all holders of the Outstanding Bonds.

(b) Nothing in this Indenture or in the Bonds contained shall affect or impair the obligation of Green Bank, which is absolute and unconditional, to pay at the respective dates of maturity and places therein expressed the principal of and interest on the Bonds to the respective holders thereof from the Trust Estate, or affect or impair the right of action, which is also absolute and unconditional, of any holder to enforce such payment of the Bonds. Notwithstanding the preceding sentence and anything in this Indenture or in the Bonds contained, Green Bank shall not be required to advance any moneys derived from any source other than the Revenues and assets pledged under this Indenture for any of the purposes in this Indenture mentioned whether for the payment of the principal of or the Redemption Price, if any, or interest on the Bonds or for any other purpose of this Indenture.

Section 907. Remedies Not Exclusive. No remedy by the terms of this Indenture conferred upon or reserved to the Trustee or the Bondholders is intended to be exclusive of any other remedy, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Indenture or existing at law or in equity or by statute on or after the date of adoption of this Indenture.

Section 908. Effect of Waiver and Other Circumstances.

(a) No delay or omission of the Trustee or of any Bondholder to exercise any right or power arising upon the happening of an Event of Default shall impair any right or power or shall be construed to be a waiver of any such default or to be an acquiescence therein; and every power and remedy given by this Article to the Trustee or to the Bondholders may be exercised from time to time and as often as may be deemed expedient by the Trustee or by the Bondholders.

(b) The holders of a majority in principal amount of the Bonds at the time Outstanding, or their attorneys-in-fact duly authorized, may on behalf of the holders of all of the Bonds waive any past default under this Indenture and its consequences, except a default in the payment of interest on or principal or Redemption Price of the Bonds. No such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

Section 909. State Right to Act. With respect to any right of the Trustee to take action pursuant to this Article, the State (acting through the office of the State Treasurer) may act for and on behalf of the Trustee, at the option of the State, so long as any Bonds are secured by the Special Capital Reserve Fund; otherwise the State shall be deemed to have given its right to act to the Trustee.

## **ARTICLE X**

### **THE TRUSTEE**

Section 1001. Concerning the Trustee; Acceptance of Trustee. The Trustee hereby accepts and agrees to execute the trusts imposed upon it by this Indenture, but only upon the terms and conditions set forth in this Article and subject to the provisions of this Indenture, to all of which the parties hereto and the respective owners of the Bonds agree.

Section 1002. Obligation of Trustee. The Trustee shall be under no obligation to institute any suit, or to take any action or proceeding under this Indenture or to enter any appearance or in any way defend in any suit in which it may be made defendant, or to take any steps in the execution of the trusts hereby created or in the enforcement of any rights and powers hereunder, including, without limitation, pursuant to the direction of, or on behalf of, any of the Bondholders, until it shall be paid or reimbursed or indemnified to its satisfaction against any and all reasonable costs and expenses, outlays, liabilities, damages and counsel fees and expenses and other reasonable disbursements. The Trustee may nevertheless begin suit, or appear in and defend suit, or do anything else in its judgment proper to be done by it as the Trustee, and in such case Green Bank shall reimburse the Trustee for all costs and expenses, outlays, liabilities, damages and counsel fees and expenses and other reasonable disbursements properly incurred in connection therewith.

Section 1003. Responsibilities of Trustee.

(a) The recitals contained in this Indenture, any Supplemental Indenture and in the Bonds shall be taken as the statements of Green Bank and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representations as to the validity or

sufficiency of this Indenture, any Supplemental Indenture or of the Bonds or in respect of the security afforded by this Indenture or any Supplemental Indenture and the Trustee shall incur no responsibility in respect thereof. The Trustee shall be under no responsibility or duty with respect to: (i) the issuance of the Bonds for value; or (ii) the application of the proceeds thereof except to the extent that such proceeds are received by it in its capacity as Trustee; or (iii) the application of any moneys paid to Green Bank or others in accordance with this Indenture except as to the application of any moneys paid to it in its capacity as Trustee; or (iv) the recording or rerecording, registration or reregistration, filing or refiling of this Indenture or any security documents contemplated thereby; or (v) the validity of the execution by Green Bank of this Indenture; or (vi) compliance by Green Bank with the terms of this Indenture; or (vii) any information, statement or recital in any official statement, offering memorandum or any other disclosure material prepared or distributed with respect to the Bonds and shall have no responsibility for compliance with any state or federal securities laws in connection with the Bonds; or (viii) the review, verification or analysis of any financial statements filed with it hereunder and the Trustee shall hold any such financial statements solely as a repository for the benefit of the Bondholders and shall not be deemed to have notice of any information contained therein or default or event of default which may be disclosed therein in any manner (i.e., the delivery of any such reports, information and documents to the Trustee is for information purposes only and the Trustee's receipt of such shall not constitute notice or constructive notice of any information contained therein or determinable from information contained therein, including Green Bank's compliance with any of its covenants hereunder as to which the Trustee is entitled to rely exclusively on a Certificate of an Authorized Representative). The Trustee may require of Green Bank full information and advice regarding the performance of the covenants, conditions and agreements contained in this Indenture. The Trustee shall not be liable in connection with the performance of its duties hereunder except for its own negligence or willful misconduct.

(b) Except as otherwise provided in this Indenture, the Trustee shall not be bound to recognize any person as a holder of any Bond or to take action at such person's request, unless such person shall be the Bondholder of such Bond. Any action duly taken by the Trustee pursuant to this Indenture upon the request, authority or consent of any person who at the time of making such request or giving such authority or consent is the Bondholder of any Bond secured hereby shall be conclusive and binding upon all future Bondholders of such Bond.

(c) The duties and obligations of the Trustee shall be determined by the express provisions of this Indenture, and the Trustee shall not be liable except for the performance of such duties and obligations as are specifically set forth in this Indenture and no duties or obligations shall be implied to the Trustee. In the case of an Event of Default specified in Article IX hereof, which Event of Default has not been cured or waived and of which the Trustee is deemed to have knowledge, the Trustee shall exercise such of the rights and powers vested in it by this Indenture and shall use the same degree of care and skill in its exercise thereof as a prudent person would exercise or use under the circumstances in the conduct of his or her own affairs. The permissive right of the Trustee to do things enumerated in this Indenture shall not be construed as a duty. The Trustee may act through agents or attorneys and shall not be responsible for the misconduct or negligence of agents or attorneys appointed with due care.



(d) The Trustee shall not be charged with knowledge of any event hereunder unless an officer or administrator in the Trustee's corporate trust department has actual knowledge of such event.

(e) In the absence of bad faith on its part, the Trustee may rely conclusively, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such certificates or opinions which by any provision hereof are required specifically to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture.

(f) Except as otherwise expressly provided by the provisions of this Indenture, the Trustee shall not be obligated and may not be required to give or furnish any notice, demand, report, request, reply, statement, advice or opinion to the Bondholder of any Bond and the Trustee shall not incur any liability for its failure or refusal to give or furnish the same unless obligated or required to do so by an express provision hereof. The Trustee shall not be liable for any action taken or omitted by it in good faith and believed by it to be authorized or within the discretion or rights or powers conferred upon it by this Indenture. The Trustee shall incur no liability in respect of any action taken or omitted by it in good faith in accordance with the direction of the Bondholders of the percentage of the Bonds specified herein relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred upon the Trustee under this Indenture.

(g) In the event the Trustee shall receive inconsistent or conflicting requests and indemnity from two or more groups of Bondholders, each representing less than a majority of the principal amount of the Bonds then Outstanding, the Trustee, in its sole discretion, may determine what action, if any, shall be taken.

(h) The Trustee shall not be liable for interest on any funds deposited with it hereunder, except as the Trustee may otherwise specifically agree in writing.

Section 1004. Property Held in Trust. All moneys and securities held by the Trustee at any time pursuant to the terms of this Indenture shall be and hereby are assigned, transferred and set over unto the Trustee in trust for the purposes and under the terms and conditions of this Indenture.

Section 1005. Evidence on Which Trustee May Act. The Trustee shall be protected in acting upon any notice, resolution, request, consent, order, certificate, report, opinion, bond or other paper or document believed by it to be genuine, and to have been signed or presented by the proper party or parties. The Trustee may consult with counsel of its selection, who may or may not be counsel to Green Bank, and may rely on an opinion of such counsel. Any such opinion of counsel shall be full and complete authorization and protection in respect of any action taken or suffered, or any action not taken, by it in good faith and in accordance therewith, and the Trustee shall not be liable for any action taken or omitted in good faith in reliance on such opinion of counsel. Whenever the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering or not taking any action under this Indenture, such matter (unless other evidence in respect thereof be hereby specifically prescribed) may be

deemed to be conclusively proved and established by a certificate signed by an Authorized Representative of Green Bank. Such certificate shall be full warrant for any action taken or suffered, or any action not taken, in good faith under the provisions hereof, but the Trustee may (but shall not be required to) in addition thereto or in lieu thereof require or accept other evidence of such fact or matter or may require such further or additional evidence as it may deem reasonable. Except as otherwise expressly provided herein, any request, order, notice or other direction required or permitted to be furnished pursuant to any provision hereof by Green Bank to the Trustee shall be sufficiently executed if executed in the name of Green Bank by an Authorized Representative.

Section 1006. Compensation and Indemnification. Unless otherwise provided by contract with the Trustee, Green Bank shall pay or cause to be paid to the Trustee after reasonable notice to Green Bank in light of the compensation sought to be received, reasonable compensation for all services rendered by it hereunder, including, if applicable, its services as registrar, paying agent and transfer agent, and also all its reasonable expenses, charges, counsel fees, expenses and other disbursements and those of its attorneys, agents, and employees, incurred in and about the performance of its powers and duties hereunder. Green Bank shall indemnify and save the Trustee harmless against any expenses and liabilities which it may incur in the exercise and performance of its powers and duties hereunder which are not due to its negligence or misconduct. None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur financial liability in the performance of any of its duties or in the exercise of any of its rights or powers. The obligations of Green Bank under this Section to compensate the Trustee, to pay or reimburse the Trustee for expenses, disbursements, charges and counsel fees and to indemnify and hold harmless the Trustee shall survive the satisfaction and discharge of this Indenture.

Section 1007. Permitted Acts. The Trustee may become the owner of or may deal in Bonds or may deal with Green Bank as fully and with the same rights as if it were not the Trustee. The Trustee may act as depository for, and permit any of its officers or directors to act as a member of, or in any other capacity with respect to, Green Bank or any committee formed to protect the rights of Bondholders or to effect or aid in any reorganization growing out of the enforcement of the Bonds or this Indenture, whether or not such committee shall represent the owners of a majority in principal amount of the Outstanding Bonds in respect of which any such action is taken.

Section 1008. Resignation of Trustee. The Trustee, or any successor thereof, may at any time resign and be discharged of its duties and obligations hereunder by giving not less than thirty (30) days' written notice to Green Bank and the Bondholders, specifying the date when such resignation shall take effect, provided such resignation shall not take effect until a successor shall have been appointed by Green Bank or a court of competent jurisdiction as provided in Section 1010 and shall have accepted such appointment.

Section 1009. Removal of Trustee. The Trustee, or any successor thereof, may be removed, upon thirty (30) days' written notice, with or without cause at any time by Green Bank, if no Event of Default under this Indenture shall have occurred and be continuing, or upon an Event of Default under this Indenture by the owners of a majority in principal amount of Outstanding Bonds, excluding any Bonds held by or for the account of Green Bank, by an

instrument or concurrent instruments in writing signed and acknowledged by such Bondholders or by their attorneys-in-fact duly authorized and delivered to Green Bank, provided that such removal shall not take effect until a successor is appointed. Such removal shall take effect upon the date a successor shall have been appointed by Green Bank or a court of competent jurisdiction as provided in Section 1010 and shall have accepted such appointment. Copies of each instrument providing for any such removal shall be delivered by Green Bank to the Trustee and any successor thereof.

Section 1010. Successor Trustee. (a) In case the Trustee, or any successor thereof, shall resign or shall be removed or shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or if a receiver, liquidator or conservator of the Trustee or of its property shall be appointed, or if any public officer shall take charge or control of the Trustee, or of its property or affairs, Green Bank shall forthwith appoint a Trustee to act. Notice of any such appointment shall be delivered by Green Bank to the Trustee so appointed and the predecessor Trustee. Green Bank shall give or cause to be given written notice of any such appointment to the Bondholders.

(b) If in a proper case no appointment of a successor shall be made within forty-five (45) days after the giving of written notice in accordance with Section 1008 or after the occurrence of any other event requiring or authorizing such appointment, the Trustee or any Bondholder may apply to any court of competent jurisdiction for the appointment of such a successor, and such court may thereupon, after such notice, if any, as such court may deem proper, appoint such successor.

(c) Any successor appointed under the provisions of this Section shall be a bank or trust company or national banking association which is able to accept the appointment on reasonable and customary terms and authorized by law to perform all the duties required by this Indenture, which is approved by Green Bank (unless an Event of Default under Section 901 exists, in which case a successor shall be appointed by the owners of a majority in principal amount of Outstanding Bonds or by a court pursuant to the above paragraph, or unless a successor is appointed by a court pursuant to the above paragraph) and which has a combined capital and surplus aggregating at least \$50,000,000 (or such other financial resources acceptable to Green Bank in its sole discretion), if there be such a bank or trust company or national banking association willing to serve as Trustee hereunder.

Section 1011. Transfer of Rights and Property to Successor Trustee. Any successor Trustee appointed under the provisions of Section 1010 shall execute, acknowledge and deliver to its predecessor, and also to Green Bank, an instrument accepting such appointment, and thereupon such successor, without any further act, deed or conveyance shall become fully vested with all moneys, estates, properties, rights, powers, duties and Bonds of its predecessor hereunder, with like effect as if originally appointed as Trustee. However, the Trustee then ceasing to act shall nevertheless, on request by Green Bank or of such successor, execute, acknowledge and deliver such instruments of conveyance and further assurance and do such other things as may reasonably be required for more fully and certainly vesting and confirming in such successor all the right, title and interest of such Trustee in and to any property held by it hereunder, and upon payment of its fees and expenses shall pay over, assign and deliver to such successor any moneys or other properties subject to the trusts and conditions herein set forth and

subject to any indemnification rights of the Trustee hereunder. Should any deed, conveyance or instrument in writing from Green Bank be required by such successor for more fully and certainly vesting in and confirming to it any such moneys, estates, properties, rights, powers, duties or obligations, any and all such deeds, conveyances and instruments in writing shall, on request, and so far as may be authorized by law, be executed, acknowledged and delivered by Green Bank.

Section 1012. Merger or Consolidation of the Trustee. Any company into which the Trustee may be merged or with which it may be consolidated or any company resulting from any merger or consolidation to which it shall be a party or any company to which such Trustee may sell or transfer all or substantially all of its corporate trust business, provided such company shall be a bank or trust company or national banking association qualified to be a successor to such Trustee under the provisions of Section 1010 (except that the approval of Green Bank shall not be required), shall be the successor to such Trustee, without any further act, deed or conveyance.

Section 1013. Several Capacities. Anything in this Indenture to the contrary notwithstanding, the same entity may serve hereunder as the Trustee and in any other capacities, to the extent permitted by law. The Trustee is hereby appointed to serve initially in the capacity of Trustee.

Section 1014. Co-Trustees.

(a) With the consent of Green Bank, for the purpose of meeting the legal requirements of any applicable jurisdiction, the Trustee shall have power to appoint one or more persons to act as co-trustee under this Indenture, with such powers as may be provided in the instrument of appointment, and to vest in such person or persons any property, title, right or power deemed necessary or desirable, subject to the remaining provisions of this Section.

(b) Each co-trustee shall, to the extent permitted by applicable law, be appointed subject to the following terms:

(i) The rights, powers, duties and obligations conferred or imposed upon any such trustee shall not be greater than those conferred or imposed upon the Trustee, and such rights and powers shall be exercisable only jointly with the Trustee, except to the extent that, under any law of any jurisdiction in which any particular act or acts are to be performed, the Trustee shall be incompetent or unqualified to perform such act or acts, in which event such rights and powers shall be exercised by such co-trustee subject to the provisions of subsection (b) (iv) of this Section.

(ii) The Trustee may at any time, by an instrument in writing executed by it and with written notice to Green Bank, accept the resignation of or remove any co-trustee appointed under this Section.

(iii) No co-trustee under this Indenture shall be liable by reason of any act or omission of any other co-trustee appointed under this Indenture.

(iv) No power given to such co-trustee shall be separately exercised hereunder by such co-trustee except with the consent in writing of the Trustee, anything herein contained to the contrary notwithstanding.

Section 1015. Trustee May Fix Record Date. The Trustee may, but shall not be obligated to, fix a record date for the purpose of determining the Bondholders entitled to give their consent or take any other action pursuant to this Indenture. If a record date is fixed, then at such record date only those persons (or their duly designated proxies), shall be entitled to give such consent or to revoke any consent previously given or to take any such action, whether or not such persons continue to be Bondholders after such record date. No such consent shall be valid or effective for more than one hundred twenty (120) days after such record date.

Section 1016. When Bonds Disregarded. In determining whether the Bondholders of the required principal amount of Bonds have concurred in any direction, waiver or consent, Bonds owned by Green Bank or by any entity directly or indirectly controlling or controlled by or under direct or indirect common control with Green Bank shall be disregarded and deemed not to be Outstanding, except that, for the purpose of determining whether the Trustee shall be protected in relying on any such direction, waiver or consent, only Bonds which the Trustee knows are so owned shall be so disregarded. Also, subject to the foregoing, only Bonds Outstanding at the time shall be considered in any such determination.

Section 1017. Compliance with CGS Section 4a-60 and 4a-60a.

(a) CGS Section 4a-60. In accordance with Connecticut General Statutes Section 4a-60(a), as amended, and to the extent required by Connecticut law, the Trustee agrees and warrants as follows: (1) in the performance of this Indenture it will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Trustee that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut and further to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Trustee that such disability prevents performance of the work involved; (2) in all solicitations or advertisements for employees placed by or on behalf of the Trustee, to state that it is an “affirmative action-equal opportunity employer” in accordance with regulations adopted by the Commission on Human Rights and Opportunities (the “CHRO”); (3) to provide each labor union or representative of workers with which the Trustee has a collective bargaining agreement or other contract or understanding and each vendor with which the Trustee has a contract or understanding, a notice to be provided by the CHRO advising the labor union or workers’ representative of the Trustee’s commitments under Connecticut General Statutes Section 4a-60, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) to comply with each provision of Connecticut General Statutes Sections 4a-60, 46a-68e and 46a-68f and with each regulation or relevant order issued by the CHRO pursuant to

Connecticut General Statutes Sections 46a-56, 46a-68e, 46a-68f and 46a-86; (5) to provide the CHRO with such information requested by the CHRO, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Trustee as relate to the provisions of Connecticut General Statutes Sections 4a-60a and 46a-56; and (6) to include provisions (1) through (5) of this section in every subcontract or purchase order entered into by the Trustee in order to fulfill any obligation of this Indenture, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or order of the CHRO and take such action with respect to any such subcontract or purchase order as the CHRO may direct as a means of enforcing such provisions in accordance with Connecticut General Statutes Section 4a-60.

(b) CGS Section 4a-60a. In accordance with Connecticut General Statutes Section 4a-60a(a), as amended, and to the extent required by Connecticut law, the Trustee agrees and warrants as follows: (1) that in the performance of this Indenture, the Trustee will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) to provide each labor union or representative of workers with which the Trustee has a collective bargaining agreement or other contract or understanding and each vendor with which the Trustee has a contract or understanding, a notice to be provided by the CHRO advising the labor union or workers' representative of the Trustee's commitments under Connecticut General Statutes Section 4a-60a, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) to comply with each provision of Connecticut General Statutes Section 4a-60a and with each regulation or relevant order issued by the CHRO pursuant to Connecticut General Statutes Section 46a-56; (4) to provide the CHRO with such information requested by the CHRO, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Trustee which relate to the provisions of Connecticut General Statutes Sections 4a-60a and 46a-56; and (5) to include provisions (1) through (4) of this section in every subcontract or purchase order entered into by the Trustee in order to fulfill any obligation of this Indenture, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the CHRO and take such action with respect to any such subcontract or purchase order as the CHRO may direct as a means of enforcing such provisions in accordance with Connecticut General Statutes Section 4a-60a.

(c) Required Submissions. The Trustee agrees and warrants that (1) it has delivered to Green Bank an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson, member, or other corporate officer duly authorized to adopt corporate or company policy in the form as required under the Connecticut General Statutes; (2) if there is a change in the information contained in the most recently filed affidavit, the Trustee will submit an updated affidavit not later than the earlier of the execution of a new contract with the State or a political subdivision of the State or thirty days after the effective date of such change; and (3) the Trustee will deliver an affidavit to Green Bank annually, not later than fourteen days after the twelve-month anniversary of the most recently filed affidavit, stating that the affidavit on file with Green Bank is current and accurate.

Section 1018. Compliance with CGS Section 9-612(g)(2). For all State contracts as defined in Public Act 07-1 having a value in a calendar year of \$50,000 or more or a combination or series of such agreements or contracts having a value of \$100,000 or more, the Trustee's authorized signatory to this Indenture expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising State contractors of State campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice.

## ARTICLE XI

### SATISFACTION AND DISCHARGE OF INDENTURE

Section 1101. Payment of Bonds; Defeasance. If (i) Green Bank shall deliver to the Trustee for cancellation all Bonds theretofore authenticated (other than any Bonds which shall have been mutilated, destroyed, lost or stolen and which shall have been replaced or paid) and not theretofore cancelled, or (ii) upon payment of all Bonds not theretofore cancelled or delivered to the Trustee for cancellation, or (iii) Green Bank shall deposit with the Trustee as trust funds cash or Defeasance Obligations or both, sufficient to pay at maturity or upon redemption all Bonds not theretofore cancelled or delivered to the Trustee for cancellation, including without limitation principal and interest due or to become due to such date of maturity or redemption date, as the case may be, and if in any case Green Bank shall also pay or cause to be paid all other sums payable hereunder by Green Bank, then this Indenture shall cease to be of further effect, and the Trustee, on demand of Green Bank and at the cost and expense of Green Bank, shall execute proper instruments acknowledging satisfaction of and discharging this Indenture. Green Bank shall cause a report to be prepared by a firm nationally recognized for providing verification services regarding the sufficiency of funds for such discharge and satisfaction, upon which report the Trustee may rely. Green Bank hereby agrees to reimburse the Trustee for any costs or expenses theretofore and thereafter reasonably and properly incurred by the Trustee in connection with this Indenture or such Bonds.

Section 1102. Payment of Bonds after Discharge of Lien. Notwithstanding the discharge of the lien hereof as in this Article, the Trustee shall nevertheless retain such rights, powers and duties hereunder as may be necessary and convenient for the payment of amounts due or to become due on the Bonds and the registration, transfer, exchange and replacement of Bonds as provided in this Indenture. Nevertheless, any moneys held by the Trustee or any paying agent for the payment of the principal of, premium, if any or interest on any Bond remaining unclaimed for two years after the principal of all Bonds have become due and payable, whether at maturity or upon proceedings for redemption or by declaration as provided herein, shall, subject to applicable law, then be paid to Green Bank and the Bondholders or coupons not theretofore presented for payment shall thereafter be entitled to look only to Green Bank for payment thereof as unsecured creditors and all liability of the Trustee or any paying agent with respect to such moneys shall thereupon cease.

## ARTICLE XII

### MISCELLANEOUS PROVISIONS

#### Section 1201. Evidence of Signatures of Bondholders and Ownership of Bonds.

(a) Any request, consent, revocation of consent or other instrument which this Indenture may require or permit to be signed and executed by the Bondholders may be in one or more instruments of similar tenor, and shall be signed or executed by such Bondholders in person or by their attorneys-in-fact appointed in writing. Proof of the execution of any such instrument, or of an instrument appointing any such attorneys, shall be sufficient for any purpose of this Indenture (except as otherwise therein expressly provided) if made in any manner satisfactory to the Trustee. Proof of the holding of Bonds on any date shall be provided by the registration books of Green Bank maintained by the Trustee.

(b) Any request or consent by the owner of any Bond shall bind all future owners of such Bond and any Bond issued in exchange therefor in respect of anything done or suffered to be done by Green Bank or any Trustee in accordance therewith.

Section 1202. Governing Law. This Indenture shall be construed and adjudicated in accordance with the laws of the State of Connecticut applicable to contracts made and performed in the State of Connecticut, without giving effect to any choice of law rules or provisions.

Section 1203. Counterparts. This Indenture may be executed in several counterparts, each of which shall be an original and all of which shall constitute one instrument.

Section 1204. Parties Interested Herein. Nothing in this Indenture expressed or implied is intended or shall be construed to confer upon, or to give to, any person or corporation, other than Green Bank, the Trustee, the State and the Bondholders, any right, remedy or claim under or by reason of this Indenture of any covenant, condition or stipulation thereof; and all covenants, stipulations, promises and agreements in this Indenture contained by and on behalf of Green Bank shall be for the sole and exclusive benefit of Green Bank, the Trustee, and the Bondholders.

Section 1205. No Recourse on the Bonds. No recourse shall be had for the payment of the principal of or interest on the Bonds or for any claim based thereon or on this Indenture against any officer of Green Bank or any person executing the Bonds, or any employee or agent of the foregoing.

Section 1206. Successors and Assigns. Whenever in this Indenture Green Bank is named or referred to, it shall be deemed to include its successors and assigns and all the covenants and agreements in this Indenture contained by or on behalf of Green Bank shall bind and inure to the benefit of its respective successors and assigns whether so expressed or not.

Section 1207. Severability of Invalid Provisions. If any one or more of the covenants or agreements provided in this Indenture on the part of Green Bank or the Trustee to be performed should be contrary to law, then such covenant or covenants, agreement or agreements, shall be



deemed severable from the remaining covenants and agreements, and shall in no way affect the validity of the other provisions of this Indenture.

Section 1208. Payments on Saturdays, Sundays and Holidays. In any case where the date of any payment required to be made under this Indenture shall not be a Business Day, then such payment shall not be made on such date but shall be made on the next succeeding Business Day, with the same effect as if made on such prior date.

Section 1209. Effective Date This Indenture shall take effect upon its execution by the Authorized Representative of Green Bank.

Section 1210. Notice

(a) Except as provided in subsection (b) of this Section, unless otherwise expressly specified or permitted by the terms of this Indenture, all notices shall be in writing, sent by registered or certified mail, postage prepaid, or by national overnight courier service, or by personal delivery, or by Electronic Means (as defined in subsection (b) of this Section) with a pdf attachment of such notice (with prompt telephonic confirmation of receipt), to the following addresses, or to such other address as Green Bank or the Trustee shall from time to time designate by notice in writing to the other.

If to Green Bank:

Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067  
Attn: President

If to the Trustee:

The Bank of New York Mellon Trust Company, N.A.  
2 North LaSalle Street, 7<sup>th</sup> Floor  
Chicago, Illinois 60602  
Attn: \_\_\_\_\_

If to the State:

Office of the Treasurer  
165 Capitol Avenue  
Hartford, Connecticut 06106  
Attn: Assistant Treasurer for Debt Management

(b) The Trustee shall have the right to accept and act upon instructions, including funds transfer instructions (“Instructions”) given pursuant to this Indenture and related financing documents and delivered using Electronic Means; provided, however, that Green Bank shall provide to the Trustee an incumbency certificate listing officers with the authorization to provide such Instructions (“Authorized Officers”) and containing specimen signatures of such

Authorized Officers, which incumbency certificate shall be amended by Green Bank whenever a person is to be added or deleted from the listing. If Green Bank elects to give the Trustee Instructions using Electronic Means and the Trustee in its discretion elects to act upon such Instructions, the Trustee's reasonable understanding of such Instructions shall be deemed controlling. Green Bank understands and agrees that the Trustee cannot determine the identity of the actual sender of such Instructions and that the Trustee shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Trustee have been sent by such Authorized Officer. Green Bank shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Trustee and that Green Bank and all Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by Green Bank. The Trustee shall not be liable for any losses, costs or expenses arising directly or indirectly from the Trustee's reliance upon and compliance with such Instructions notwithstanding such directions conflict or are inconsistent with a subsequent written instruction. Green Bank agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Trustee, including without limitation the risk of the Trustee acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Trustee and that there may be more secure methods of transmitting Instructions than the method(s) selected by Green Bank; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Trustee immediately upon learning of any compromise or unauthorized use of the security procedures. "Electronic Means" shall mean the following communications methods: e-mail, facsimile transmission, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Trustee, or another method or system specified by the Trustee as available for use in connection with its services hereunder.

**SIGNATURE PAGE**

IN WITNESS WHEREOF, the President of the Connecticut Green Bank, and the Trustee, in acceptance of the trusts created hereunder, has caused this Indenture to be signed in its corporate name by its officer thereunder duly authorized, all as of the day and year first written above.

**CONNECTICUT GREEN BANK**

BY: \_\_\_\_\_  
Bryan Garcia  
President

**THE BANK OF NEW YORK MELLON TRUST  
COMPANY, N.A., as Trustee**

BY: \_\_\_\_\_  
\_\_\_\_\_  
Its: \_\_\_\_\_

**SCHEDULE 1**

**TERMS OF THE GREEN LIBERTY BONDS, SERIES 2020**

Interest on the Green Liberty Bonds, Series 2020 will be payable on May 15 and November 15 of each year, commencing on November 15, 2020.

Serial Bonds: \$ \_\_\_\_\_

<u>Maturity</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Price</u>	<u>CUSIP<sup>†</sup></u>
November 15, 2021				
November 15, 2022				
November 15, 2023				
November 15, 2024				
November 15, 2025				
November 15, 2026				
November 15, 2027				
November 15, 2028				
November 15, 2029				

\$ \_\_\_\_\_ % Term Bond due November 15, 2035, Price: 100%, CUSIP<sup>†</sup> number: \_\_\_\_\_

<sup>†</sup>CUSIP numbers have been assigned by an independent company not affiliated with Green Bank and are included solely for the convenience of the owners of the offered bonds. Neither Green Bank nor the Underwriters is responsible for the selection or uses of these CUSIP numbers and no representation is made to their correctness on the offered bonds or as indicated above. The CUSIP number for a specific maturity is subject to being changed after the issuance of the offered bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the offered bonds.

**EXHIBIT A**

[FORM OF BOND]

**PROJECT SUPPORT COMMITMENT & UNDERTAKING**

This PROJECT SUPPORT COMMITMENT & UNDERTAKING (the “Undertaking”), dated and effective as of July 29, 2020 (the “Effective Date”), is made by the CONNECTICUT GREEN BANK (“Green Bank”), a quasi-public agency of the State of Connecticut, acting as administrator of the Clean Energy Fund pursuant to Section 16-245n of the Connecticut General Statutes, with an address of 845 Brook Street, Rocky Hill, CT 06067, for the benefit of the State of Connecticut.

**RECITALS**

WHEREAS, pursuant to Sections 16-245n and 16-245kk through 16-245mm of the Connecticut General Statutes (the “Act”), Green Bank is authorized to support financing or other expenditures that promote investment in clean energy sources, and to enter into contracts with private sources to raise capital for such purposes; and

WHEREAS, pursuant to the Act, Green Bank’s Board of Directors (the “Board”) has approved a bond authorization in an amount not to exceed \$25,000,000 to fund its cost recovery under the Residential Solar Incentive Program (“RSIP”) for Solar Home Renewable Energy Credits (“SHRECs”) by selling its bonds secured by the SHRECs related to SHREC Systems that were aggregated into a tranche in 2019 (the “SHREC Tranche 3”), which bonds shall be secured by amounts receivable (the “SHREC Receivables”) under Master Purchase Agreements between Green Bank and Eversource Energy and The United Illuminating Company (the “Master Purchase Agreements”); and

WHEREAS, pursuant to the Act, Green Bank is authorized from time to time to issue negotiable bonds for any corporate purpose, as shall be authorized by resolution of the members of the Board, which resolution may contain provisions for Green Bank to pledge all or any part of the revenues from the SHREC Receivables or any revenue-producing contract or contracts to secure the payment of the bonds; and

WHEREAS, pursuant to the Act, at the discretion of Green Bank, any bonds may be secured by a trust agreement by and between Green Bank and a corporate trustee, which trust agreement may secure said bonds by a pledge or assignment of any revenues to be received, any contract or proceeds of any contract, or any other property, revenues, moneys or funds available to Green Bank for such purpose; and

WHEREAS, Green Bank has determined to issue its \$\_\_\_\_\_ Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 (the “Bonds”) and to use the proceeds derived from the sale thereof to reimburse Green Bank for funds previously advanced and to otherwise terminate any Green Bank obligations previously incurred and that remain outstanding in order to release the SHREC Receivables from such obligations, and to otherwise carry out its corporate purposes under the Act and the Connecticut General Statutes; and

WHEREAS, Green Bank has determined that the Bonds shall be secured, in part, by a pledge to the Trustee under an Indenture of Trust between Green Bank and The Bank Of New York Mellon Trust Company, N.A., as Trustee (the “Indenture”) of all of Green Bank’s interests in the SHREC Receivables and the other revenues therefrom; and

WHEREAS, the structure of the Bonds provides that Trustee make payments into the Debt Service Fund as defined in and as set forth in the Indenture to provide for the timely payment of principal and interest on the Bonds, and

WHEREAS, as additional security for the Bonds, Green Bank will establish and fund the Special Capital Reserve Fund established pursuant to the Indenture, which will be supported by the State as provided in the Act and the Indenture; and

WHEREAS, as a condition of any issuance of the Bonds secured by the Special Capital Reserve Fund, Green Bank is must obtain the approval of the Special Capital Reserve Fund by the Secretary of the Office of Policy and Management and the State Treasurer; and

WHEREAS, in order to obtain the approval of the Secretary of the Office of Policy and Management and the State Treasurer of the Special Capital Reserve Fund, this Undertaking must provide adequate assurances that funds will be made available by Green Bank so that the likelihood of a draw upon the Special Capital Reserve Fund is remote; and

WHEREAS, Green Bank desires to obtain the approval of the Special Capital Reserve Fund through, among other things, the terms and conditions of this Undertaking.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Green Bank hereby commits and undertakes as follows:

## **1. DEFINITIONS**

The following terms used in this Undertaking shall have the following meanings unless the context otherwise requires. Capitalized terms not defined herein shall have the meanings provided in the Indenture.

“Effective Date” has the meaning set forth in the introductory paragraph hereof.

“Project Support Debt Service Amount” has the meaning set forth in Section 2.1(a) hereof.

“Project Support Obligations” has the meaning set forth in Section 2.1 hereof.

“Person” means any individual, firm, partnership, joint venture, corporation, limited liability company, association, business enterprise, trust, governmental body or other entity.

“Special Capital Reserve Fund Requirement” shall mean as of any date of calculation, an amount equal to the maximum amount of any Interest Payment and Principal Payment becoming due in the calendar year in which such computation is made or in any single succeeding calendar year, under the Indenture.

“Support Termination Date” means the earlier of November 15, 2035 or the date upon which all of Green Bank’s obligations under the Indenture have been paid and satisfied in full (or otherwise terminated).

## **2. PROJECT SUPPORT.**

### **2.1 Project Support Obligations.**

- a) Green Bank, in accordance with the procedures set forth in this Undertaking, will pay to the Trustee (i) on the fifth (5<sup>th</sup>) business day of November and May in each year, beginning in the year 2020, for deposit into the Interest Account within the Debt Service Fund, the amount necessary to make the next succeeding Interest Payment, less any amounts in the Interest Account at each date of deposit; and (ii) on the fifth (5<sup>th</sup>) business day of November of each year, commencing in November 2021, for deposit into the Principal Account within the Debt Service Fund, the amount necessary to make the next succeeding Principal Payment, less any amounts in the Principal Account at each date of deposit (collectively, the "Project Support Debt Service Amount").
- b) Green Bank’s commitment to pay in full the Project Support Debt Service Amount, as and when the same become due: (i) will be effective on the Effective Date and will remain in effect through the Support Termination Date; (ii) will be continuing, absolute, unconditional and irrevocable; and (iii) will not be subject to termination by Green Bank for any reason, including without limitation:
  - a. the bankruptcy or insolvency of Green Bank;
  - b. any default by Green Bank under any financing agreement; or
  - c. any reduction or elimination of State funding for Green Bank.

**2.2 Payment of Funds** Green Bank shall make the payments due under this Undertaking directly to the Trustee under the Indenture.

**2.3 Project Contributions.** All payments made by or on behalf of Green Bank to the Bank pursuant to this Undertaking shall be made in support of Green Bank’s obligations under the Indenture with no right of repayment.

**2.4 Special Capital Reserve Fund Payments.** In addition to its obligations hereunder, Green Bank shall pay to the Trustee, for deposit into the Special Capital Reserve Fund, any moneys allotted and paid to Green Bank by the State for the purpose of restoring the Special Capital Reserve Fund to the amount of the Special Capital Reserve Fund Requirement.

## **3. GREEN BANK’S REPRESENTATIONS AND WARRANTIES.**

Green Bank hereby makes the following representations and warranties:



- a) Green Bank is a body politic and corporate, constituting a public instrumentality and political subdivision of the State of Connecticut; and has full power and authority to enter into this Undertaking and to carry out the terms and conditions contained herein;
- b) no approval of, or consent from, any governmental authority is required for the execution, delivery or performance by Green Bank of this Undertaking; and
- c) the execution, delivery and performance by Green Bank of this Undertaking and the transactions contemplated hereby (A) do not contravene any provisions of law applicable to Green Bank, and (B) do not conflict and are not inconsistent with, and will not result (with or without the giving of notice or passage of time or both) in the breach of or constitute a default or require any consent under any credit agreement, indenture, mortgage, purchase agreement, deed of trust, security agreement, lease, guarantee or other instrument to which Green Bank is a party, by which Green Bank may be bound, to which Green Bank or its property may be subject, Green Bank's enabling legislation or Green Bank's bylaws.

#### **4. MISCELLANEOUS PROVISIONS.**

4.1 Notices. Except as otherwise specifically provided herein, all notices, requests, consents, demands, waivers and other communications hereunder shall be in writing and shall be delivered in person or sent by certified mail, return receipt requested, or by courier service (with evidence of receipt) to the address of the other party set forth in the introduction of this Undertaking or to such other address as such party shall have designated in writing by proper notice. Notices shall be deemed given upon actual receipt or when delivery is refused.

4.2 Modification, Waiver or Release. This Undertaking may not be modified, nor may any provision hereof be waived or released prior to the Support Termination Date.

4.3 References; Headings; Plurals. Section and article references are to the sections and articles of this Undertaking unless otherwise indicated. Headings used in this Undertaking are for convenience only and shall not be used in connection with the interpretation of any of its provisions. Unless the context otherwise requires, words in the singular number include the plural, and words in the plural include the singular.

4.6 Entire Undertaking. This Undertaking embodies the entire commitments, undertakings and obligations of Green Bank with respect to the subject matter hereof.

4.7 Assignment. Green Bank may not assign or transfer any of its rights or delegate any of its obligations under this Undertaking except as may occur by operation of law.

4.8 Governing Law. Green Bank hereto irrevocably consents to the jurisdiction of the courts of the State of Connecticut in the matters set forth in this Undertaking.

[SIGNATURE PAGE FOLLOWS]

**IN WITNESS WHEREOF**, the parties through their respective duly authorized agents, have executed this Undertaking as of the date first above written.

**CONNECTICUT GREEN BANK**

BY: \_\_\_\_\_

NAME: Bryan Garcia

TITLE: President and  
Chief Executive Officer

NEW ISSUE — BOOK-ENTRY-ONLY

S&P Global Ratings: “A”  
(See “RATING” herein)

*In the opinion of Bond Counsel, under existing statutes and regulations, interest on the Series 2020 Bonds is included in gross income for federal income tax purposes pursuant to the Internal Revenue Code of 1986, as amended, as described in “APPENDIX I-B—FORM OF LEGAL OPINION OF BOND COUNSEL AND TAX STATUS” herein. In the opinion of Bond Counsel, under existing statutes, interest on the Series 2020 Bonds is excluded from State of Connecticut taxable income for purposes of the State of Connecticut income tax on individuals, trusts and estates and is excluded from amounts on which the net State of Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax.*



**\$16,065,000\***  
**CONNECTICUT GREEN BANK**  
**State Supported Solar Home Renewable**  
**Energy Credit,**  
**Green Liberty Bonds, Series 2020**  
**(Federally Taxable) (Climate Bond Certified)**



**Dated: Date of Delivery**

**Due: As shown below**

The Connecticut Green Bank (the “Green Bank”) is offering its State Supported Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 (the “Series 2020 Bonds”), in the aggregate principal amount set forth above.

The Series 2020 Bonds will be limited obligations of the Green Bank, payable solely from and secured by the Trust Estate established pursuant to the Indenture of Trust, dated as of July 1, 2020 (the “Indenture”), between the Green Bank and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”). The Trust Estate consists primarily of a pool of renewable energy credits generated under the Green Bank’s Solar Home Renewable Energy Credit program and related environmental attributes (as described herein), and the Funds and Accounts established pursuant to the Indenture, including the Special Capital Reserve Fund. Amounts are deemed to be appropriated to the Special Capital Reserve Fund from the State of Connecticut general fund in accordance with the Green Bank’s enabling legislation in amounts necessary to maintain the balance therein at the Special Capital Reserve Fund Requirement. The Special Capital Reserve Fund Requirement will be established at the maximum amount of principal and interest becoming due on the Series 2020 Bonds by reason of maturity or required sinking fund payment in any single succeeding calendar year. See the caption “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS” herein.

**THE SERIES 2020 BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE STATE OR OF ANY POLITICAL SUBDIVISION THEREOF OR A PLEDGE OF THE FULL FAITH AND CREDIT OF THE STATE OR ANY SUCH POLITICAL SUBDIVISION THEREOF (OTHER THAN THE GREEN BANK), BUT SHALL BE PAYABLE SOLELY FROM THE TRUST ESTATE AND OTHER RECEIPTS, FUNDS OR MONEYS PLEDGED THEREFOR PURSUANT TO THE INDENTURE. THE STATE SHALL NOT BE OBLIGATED TO PAY THE SERIES 2020 BONDS OR THE INTEREST THEREON, NOR SHALL THE GREEN BANK BE OBLIGATED TO PAY THE SERIES 2020 BONDS OR THE INTEREST THEREON EXCEPT FROM THE REVENUES AND OTHER RECEIPTS, FUNDS AND MONEYS PLEDGED THEREFOR. NEITHER THE FULL FAITH AND CREDIT NOR THE TAXING POWER OF THE STATE OR OF ANY POLITICAL SUBDIVISION THEREOF (INCLUDING, FOR PURPOSES OF THIS SENTENCE, THE GREEN BANK) IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL, INTEREST, OR PREMIUM, IF ANY, ON THE SERIES 2020 BONDS. THE GREEN BANK HAS NO TAXING POWER. THE ISSUANCE OF THE SERIES 2020 BONDS SHALL NOT DIRECTLY OR INDIRECTLY OR CONTINGENTLY OBLIGATE THE STATE OR ANY POLITICAL SUBDIVISION THEREOF TO LEVY OR TO PLEDGE ANY FORM OF TAXATION WHATEVER THEREFOR OR TO MAKE ANY APPROPRIATIONS FOR THEIR PAYMENT, EXCEPT AS PROVIDED IN THE INDENTURE.**

The Series 2020 Bonds have been certified as “Climate Bond Certified” as described under the caption “USE OF PROCEEDS—Climate Bond Certified” herein, and the Green Bank has designated the Series 2020 Bonds as “Green Bonds.”

Interest on the Series 2020 Bonds will be payable on May 15 and November 15 of each year, commencing on November 15, 2020. The Series 2020 Bonds will mature in the aggregate principal amounts set forth below:

**Serial Series 2020 Bonds: \$10,801,000\***

<u>Maturity</u> <u>(November 15)</u>	<u>Principal Amount*</u>	<u>Interest Rate</u>	<u>Price</u>	<u>CUSIP†</u>
2021	\$1,048,000	%	%	
2022	1,059,000			
2023	1,067,000			
2024	1,073,000			
2025	1,079,000			
2026	1,086,000			
2027	1,092,000			
2028	1,096,000			
2029	1,099,000			
2030	1,102,000			

**\$5,264,000\*** \_\_\_\_ % **Term Series 2020 Bonds due November 15, 2035 Price: 100% CUSIP† number: \_\_\_\_\_**

The Term Series 2020 Bonds are subject to redemption prior to their stated maturity date. See the caption “THE SERIES 2020 BONDS—Redemption” herein.

**See the caption “INVESTMENT CONSIDERATIONS” herein for a discussion of certain factors that investors should consider in making an informed investment decision.**

This Preliminary Official Statement and the information contained herein are subject to completion or amendment. These securities may not be sold nor may offers to buy be accepted prior to the time the Official Statement is delivered in final form. Under no circumstances shall this Preliminary Official Statement constitute an offer to sell or a solicitation of an offer to buy nor shall there be any sale of these securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.

The Series 2020 Bonds will be issued only as fully registered bonds, without coupons, and will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC”). DTC will act as the Securities Depository (as hereinafter defined) for the Series 2020 Bonds. Beneficial interests in the Series 2020 Bonds may be purchased in book-entry-only form, in minimum denominations of \$1,000 or in any integral multiple thereof. See the caption “THE SERIES 2020 BONDS—Securities Depository” herein.

The Series 2020 Bonds are offered subject to prior sale, when, as and if issued by the Green Bank and accepted by the Underwriters, subject to the approval of legality by Shipman & Goodwin LLP, Hartford, Connecticut, Bond Counsel to the Green Bank. Certain other legal matters will be passed upon for the Underwriters by Kutak Rock LLP, Denver, Colorado, counsel to the Underwriters. It is expected that delivery of the Series 2020 Bonds against payment therefor will be made on or about July 29, 2020 in New York, New York.

**Ramirez & Co., Inc.**

**Stifel**

Dated: July \_\_, 2020

<sup>†</sup>CUSIP numbers have been assigned by an independent company not affiliated with the Green Bank and are included solely for the convenience of the owners of the offered bonds. Neither the Green Bank nor the Underwriters are responsible for the selection or uses of these CUSIP numbers and no representation is made to their correctness on the offered bonds or as indicated above. The CUSIP number for a specific maturity is subject to being changed after the issuance of the offered bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the offered bonds.

<sup>‡</sup>Preliminary; subject to change.

This Official Statement is not to be construed as a contract or agreement between the Green Bank and the purchaser or owners of any of the Series 2020 Bonds. Any statements in this Official Statement involving matters of opinion, whether or not expressly so stated, are intended as such and not as representations of fact. No representation is made that any of such statements will be realized. All quotations from and summaries and explanations of provisions of laws of the State of Connecticut (the "State") contained in this Official Statement do not purport to be complete and are qualified in their entirety by reference to the official compilations thereof. All references to the Series 2020 Bonds and the proceedings and agreements relating thereto are qualified in their entirety by reference to the definitive forms of the Series 2020 Bonds and such proceedings and agreements. This Official Statement is submitted only in connection with the sale of the Series 2020 Bonds by the Green Bank and may not be reproduced or used in whole or in part for any other purpose, except as specifically authorized by the Green Bank. Any electronic reproduction of this Official Statement may contain computer-generated errors or other deviations from the printed Official Statement. In any such case, the printed version controls.

This Official Statement contains forecasts, projections and estimates that are based on expectations and assumptions which existed at the time such forecasts, projections and estimates were prepared. The inclusion of such forecasts, projections and estimates should not be regarded as a representation by the Green Bank or the Underwriters that such forecasts, projections and estimates will occur. Such forecasts, projections and estimates are not intended as representation of fact or guarantees of results. If and when included in this Official Statement the words "expects," "forecasts," "intends," "anticipates," "estimates" and analogous expressions are intended to identify forward-looking statements and any such statements inherently are subjected to a variety of risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include, among others, general economic and business conditions, changes in political, social and economic conditions, regulatory initiatives and compliance with governmental regulations, litigation and various other events, conditions and circumstances, many of which are beyond the control of the Green Bank. These forward-looking statements speak only as of the date they were prepared. The Green Bank disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein (except as required by law) to reflect any change in the Green Bank's expectations with regards thereto or any change in events, conditions or circumstances on which any such statement is based.

The order and placement of material in this Official Statement, including the appendices, are not to be deemed a determination of relevance, materiality or importance. All material in this Official Statement, including its appendices, must be considered in its entirety.

The Underwriters may offer and sell Series 2020 Bonds to certain dealers (including dealers depositing Series 2020 Bonds into investment trusts) and others at prices lower than the offering prices stated on the cover page of this Official Statement. After the initial public offering, the Underwriters may change the price at which the Underwriters offer the Series 2020 Bonds for sale from time to time.

In connection with the offering, the Underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the Series 2020 Bonds. Specifically, the Underwriters may over allot the offering, creating a syndicate short position. The Underwriters may bid for and purchase Series 2020 Bonds in the open market to cover such syndicate short position or to stabilize the price of Series 2020 Bonds. Those activities may stabilize or maintain the market price of the Series 2020 Bonds above independent market levels. The Underwriters are not required to engage in these activities and may end any of these activities at any time.

The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in the Official Statement in accordance with, and as a part of, their responsibilities to investors under the Federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

**IN MAKING AN INVESTMENT DECISION INVESTORS MUST RELY ON THEIR OWN EXAMINATION OF THE GREEN BANK, THE STATE AND THE TERMS OF THE OFFERING, INCLUDING THE SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS AS DESCRIBED HEREIN AND THE MERITS AND RISKS INVOLVED. THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS OFFICIAL STATEMENT.**

No person has been authorized to give any information or to make any representations other than those contained in this Official Statement in connection with the offer made hereby, and if given or made, such information or representations

must not be relied upon as having been authorized by the Green Bank or the Underwriters. Neither the delivery of this Official Statement nor any sale hereunder shall under any circumstances create any implication that there has been no change in the affairs of the Green Bank or the Residential Solar Incentive Program since the date hereof. This Official Statement does not constitute an offer or solicitation in any jurisdiction in which such offer or solicitation is not authorized, or in which the person making such offer or solicitation is not qualified to do so, or to any person to whom it is unlawful to make such offer or solicitation. The information set forth herein has been obtained from sources believed to be reliable.

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## SUMMARY OF TERMS

The following is qualified in its entirety by reference to the information appearing elsewhere in this Official Statement. Terms used in this Official Statement and not defined herein are defined in “APPENDIX I-A—FORM OF THE INDENTURE” hereto.

Issuer.....	The Connecticut Green Bank (the “Green Bank”) is a quasi-public entity of the State of Connecticut (the “State”) created under Sections 16-245n and 16-245kk through 16-245mm of the Connecticut General Statutes, as amended from time to time (the “Act”).
Securities Offered .....	<p>\$16,065,000* State Supported Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 of the Green Bank (the “Series 2020 Bonds”) are to be issued pursuant to the Indenture of Trust, dated as of July 1, 2020 (the “Indenture”), between the Green Bank and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”).</p> <p>The Series 2020 Bonds will be limited obligations of the Green Bank, payable solely from and secured by the Trust Estate held by the Trustee, which includes the amounts collected by the Green Bank with respect to the SHREC Receivables, and all interest or other income derived from the investment or deposit of moneys in the Funds and Accounts, including the Special Capital Reserve Fund. The interest payments on May 15, 2035 and November 15, 2035 and the final sinking fund payment on the Series 2020 Bonds maturing on November 15, 2035 will be paid from amounts on deposit in the Special Capital Reserve Fund. See the captions “THE TRUST ESTATE” and “INVESTMENT CONSIDERATIONS—The Expected Source of the Repayment is the Potential Stream of Payments Made Under the Master Purchase Agreements” herein.</p>
Interest and Principal .....	<p>Interest on the Series 2020 Bonds will accrue on the basis of a 360-day year, consisting of twelve 30-day months, from their delivery date at the rates set forth herein and will be payable semiannually on May 15 and November 15 of each year, commencing November 15, 2020 (each, an “Interest Payment Date”). The record date for payment of interest on the Series 2020 Bonds is the last business day of any calendar month proceeding the month in which there occurs an Interest Payment Date.</p> <p>Principal of the Series 2020 Bonds will be due as shown on the cover page of this Official Statement.</p>
Optional Redemption .....	The Term Series 2020 Bonds are subject to optional redemption prior to maturity at the option of the Green Bank, on or after November 15, 2030, at any time, in whole or in part, in such amounts as Green Bank may

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\* Preliminary; subject to change.

	<p>determine, at a redemption price equal to one hundred percent (100%) of the principal amount of the Series 2020 Bonds to be redeemed, plus interest accrued and unpaid to the redemption date.</p> <p>See the caption “THE SERIES 2020 BONDS—Redemption—<i>Optional Redemption</i>” herein.</p>
Mandatory Sinking Fund Redemption .....	<p>The Term Series 2020 Bonds are subject to mandatory sinking fund redemption prior to maturity, beginning November 15, 2030, at a redemption price equal to one hundred percent (100%) of the principal amount of the Term Series 2020 Bonds to be redeemed, plus interest accrued and unpaid to the redemption date. See the caption “THE SERIES 2020 BONDS—Redemption—<i>Mandatory Sinking Fund Redemption</i>” herein.</p>
Form and Denomination .....	<p>The Series 2020 Bonds will be issued only in fully registered form registered in the name of Cede &amp; Co. as nominee of The Depository Trust Company (“DTC”). The Series 2020 Bonds will be issued in denominations of \$1,000 or in any integral multiple thereof.</p>
The Offering .....	<p>The Series 2020 Bonds are being offered to the public, subject to prior sale, when, as and if issued by the Green Bank and accepted by the Underwriters.</p>
Purpose of Issue .....	<p>The Series 2020 Bonds are being issued to (a) refinance expenditures of the Green Bank related to its Residential Solar Incentive Program (“RSIP”), (b) fund a Special Capital Reserve Fund and (c) pay the costs of issuing the Series 2020 Bonds.</p>
Climate Bonds Initiative .....	<p>The Green Bank has designated the Series 2020 Bonds as “Climate Bond Certified” and the Climate Bonds Initiative has provided a certification to the Green Bank of the Series 2020 Bonds as “Certified Climate Bonds.” See the caption “USE OF PROCEEDS—Climate Bond Certified” herein and “APPENDIX I-E—CLIMATE BOND VERIFIER’S REPORT” hereto. The Green Bank has designated the Series 2020 Bonds as “Green Bonds” as the proceeds will be applied exclusively for projects and activities that promote renewable energy purposes.</p>
Trustee .....	<p>The Bank of New York Mellon Trust Company, N.A., Chicago, Illinois, is the Trustee under the Indenture.</p>
SHRECs .....	<p>A “SHREC” is a renewable energy credit created by the production of one megawatt hour of electricity under the Green Bank’s Solar Home Renewable Energy Credit program, which was approved by the Connecticut State Legislature and signed by the Governor of the State of Connecticut as codified under Section 16-245gg of the Connecticut General Statutes (the “SHREC Statute”) and any related Environmental Attributes (as defined herein).</p> <p>Under two Master Purchase Agreements (each, a “Master Purchase Agreement” and collectively the “Master</p>

Purchase Agreements”), statutorily required by the SHREC Statute, between the Green Bank and Connecticut’s two investor-owned utilities (The Connecticut Light and Power Company, d/b/a Eversource Energy and United Illuminating, collectively the “Utilities”), the Green Bank aggregates SHRECs generated from solar photovoltaic systems participating in the RSIP into annual tranches (each a “SHREC Tranche”), and sells those SHREC Tranches to the Utilities at a fixed, predetermined price over a 15-year tranche lifetime. The SHRECs included in the Trust Estate will be SHRECs included in the 2019 SHREC Tranche (“SHREC Tranche 3”), and the revenue received from the Utilities for SHRECs within SHREC Tranche 3 from and after the delivery date of the Series 2020 Bonds is referred to herein as “SHREC Receivables”, as described in this Official Statement. See the caption “THE TRUST ESTATE” herein.

The 2017 SHREC Tranche (“SHREC Tranche 1”) and the 2018 SHREC Tranche (“SHREC Tranche 2”) are pledged to the repayment of SHREC Collateralized Notes, Series 2019-1 (the “Series 2019-1 Notes”) issued by SHREC ABS 1, LLC, a direct wholly-owned subsidiary of the Green Bank.

Ineligible SHRECs and Related Remedies .....

An “Ineligible SHREC” is any SHREC for which (i) one or more eligibility criteria are found to have been breached at the time such SHREC was pledged to the Trust Estate, which breach (in the aggregate) materially and adversely affects the value of such SHREC; or (ii) neither the Green Bank nor the Trustee has a first priority perfected security interest.

The Green Bank is required to remove any Ineligible SHREC pledged by the Green Bank to the Trustee under the Indenture by depositing an amount, established by the Green Bank, equal to the fair market value equivalent of the Ineligible SHREC originally pledged. Upon payment for the Ineligible SHREC, the Trustee will release the Ineligible SHREC from the lien of the Indenture (if requested). If the Trustee receives written notice of an Ineligible SHREC, the Trustee is required to give written notice thereof within five (5) Business Days of receipt thereof to the Green Bank.

Special Capital Reserve Fund .....

The Indenture establishes the Special Capital Reserve Fund for the Series 2020 Bonds, and provides that it shall be funded in an amount equal to the maximum amount of principal and interest becoming due on the Series 2020 Bonds by reason of maturity or required sinking fund payment in any single succeeding calendar year (the “Special Capital Reserve Fund Requirement”). Amounts are deemed to be appropriated to the Special Capital Reserve Fund from the State of Connecticut general fund in accordance with the Green Bank’s enabling legislation

in amounts necessary to maintain the balance therein at the Special Capital Reserve Fund Requirement.

Not Debt of State .....

THE SERIES 2020 BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE STATE OR OF ANY POLITICAL SUBDIVISION THEREOF OR A PLEDGE OF THE FULL FAITH AND CREDIT OF THE STATE OR ANY SUCH POLITICAL SUBDIVISION THEREOF (OTHER THAN THE GREEN BANK), BUT SHALL BE PAYABLE SOLELY FROM THE TRUST ESTATE AND OTHER RECEIPTS, FUNDS OR MONEYS PLEDGED THEREFOR PURSUANT TO THE INDENTURE. THE STATE SHALL NOT BE OBLIGATED TO PAY THE SERIES 2020 BONDS OR THE INTEREST THEREON, NOR SHALL THE GREEN BANK BE OBLIGATED TO PAY THE SERIES 2020 BONDS OR THE INTEREST THEREON EXCEPT FROM THE REVENUES AND OTHER RECEIPTS, FUNDS AND MONEYS PLEDGED THEREFOR. NEITHER THE FULL FAITH AND CREDIT NOR THE TAXING POWER OF THE STATE OR OF ANY POLITICAL SUBDIVISION THEREOF (INCLUDING, FOR PURPOSES OF THIS SENTENCE, THE GREEN BANK) IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL, INTEREST, OR PREMIUM, IF ANY, ON THE SERIES 2020 BONDS. THE GREEN BANK HAS NO TAXING POWER. THE ISSUANCE OF THE SERIES 2020 BONDS SHALL NOT DIRECTLY OR INDIRECTLY OR CONTINGENTLY OBLIGATE THE STATE OR ANY POLITICAL SUBDIVISION THEREOF TO LEVY OR TO PLEDGE ANY FORM OF TAXATION WHATEVER THEREFOR OR TO MAKE ANY APPROPRIATIONS FOR THEIR PAYMENT, EXCEPT AS PROVIDED IN THE INDENTURE.

State Pledge and Agreement .....

Pursuant to the provisions of Section 16-245n of the Act (the “Green Bank Statute”), the State of Connecticut pledges to and agrees with any person with whom the Green Bank may enter into contracts pursuant to the Green Bank Statute that the State will not limit or alter the rights vested in the Green Bank pursuant to the Green Bank Statute until such contracts and the obligations thereunder are fully met and performed on the part of the Green Bank, provided nothing shall preclude such limitation or alteration if adequate provision shall be made by law for the protection of such persons entering into contracts with the Green Bank.

Indenture .....

The Indenture provides for the issuance of the Series 2020 Bonds pursuant to the Green Bank Statute, and the Indenture includes the Green Bank’s pledge to the Trustee of the revenues, accounts and statutory and contractual covenants contained therein. The Trustee is authorized to enforce the Indenture and such covenants against the Green Bank. See “APPENDIX I-A—FORM OF THE INDENTURE” hereto.

No Bankruptcy Authorization .....	Under current law, the Green Bank is not authorized to seek protection from its creditors pursuant to the United States Bankruptcy Code.
Tax Matters .....	In the opinion of Shipman & Goodwin LLP, Hartford, Connecticut, Bond Counsel, interest on the Series 2020 Bonds (i) is included in gross income for Federal income tax purposes pursuant the Internal Revenue Code of 1986, as amended, and (ii) is excluded from State of Connecticut taxable income for purposes of the State of Connecticut income tax on individuals, trusts and estates and is excluded from the amounts on which State of Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax. See the caption “TAX MATTERS” herein.
Rating.....	The Series 2020 Bonds have been assigned a rating of “A” by S&P Global Ratings.
Green Bank Contact.....	Office of the General Counsel, Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT 06067.

## OFFICIAL STATEMENT

**\$16,065,000\***

**CONNECTICUT GREEN BANK  
State Supported Solar Home Renewable Energy Credit,  
Green Liberty Bonds, Series 2020  
(Federally Taxable) (Climate Bond Certified)**

**PART I  
INFORMATION CONCERNING  
CONNECTICUT GREEN BANK AND THE SERIES 2020 BONDS**

### INTRODUCTORY STATEMENT

The purpose of this Official Statement (this “Official Statement”), including the cover page, the Summary of Terms, Part I, Part II and the Appendices hereto, is to set forth certain information concerning Connecticut Green Bank (the “Green Bank”), its Residential Solar Incentive Program (the “RSIP”) and the Green Bank’s \$16,065,000\* State Supported Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 (the “Series 2020 Bonds”). The proceeds of the Series 2020 Bonds, together with moneys of the Green Bank, are being used to (a) refinance expenditures of the Green Bank related to its Residential Solar Incentive Program (“RSIP”), (b) fund a Special Capital Reserve Fund and (c) pay the costs of issuance. For a more complete description of the Green Bank’s Residential Solar Incentive Program (“RSIP”), see the caption “THE TRUST ESTATE” herein.

The Series 2020 Bonds will be issued under an Indenture of Trust, to be dated as of July 1, 2020 (the “Indenture”), between the Green Bank and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), and will be limited obligations of the Green Bank, payable solely from and secured by the Trust Estate established thereunder. The Green Bank will pledge and assign to the Trustee: (i) the SHREC Receivables and RECs related to SHREC Tranche 3 owned by the Green Bank (other than with respect to any SHRECs that are reassigned to the Green Bank as Ineligible SHRECs following the issuance of the Series 2020 Bonds); (ii) the Revenues and all other property that may in the future be delivered, or by writing of any kind, conveyed, pledged, assigned or transferred to the Green Bank as additional security hereunder for the Series 2020 Bonds; (iii) the Green Bank’s rights to the revenues under the Master Purchase Agreements related to the SHREC Receivables and under all other agreements that may in the future be delivered, or by writing of any kind, conveyed, pledged, assigned or transferred to the Green Bank as additional security hereunder for the Series 2020 Bonds, but specifically reserving all other rights under the Master Purchase Agreements and such other agreements; (iv) the Revenue Fund, the Debt Service Fund, the Redemption Fund and the 2020 SHREC Economic and Energy Security Fund together with any and all receipts, funds or moneys, investments and other property of every kind and nature from time to time hereafter on deposit in or payable to such funds and accounts thereof, including any Project Support Debt Service Amounts paid by the Green Bank for deposit into the Debt Service Fund; and (v) the Special Capital Reserve Fund, including all amounts on deposit in and if necessary certified by the Green Bank as necessary to restore the Special Capital Reserve Fund to the Special Capital Reserve Fund Requirement and deemed appropriated by the State and paid to the Green Bank, together with any and all moneys, investments and other property of every kind and nature from time to time hereafter on deposit in or payable to the Special Capital Reserve Fund, including any amounts paid by the Green Bank for deposit into the Special Capital Reserve Fund (collectively, the “Trust Estate”). The interest payments on May 15, 2035 and November 15, 2035 and the final sinking fund payment on the Series 2020 Bonds maturing on November 15, 2035 will be paid from amounts on deposit in the Special Capital Reserve Fund as there will not be any SHREC Receivables available to make such payments due to the 15 year limitation on payments required pursuant to the Master Purchase Agreements. See the captions “THE TRUST ESTATE,” “INVESTMENT CONSIDERATIONS—The Expected Source of the Repayment is the Potential Stream of Payments Made Under the Master Purchase Agreements,” “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS—Covenants as to Special Capital Reserve Fund” and “DESCRIPTION OF THE INDENTURE—Debt Service Fund” and “—Special Capital Reserve Fund” herein.

There are no significant assets or sources of funds available to pay the Series 2020 Bonds other than the Trust Estate. See the caption “INVESTMENT CONSIDERATIONS” herein.

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\* Preliminary; subject to change.

The factors affecting the Green Bank, the RSIP and the Series 2020 Bonds described throughout this Official Statement are complex and are not intended to be fully described in the preceding Summary of Terms or this Introductory Statement. This Official Statement should be read in its entirety. Brief descriptions of Green Bank, the RSIP, the Series 2020 Bonds, the Indenture and certain related agreements are included in this Official Statement. The descriptions of such documents contained herein do not purport to be comprehensive or definitive and are qualified in their entirety by reference to the entire text of such documents, and references herein to the Series 2020 Bonds are qualified in their entirety by reference to the forms thereof included in the Indenture and the information with respect thereto included in such documents, all of which are available for inspection at the principal corporate trust office of the Trustee in Chicago, Illinois. A summary of the Indenture, together with defined terms used therein and in this Official Statement, is contained in “APPENDIX I-A—FORM OF THE INDENTURE” hereto.

All such descriptions are further qualified in their entirety by the application of bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and similar laws and laws and principles of equity relating to or affecting generally the enforcement of creditors’ rights.

### **CONNECTICUT GREEN BANK**

Connecticut Green Bank (the “Green Bank”) was established by the Governor and the General Assembly of the State of Connecticut on July 1, 2011 through Public Act 11-80. The Green Bank was formed as body politic and corporate, constituting a public instrumentality and political subdivision of the State of Connecticut established and created for the performance of an essential public and governmental function. The Green Bank is not a department, institution or agency of the state. The Green Bank is a quasi-public agency that administers the Connecticut Clean Energy Fund.

As the nation’s first state green bank, the Green Bank was formed with a mission to make green energy more accessible and affordable for all Connecticut citizens and businesses by creating a thriving marketplace to accelerate the growth of green energy.

The Green Bank facilitates green energy deployment by leveraging a public-private financing model that uses limited public dollars to attract private capital investments. By partnering with the private sector, the Green Bank creates solutions that result in long-term, affordable financing to increase the number of green energy projects statewide.

The Green Bank’s vision is a world empowered by the renewable energy of community. The Green Bank’s mission is to confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy. To achieve its vision and mission, the Green Bank has established the following three goals:

- To leverage limited public resources to scale up and mobilize private capital investment in the green economy of Connecticut.
- To strengthen Connecticut’s communities by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses.
- To pursue investment strategies that advance market transformation in green investing while supporting the organization’s pursuit of financial sustainability.

The vision, mission, and goals support the implementation of Connecticut’s clean energy policies be they statutorily required (e.g., CGS 16-245ff), planning (e.g., Comprehensive Energy Strategy) or regulatory in nature.

The powers of the Green Bank are vested in and exercised by a Board of Directors that is comprised of 11 voting and one (1) non-voting member, each with knowledge and expertise in matters related to the organization’s purpose. The Green Bank Board of Directors and staff are governed through the statute, as well as an Ethics Statement and Ethical Conduct Policy, Resolutions of Purposes, Bylaws, and Comprehensive Plan. The following identifies the current Board of Directors of the Green Bank and its executive staff:

**Board of Directors\***

- Lonnie Reed  
Chair of Connecticut Green Bank.....Chair
- Eric Brown  
Vice President, Manufacturing Policy & Outreach, at the Connecticut Business & Industry Association..... Member
- Binu Chandy  
Deputy Director of the Office of Brownfield Remediation & Development at the Department of Economic & Community Development.....*Ex-Officio* Member
- Thomas M. Flynn  
Managing Member of Coral Drive Partners LLC ..... Member
- John Harrity  
Chair, Connecticut Roundtable on Climate and Jobs..... Member
- Michael Li  
Energy Bureau Chief, Connecticut Department of Energy and Environmental Protection..... *Ex-Officio* Member
- Matthew Ranelli  
Partner, Environment, Energy and Land Use Group at Shipman & Goodwin LLP..... Member
- Kevin Walsh  
Senior Operating Partner, Stonepeak Infrastructure Partners..... Member
- Brenda Watson  
Executive Director of Operation Fuel..... Member
- Shawn T. Wooden  
Connecticut State Treasurer.....*Ex-Officio* Member
- Bryan Garcia  
President and CEO of the Connecticut Green Bank .....*Ex-Officio* Member (non-voting)

**Executive Staff**

- Bryan Garcia..... President and CEO
- Bert Hunter..... Executive Vice President and Chief Investment Officer
- Michael Yu..... Director, Clean Energy Finance
- Eric Shrago..... Managing Director
- Brian Farnen..... General Counsel and Chief Legal Officer
- Selya Price..... Director of Incentive Programs
- Louise Venables..... Associate Director

The State of Connecticut pledges to and agrees with any person with whom the Green Bank enters into contracts pursuant to the provisions of the Green Bank Statute that the State will not limit or alter the rights vested in the Green Bank until such contracts and the obligations under them are fully met and performed on the part of the Green Bank. The Green Bank Statute permits the Green Bank to appropriate in each year during the term of such contracts, an amount of money that

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\* There is presently one vacancy on the Board who will be appointed by the Governor.



is, when combined with other Green Bank funds available for such purpose, sufficient to pay such contracts and obligations or meet any contractual covenants or warranties.

## SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS

### General

The Series 2020 Bonds will be limited obligations of the Green Bank, payable solely from and secured by all money, revenues and receipts to be received under the Indenture, including all SHREC Receivables and other Revenues and all interest or other income derived from the investment or deposit of moneys in the Funds and Accounts, including amounts on deposit in the Special Capital Reserve Fund (to which, under certain circumstance described below, amounts may be paid from the State general fund pursuant to Section 16-245mm of the Connecticut General Statutes). See the captions “THE TRUST ESTATE” and “DESCRIPTION OF THE INDENTURE” herein, “APPENDIX I-A—FORM OF THE INDENTURE” hereto and the caption “OTHER FUNDS, DEBTS AND LIABILITIES—Contingent Liability Debt—*Special Capital Reserve Funds*” in Part II of this Official Statement.

**THE SERIES 2020 BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE STATE OR OF ANY POLITICAL SUBDIVISION THEREOF OR A PLEDGE OF THE FULL FAITH AND CREDIT OF THE STATE OR ANY SUCH POLITICAL SUBDIVISION THEREOF (OTHER THAN THE GREEN BANK), BUT SHALL BE PAYABLE SOLELY FROM THE TRUST ESTATE AND OTHER RECEIPTS, FUNDS OR MONEYS PLEDGED THEREFOR PURSUANT TO THE INDENTURE. THE STATE SHALL NOT BE OBLIGATED TO PAY THE SERIES 2020 BONDS OR THE INTEREST THEREON, NOR SHALL THE GREEN BANK BE OBLIGATED TO PAY THE SERIES 2020 BONDS OR THE INTEREST THEREON EXCEPT FROM THE REVENUES AND OTHER RECEIPTS, FUNDS AND MONEYS PLEDGED THEREFOR. NEITHER THE FULL FAITH AND CREDIT NOR THE TAXING POWER OF THE STATE OR OF ANY POLITICAL SUBDIVISION THEREOF (INCLUDING, FOR PURPOSES OF THIS SENTENCE, THE GREEN BANK) IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL, INTEREST, OR PREMIUM, IF ANY, ON THE SERIES 2020 BONDS. THE GREEN BANK HAS NO TAXING POWER. THE ISSUANCE OF THE SERIES 2020 BONDS SHALL NOT DIRECTLY OR INDIRECTLY OR CONTINGENTLY OBLIGATE THE STATE OR ANY POLITICAL SUBDIVISION THEREOF TO LEVY OR TO PLEDGE ANY FORM OF TAXATION WHATEVER THEREFOR OR TO MAKE ANY APPROPRIATIONS FOR THEIR PAYMENT, EXCEPT AS PROVIDED IN THE INDENTURE.**

The Green Bank will pledge and assign to the Trustee in respect of the Series 2020 Bonds all its right, title and interest in and to the Trust Estate; that is, all money, revenues and receipts to be received under the Indenture, including all Revenues and all interest or other income derived from the investment or deposit of moneys in any Funds and Accounts, including the Special Capital Reserve Fund.

### The Special Capital Reserve Fund

Section 16-245mm of the Connecticut General Statutes authorizes the Green Bank to establish one or more special capital reserve funds for its bonds. The Indenture establishes the Special Capital Reserve Fund for the Series 2020 Bonds, and provides that it shall be funded in an amount equal to the maximum amount of principal and interest becoming due on the Series 2020 Bonds by reason of maturity or required sinking fund payment in any single succeeding calendar year (the “Special Capital Reserve Fund Requirement”).

If at any time any interest on the Series 2020 Bonds or the principal or Redemption Price of the Series 2020 Bonds has become due and payable and payment thereof in full has not been made or provided for, the Trustee is required to withdraw from the Special Capital Reserve Fund, to the extent of moneys therein, an amount which, together with other amounts available for such payment, shall be sufficient to provide for such payment in full.

Section 16-245mm of the Connecticut General Statutes states that:

“Prior to December first, annually, the Connecticut Green Bank shall deposit into any special capital reserve fund, the balance of which has fallen below the required minimum capital reserve of such fund, the full amount required to meet the minimum capital reserve of such fund, as available to said bank from any resources of said bank not otherwise pledged or dedicated to another purpose. On or before December first, annually, but after said bank has made such required deposit, there is deemed to be

appropriated from the General Fund such sums, if any, as shall be certified by the chairperson or vice-chairperson of the Connecticut Green Bank to the Secretary of the Office of Policy and Management, the State Treasurer and the joint standing committees of the General Assembly having cognizance of matters relating to finance, revenue and bonding and energy, as necessary to restore each such special capital reserve fund to the amount equal to the required minimum capital reserve of such fund, and such amounts shall be allotted and paid to said bank.”

In the opinion of Bond Counsel, such appropriation and payment from the general fund of the State does not require further legislative approval. The Indenture provides that it will be an Event of Default if: (i) with respect to Series 2020 Bonds secured by the Special Capital Reserve Fund, the Green Bank shall fail or refuse to comply with the provisions of the Indenture dealing with the Special Capital Reserve Fund, or such amounts as shall be certified by the chairperson of the Green Bank to the Secretary of the Office of Policy and Management and Treasurer of the State of Connecticut pursuant to such provisions of the Act shall not be allotted and paid by the State of Connecticut to the Green Bank for deposit therein and such allotment and payment is not made prior to the second day succeeding the final adjournment of (i) the session of the General Assembly of the State of Connecticut convening when such certification shall have been made or, if the General Assembly is not then in session, (ii) the first session of the General Assembly of the State of Connecticut convening after such certification shall have been made.

In the opinion of Bond Counsel, the Indenture constitutes a valid and binding agreement of the Green Bank, enforceable in accordance with its terms. The pledges and covenants made in the Indenture, including those relating to the Special Capital Reserve Fund, are for the equal and ratable benefit and security of the owners of the Series 2020 Bonds. Pursuant to the Act, the aggregate amount of outstanding bonds issued by the Green Bank which may be secured by special capital reserve funds is \$100 million and, upon issuance of the Series 2020 Bonds, the aggregate amount of outstanding bonds of the Green Bank so secured will be \$27,340,043\* million. This amount includes the Series 2020 Bonds, the \$2,689,289.87 outstanding amount of the Green Bank’s Clean Renewable Energy Bonds (CGB Meriden Hydro LLC Project) issued pursuant to the Indenture of Trust, dated as of February 2, 2017, between the Green Bank and U.S. Bank National Association, as trustee, and the \$8,585,753.13 outstanding amount of the Equipment Lease/Purchase Agreement, dated as of December 29, 2017, as amended October 25, 2018 (Taxable Direct Pay New Clean Renewable Energy Bond) Connecticut State Colleges and University System between Banc of America Leasing & Capital, LLC and the Green Bank.

### **Covenants as to Special Capital Reserve Fund**

The Green Bank covenants that it shall at all times maintain the Special Capital Reserve Fund at the Special Capital Reserve Fund Requirement and do and perform or cause to be done and performed each and every act and thing with respect to the Special Capital Reserve Fund provided to be done or performed by or on behalf of the Green Bank or the Trustee under the terms and provisions of the Indenture and Section 16-245mm of the Connecticut General Statutes.

If at any time any Principal Payment on the Series 2020 Bonds, including any mandatory sinking fund installment, or any Interest Payment due thereon, or any Redemption Price of Series 2020 Bonds has become due and payable and payment thereof in full has not been made or provided for, the Trustee is required to (i) withdraw from the Special Capital Reserve Fund an amount which together with other amounts available for such payment is sufficient to provide for such payment in full and apply the amount so withdrawn to such payment, and (ii) no later than the next Business Day after such withdrawal, provide a notice to the Green Bank of such deficiency. Thirty (30) days prior to each Interest Payment Date and Principal Payment Date, the Trustee is required to determine whether the moneys or deposits in the respective Accounts within the Debt Service Fund are sufficient to make the next succeeding Interest Payment and Principal Payment. If such moneys or deposits are not sufficient to make such payments, the Trustee is required to, no later than the next Business Day, provide a notice of such insufficiency. The Green Bank has entered into a Project Support Commitment & Undertaking, dated as of the delivery date of the Series 2020 Bonds (the “Project Support Commitment & Undertaking”), for the benefit of the State of Connecticut, pursuant which the Green Bank agrees to deposit with the Trustee any Project Support Debt Service Amounts due and payable thereunder. The Green Bank is required to pay to the Trustee for deposit to the Debt Service Fund the Project Support Debt Service Amount as provided in the Project Support Commitment & Undertaking. The Project Support Commitment & Undertaking is solely for the benefit of the State of Connecticut and, other than amounts pledged pursuant to the Indenture, there are no other moneys or assets of the Green Bank pledged to the repayment of the Series 2020 Bonds or to the making of any Project Support Debt Service Amounts, and Owners of the Series 2020 Bonds

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\* Preliminary; subject to change.

should not rely upon the Green Bank to fund any deficiency in any Interest Payment or Principal Payment. See the captions “DESCRIPTION OF THE INDENTURE—Debt Service Fund” and “—Special Capital Reserve Fund” herein.

On or before December 1, annually, but after the Green Bank has made any deposit required by the Project Support Commitment & Undertaking, the State of Connecticut shall deem to be appropriated from the State of Connecticut general fund such sums, if any, as shall be certified by the chairperson or vice-chairperson of the Green Bank to the Secretary of the Office of Policy and Management, the State Treasurer and the joint standing committees of the General Assembly having cognizance of matters relating to finance, revenue and bonding and energy, as necessary to restore the Special Capital Reserve Fund to the Special Capital Reserve Fund Requirement, and such amounts shall be allotted and paid to the Green Bank. For the purpose of evaluation of any such fund, obligations acquired as an investment for the Special Capital Reserve Fund shall be valued at market value as of the date of calculation. Nothing described above shall preclude the Green Bank from establishing and creating other debt service reserve funds in connection with the issuance of bonds or notes of the Green Bank which are not a special capital reserve fund.

## **THE SERIES 2020 BONDS**

The following is a summary of certain provisions of the Series 2020 Bonds. Reference is hereby made to the Indenture and the Series 2020 Bonds in their entirety for the detailed provisions thereof. The Series 2020 Bonds will be issued in the aggregate principal amount shown on the cover page of this Official Statement.

### **General**

The Series 2020 Bonds will be issued initially in the form of one fully registered bond for each stated maturity, without coupons, in a denomination equal to the aggregate principal amount of such stated maturity and will be registered in the name of Cede & Co., as nominee of DTC. DTC will act as securities depository for the Series 2020 Bonds (together with any successor securities depository, the “Securities Depository”). See the caption “Securities Depository” below. Beneficial interests in the Series 2020 Bonds may be purchased in book-entry-only form, in denominations of \$1,000 or any integral multiple thereof.

Payment of the principal of, and interest on, the Series 2020 Bonds at maturity shall be made upon the presentation and surrender of the Series 2020 Bonds as hereinafter described. All payments of interest and premium, if any, on, and of principal upon redemption of, the Series 2020 Bonds prior to maturity shall be paid through the Securities Depository in accordance with its normal procedures, which now provide for payment by the Securities Depository to its participants in same-day funds.

In accordance with DTC procedures, conveyance of notices and other communications are to be made by the Trustee to DTC and by DTC to Direct Participants (as hereinafter defined), by Direct Participants to Indirect Participants (as hereinafter defined), and by Direct and Indirect Participants to beneficial owners. Cede & Co. is the Bondholder for all purposes under the Series 2020 Bond documents, including for the purposes of granting consents and for changes to the Series 2020 Bond documents. Beneficial owners may wish to take steps to ensure the transmission to them of notices of significant events with respect to the Series 2020 Bonds, such as redemptions, tenders, tender offers, defaults, and proposed amendments to the Series 2020 Bond documents. Each beneficial owner of Series 2020 Bonds must make arrangements with its participant to receive notices and payments with respect to the Series 2020 Bonds.

### **Securities Depository**

The information contained in the following paragraphs under this caption “Securities Depository” has been extracted from a schedule prepared by DTC entitled “SAMPLE OFFERING DOCUMENT LANGUAGE DESCRIBING BOOK-ENTRY-ONLY ISSUANCE.” The Green Bank and the Underwriter make no representation as to the completeness or the accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereof.

DTC, New York, New York, will act as Securities Depository for the Series 2020 Bonds. The Series 2020 Bonds will be issued as fully-registered bonds registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered bond certificate will be issued for each stated maturity of the Series 2020 Bonds, and will be deposited with DTC.

DTC is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). The DTC rules applicable to its Participants are on file with the Securities and Exchange Commission (“SEC”). More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com) (it being understood that information available at this website is not incorporated herein by reference).

Purchases of Series 2020 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2020 Bonds on DTC’s records. The ownership interest of each actual purchaser of each Series 2020 Bond (the “beneficial owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial owners will not receive written confirmation from DTC of their purchase, but beneficial owners are expected to receive written confirmation providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the beneficial owner entered into the transaction. Transfers of ownership interests in the Series 2020 Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in Series 2020 Bonds, except in the event that use of the book-entry-only system for the Series 2020 Bonds is discontinued.

To facilitate subsequent transfers, all Series 2020 Bonds deposited by Direct Participants with DTC are registered in the name of DTC’s partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Series 2020 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual beneficial owners of the Series 2020 Bonds; DTC’s records reflect only the identity of the Direct Participants to whose accounts such Series 2020 Bonds are credited, which may or may not be the beneficial owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants and by Direct Participants and Indirect Participants to beneficial owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial owners of Series 2020 Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Series 2020 Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Series 2020 Bond documents. For example, beneficial owners of the Series 2020 Bonds may wish to ascertain that the nominee holding the Series 2020 Bonds for their benefit has agreed to obtain and transmit notices to beneficial owners. In the alternative, beneficial owners may wish to provide their names and addresses to the registrar and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Series 2020 Bonds within a maturity are being redeemed, DTC’s practice is to determine by lot the amount of the interest of each Direct Participant in such Series 2020 Bond to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series 2020 Bonds unless authorized by a Direct Participant in accordance with DTC’s Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Green Bank as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.’s consenting or voting rights to those Direct Participants to whose accounts Series 2020 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption proceeds and principal and interest payments on the Series 2020 Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detailed information from the Green Bank or the Trustee, on each payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee or the Green Bank, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds and principal and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Green Bank or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the beneficial owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the Series 2020 Bonds at any time by giving reasonable notice to the Green Bank or the Trustee. Under such circumstances, in the event that a successor depository is not obtained, certificates for the Series 2020 Bonds are required to be printed and delivered and thereafter, transfer, exchange and replacement of Series 2020 Bonds would be governed by the applicable terms of the Indenture.

The Green Bank may decide to discontinue use of the system of book entry transfers through DTC (or a successor depository). In that event, certificates for the Series 2020 Bonds will be printed and delivered.

The above information concerning DTC and DTC's book-entry-only system has been obtained from sources that the Green Bank and the Underwriter believe to be reliable, but neither of the Green Bank or the Underwriter takes responsibility for the accuracy thereof.

THE GREEN BANK, THE TRUSTEE AND THE UNDERWRITERS HAVE NO RESPONSIBILITY WITH RESPECT TO: (I) THE ACCURACY OF THE RECORDS OF THE SECURITIES DEPOSITORY OR ANY PARTICIPANT AS TO THE BENEFICIAL OWNERSHIP OF THE SERIES 2020 BONDS; (II) THE DELIVERY OF EITHER NOTICES OR PAYMENT TO ANY PARTY OTHER THAN THE SECURITIES DEPOSITORY OR ITS NOMINEE AS REGISTERED OWNER OF THE SERIES 2020 BONDS; (III) ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY THE SECURITIES DEPOSITORY OR ITS NOMINEE AS THE OWNER OF RECORD OF ALL ISSUED AND OUTSTANDING SERIES 2020 BONDS; OR (IV) THE SELECTION BY THE SECURITIES DEPOSITORY OR ANY PARTICIPANTS OR ANY BENEFICIAL OWNERS TO RECEIVE PAYMENT IN THE EVENT OF A PARTIAL REDEMPTION OF SERIES 2020 BONDS.

## **Interest**

Interest will be computed on the basis of a 360-day year, consisting of twelve 30-day months. Interest on the Series 2020 Bonds will be payable semi-annually on May 15 and November 15 of each year, commencing November 15, 2020 (each, an "Interest Payment Date"). The record date for payment of interest on the Series 2020 Bonds is the last business day of any calendar month proceeding the month in which there occurs an Interest Payment Date.

## **Redemption**

*Optional Redemption.* The Term Series 2020 Bonds are subject to optional redemption prior to maturity at the option of the Green Bank, on or after November 15, 2030, at any time, in whole or in part, in such amounts as the Green Bank may determine, at a redemption price equal to one hundred percent (100%) of the principal amount of the Series 2020 Bonds to be redeemed, plus interest accrued and unpaid to the redemption date.

*Mandatory Sinking Fund Redemption.* The Term Series 2020 Bonds are subject to mandatory sinking fund redemption prior to maturity, beginning November 15, 2030, at a redemption price equal to one hundred percent (100%) of the principal amount of the Term Series 2020 Bonds to be redeemed, plus interest accrued and unpaid to the redemption date. Unless no portion of the Term Series 2020 Bonds to be so redeemed shall then be Outstanding and, subject to the provisions of the Indenture permitting amounts to be credited to part or all of any one or more Sinking Fund Installments, there shall be due from, and the Green Bank shall be required to pay for the retirement of the Term Series 2020 Bonds on November 15 of each of the years set forth below, the amount set forth opposite such year, and the said amount to be paid on each such date is hereby established as and shall constitute a Sinking Fund Installment for retirement of such portion of the Term Series 2020 Bonds.

<u>Date (November 15)</u>	<u>Sinking Fund Installment</u>
2031	\$1,108,000
2032	1,126,000
2033	1,146,000
2034	1,009,000
2035 <sup>1</sup>	875,000

<sup>1</sup> Final maturity.

*Notice of Redemption.* The Trustee is required to give notice, in the name of the Green Bank, of the redemption of the Series 2020 Bonds, which notice shall specify the Series 2020 Bonds to be redeemed, the redemption date and the place or places where amounts due upon such redemption will be payable and, if less than all of the Series 2020 Bonds are to be redeemed, the numbers or other distinguishing marks of such Series 2020 Bonds so to be redeemed. Such notice is required to further state whether the notice and the redemption are unconditional or conditional; if unconditional, that on such date there shall become due and payable upon each Series 2020 Bond to be redeemed the Redemption Price thereof, together with interest accrued to the redemption date; if conditional, that on such date that, if there shall be sufficient funds available to effect such redemption on the redemption date, there shall become due and payable upon each Series 2020 Bond to be redeemed the Redemption Price thereof, together with interest accrued to the redemption date, and, in either case, that if there shall be sufficient funds available to effect such redemption on the redemption date, then from and after such date interest thereon shall cease to accrue and be payable. The Trustee is required to mail a copy of such notice by first class mail, postage prepaid, not less than thirty (30) days before the redemption date, to the Bondholders of the Series 2020 Bonds which are to be redeemed, at their last addresses appearing upon the registry books.

*Effect of Redemption.* Notice having been given in the manner provided in the Indenture, if there shall be sufficient funds available to effect such redemption on the redemption date, the Series 2020 Bonds so called for redemption shall become due and payable on the redemption date so designated at the Redemption Price, plus interest accrued and unpaid to the redemption date, and, upon presentation and surrender thereof, at the office specified in such notice such Series 2020 Bonds shall be paid at the Redemption Price plus interest accrued and unpaid to the redemption date. If, on the redemption date, moneys for the redemption of all the Series 2020 Bonds to be redeemed together with interest to the redemption date, will be held by the Trustee as to be available therefor on said date and if notice of redemption shall have been given as aforesaid, then, from and after the redemption date interest on the Series 2020 Bonds so called for redemption shall cease to accrue and become payable. If said moneys shall not be so available on the redemption date, such Series 2020 Bonds or portions thereof shall continue to bear interest until paid at the same rate as they would have borne had they not been called for redemption.

## **THE TRUST ESTATE**

As more fully described below, pursuant the RSIP, the Green Bank provides incentives to homeowners and third-party system owners (“TPOs”) to deploy residential photovoltaic (“PV”) systems (each, a “SHREC Project”). Pursuant to Public Act No. 16-212 and Public Act No. 15-194, the Green Bank purchases a specific type of Renewable Energy Credit (“REC”) called a “solar home renewable energy credit” and the related Environmental Attributes (as defined herein) (a “SHREC”) from the homeowners and TPOs receiving RSIP incentives and producing PV energy. The Green Bank is then required to sell such SHRECs, and each of The Connecticut Light and Power Company d/b/a Eversource Energy (“Eversource”) and The United Illuminating Company (“United Illuminating” and together with Eversource, each, a “Utility” and together, the “Utilities”) are required to purchase such SHRECs, pursuant to two 15-year contracts (each, a “Master Purchase Agreement” and together, the “Master Purchase Agreements”).

Under each Master Purchase Agreement, SHRECs are divided into tranches based generally on the calendar year in which the related SHREC Project was installed (a “SHREC Tranche”). Each SHREC Tranche has a specific SHREC purchase price, as further described herein. The SHRECs included in the Trust Estate will be SHRECs related to SHREC Projects that were aggregated into a tranche in 2019 (“SHREC Tranche 3”). The revenue received from the Utilities for SHRECs within SHREC Tranche 3 from and after the delivery date of the Series 2020 Bonds is referred to herein as “SHREC Receivables”.

The 2017 SHREC Tranche (“SHREC Tranche 1”) and the 2018 SHREC Tranche (“SHREC Tranche 2”) are pledged to the repayment of SHREC Collateralized Notes, Series 2019-1 (the “Series 2019-1 Notes”) issued by SHREC ABS 1, LLC, a wholly-owned subsidiary of the Green Bank.

The “Trust Estate” will consist of (i) the SHREC Receivables and RECs related to SHREC Tranche 3 owned by the Green Bank (other than with respect to any SHRECs that are reassigned to the Green Bank as Ineligible SHRECs following the issuance of the Series 2020 Bonds); (ii) the Revenues and all other property that may in the future be delivered, or by writing of any kind, conveyed, pledged, assigned or transferred to the Green Bank as additional security hereunder for the Series 2020 Bonds; (iii) the Green Bank’s rights to the revenues under the Master Purchase Agreements related to the SHREC Receivables and under all other agreements that may in the future be delivered, or by writing of any kind, conveyed, pledged, assigned or transferred to the Green Bank as additional security hereunder for the Series 2020 Bonds, but specifically reserving all other rights under the Master Purchase Agreements and such other agreements; (iv) the Revenue Fund, the Debt Service Fund, the Redemption Fund and the 2020 SHREC Economic and Energy Security Fund together with any and all receipts, funds or moneys, investments and other property of every kind and nature from time to time hereafter on deposit in or payable to such funds and accounts thereof, including any Project Support Debt Service Amounts paid by the Green Bank for deposit into the Debt Service Fund; and (v) the Special Capital Reserve Fund, including all amounts on deposit in and if necessary certified by the Green Bank as necessary to restore the Special Capital Reserve Fund to the Special Capital Reserve Fund Requirement and deemed appropriated by the State and paid to the Green Bank, together with any and all moneys, investments and other property of every kind and nature from time to time hereafter on deposit in or payable to the Special Capital Reserve Fund, including any amounts paid by the Green Bank for deposit into the Special Capital Reserve Fund. The interest payments on May 15, 2035 and November 15, 2035 and the final sinking fund payment on the Series 2020 Bonds maturing on November 15, 2035 will be paid from amounts on deposit in the Special Capital Reserve Fund as there will be not be any SHREC Receivables available to make such payments due to the 15 year limitation on payments required pursuant to the Master Purchase Agreements. See the captions “INVESTMENT CONSIDERATIONS—The Expected Source of the Repayment is the Potential Stream of Payments Made Under the Master Purchase Agreements,” “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS—Covenants as to Special Capital Reserve Fund” and “DESCRIPTION OF THE INDENTURE—Debt Service Fund” and “—Special Capital Reserve Fund” herein.

### **Background Description of RSIP and SHRECs**

The RSIP is a direct financial incentive program for qualifying residential solar photovoltaic (“PV”) systems designed by the Green Bank in 2011 to comply with the directives of Public Act 11-80 of the Connecticut General Assembly to help meet Connecticut’s Renewable Portfolio Standard goals and deploy 30 MW of new residential solar PV installation. The RSIP was quickly oversubscribed, meeting the state’s 30 MW deployment target in 2014, eight years ahead of schedule. As a result, the Connecticut General Assembly initiated a new deployment target of 300 MW by 2022 with the passage of Public Act 15-194. The development target was further increased to 350 MW by 2022 with the passage of Public Act 19-35.

Under RSIP, the Green Bank provides two types of incentives:

- Homeowners that own their own system are eligible for an Expected Performance Based Buydown (“EPBB”) incentive as a \$/W installed upfront cost reduction for system purchases;
- TPOs may receive a Performance-Based Incentive (“PBI”) for systems leased to homeowners (or for systems whereby the electrical energy produced from such systems is sold to homeowners under a power purchase agreement) consisting of quarterly payments for 6 years based on actual system performance.

In exchange for providing the incentives described above, the Green Bank is assigned, in perpetuity, all rights, title and interest to SHRECs, as well as all Environmental Attributes in addition to certain energy attributes (such as forward capacity market benefits). To continue to meet Connecticut’s demand for residential solar energy and to fund the RSIP, the Connecticut Legislature established the SHREC program to enable the Green Bank to easily and reliably monetize the stream of RECs generated from the systems that receive incentives under the RSIP.

### **SHREC Program**

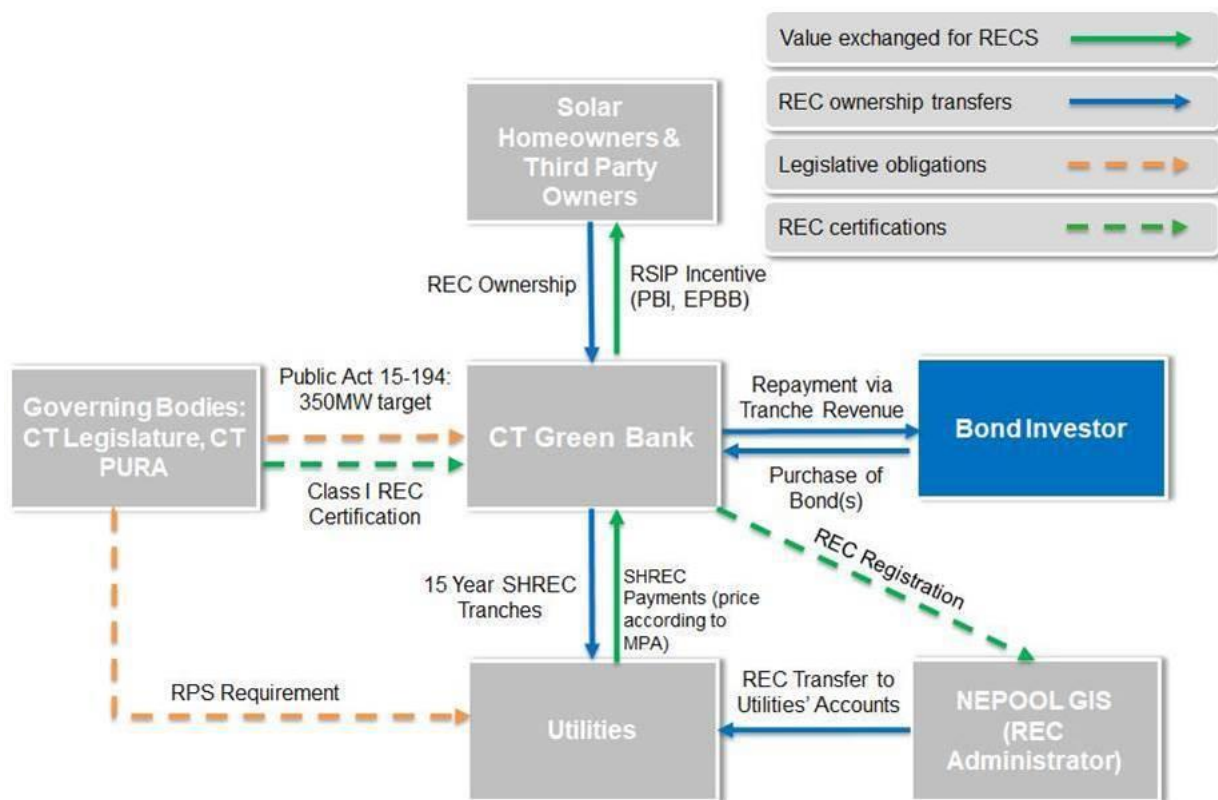
Under the SHREC program, the Utilities are statutorily mandated to enter into 15-year contracts with the Green Bank to purchase the SHREC Tranches generated by solar PV systems receiving the RSIP incentive. The agreement is governed by the Master Purchase Agreements, which were jointly filed with and approved by the Connecticut Public Utilities Regulatory Authority (“CT PURA”), whose approval included approval of the full cost recovery by the Utilities of the SHREC costs pursuant to the Master Purchase Agreements (the “CT PURA Order”). Under the Master Purchase Agreements, if CT PURA ever fails to authorize or prohibits the Utilities’ full cost recovery of these costs and fees, including

all amounts paid for SHRECs, then each Utility may reduce its obligation to pay the Green Bank to the extent of CT PURA’s failure to authorize such Utility’s full cost recovery. See the caption “The Master Purchase Agreements” below.

Each calendar year of newly installed solar PV systems constitutes a SHREC Tranche. The Utilities are obligated (by statute and the terms of the Master Purchase Agreements) to purchase each new SHREC Tranche for the 15-year delivery term of each SHREC Tranche, at a price fixed at the time the SHREC Tranche is sold to the Utilities. Under CT PURA Docket No. 16-05-07, CT PURA has guaranteed the Utilities cost recovery for the program via a statutorily-protected component of electric rates. Under the CT PURA Order referenced above, the CT PURA approved the Master Purchase Agreements for the purchase and sale of SHRECs and the CT PURA determined that the SHREC program costs will be recovered through a non-bypassable federally mandated congestion charge filed with CT PURA by each Utility.

A graphic explanation of the program structure is included below.

## SHREC Creation Process



During installation of a SHREC Project, qualified solar homeowners or TPOs apply for the RSIP incentive with the Green Bank. If the Green Bank determines that the system meets eligibility criteria, the Green Bank grants either an EPBB or PBI incentive to the applicant. In exchange, the Green Bank is assigned in perpetuity, all rights, title and interest in the SHRECs, Environmental Attributes and other energy attributes.

As further explained under the caption “The Master Purchase Agreements” below, the Green Bank will register SHRECs with the New England Power Pool Generation Information System (“NEPOOL GIS”) through their standard REC creation process, and once registered, these SHRECs will reside in the Green Bank’s NEPOOL GIS account. Upon the agreed quarterly date, the Green Bank will then sell and transfer SHRECs to the Utilities via NEPOOL’s Forward Certificate Transfer process at the price agreed upon in the Master Purchase Agreements.

The Utilities are then required to transfer payment electronically to the Green Bank by the final business day of the month following the quarterly SHREC transfer (i.e., every quarter during the life of each SHREC Tranche as the RECs



are produced quarterly by the related SHREC Projects). As SHREC generation will occur quarterly, the stream of payments from the Utilities to the Green Bank will be quarterly as well.

The Master Purchase Agreements allow both the Green Bank and the Utilities to accomplish certain of the Connecticut Legislature's goals—specifically, the Green Bank's goal of 350 MW of residential solar deployment by 2022; and the Utilities' compliance with Connecticut's renewable portfolio standard (or "RPS") target.

Only residential solar PV systems with incentives from the Green Bank approved on or after January 1, 2015 are eligible for the SHREC program. As approximately 44.6 MW of residential solar PV were installed before January 1, 2015 under RSIP, the maximum amount of SHREC-eligible residential solar PV that can be deployed is approximately 305.4 MW.

The final element in the SHREC structure enables the Green Bank to monetize a SHREC Tranche with a SHREC Tranche investor or financing counterparty. The Master Purchase Agreements provide for collateral assignment of the revenue streams associated with SHREC generation without consent of the Utilities as it relates to financing the future revenue stream of the SHRECs. The SHREC Statute and the Master Purchase Agreements provide for these features specifically to allow the Green Bank to monetize the SHRECs' anticipated cash flow streams. Each Master Purchase Agreement requires the Green Bank to continue to perform its obligations under the applicable Master Purchase Agreement as the assignee of SHRECs in the event of such collateral assignment. The Green Bank will pass on the revenue streams associated with each Master Purchase Agreement to the assignee. Each Master Purchase Agreement was amended to allow the Green Bank to assign its interests in such Master Purchase Agreement and/or payments under the Master Purchase Agreements to such affiliate or affiliates of the Green Bank for the purpose of effectuating a financing of cash flow streams.

The program automatically terminates at the earlier to occur of (x) 350 MW of CT residential solar PV deployment, or (y) December 31, 2022. Therefore, at most, six SHREC Tranches may be sold, and no new SHREC Tranches will be created for post-December 31, 2022 systems. However, each Utility's obligation to purchase SHRECs will continue with respect to each SHREC Tranche sold to the Utilities until each SHREC Tranche has run its 15-year course.

## **Description of SHRECs**

***Background and Legislative Authority for SHRECs.*** Two pieces of Connecticut State legislation—Public Act No. 16-212 and Public Act No. 15-194—granted the Green Bank the authority to create SHRECs. A SHREC is a unique type of REC that is generated only under the specific circumstances that are described in the Master Purchase Agreements. Connecticut legislation permitted the Green Bank to enter into the Master Purchase Agreements, which were approved by CT PURA. Under the Master Purchase Agreements, the Green Bank sells SHRECs to the Utilities for a price determined by the Green Bank.

Under each of the Master Purchase Agreements, the Green Bank aggregates RECs generated from solar PV systems participating in the RSIP into SHREC Tranches and sells such SHREC Tranches to the Utilities at a fixed, predetermined price over each SHREC Tranche's 15-year term. To distinguish RECs generated under the RSIP from residential solar PV systems awarded an incentive before January 1, 2015, RECs for qualifying residential solar PV systems awarded an incentive on or after January 1, 2015 are referred to as "SHRECs".

In addition to the related REC, a SHREC also represents the related Environmental Attributes and certain energy attributes. Pursuant to the Master Purchase Agreements, an "Environmental Attribute" excludes electric energy and capacity produced, but means any other emissions, air quality, or other environmental attribute, aspect, characteristic, claim, credit, benefit, reduction, offset or allowance, howsoever entitled or designated, resulting from, attributable to or associated with the generation of energy by a qualifying residential solar photovoltaic system as defined in Connecticut Public Act No. 15-194 and as amended by Connecticut Public Act No. 16-212, whether existing as of the effective date of the Master Purchase Agreement or in the future, and whether as a result of any present or future local, state or federal laws or regulations or local, state, national or international voluntary program, as well as any and all generation attributes under the regulations promulgated pursuant to Section 16-245a of the Connecticut General Statutes, as amended, modified, restated and superseded from time to time, that require a minimum percentage of electricity sold to end-use customers in the State of Connecticut to be derived from certain renewable energy generating resources, regulations and under any and all other international, federal, regional, state or other law, rule, regulation, bylaw, treaty or other intergovernmental compact, decision, administrative decision, program (including any voluntary compliance or membership program), competitive market or business method (including all credits, certificates, benefits, and emission measurements, reductions, offsets and allowances related thereto) that are attributable, now or in the future; and further, means: (a) any such credits, certificates, benefits, offsets and

allowances computed on the basis of the SHREC Project's (defined below) generation using renewable technology or displacement of fossil-fuel derived or other conventional energy generation; (b) any certificates issued pursuant to the NEPOOL GIS in connection with energy generated by a SHREC Project; and (c) any voluntary emission reduction credits obtained or obtainable by the Green Bank in connection with the generation of energy by a SHREC Project; provided, however, that Environmental Attributes will not include: (i) any production tax credits; (ii) any investment tax credits or other tax credits associated with the construction or ownership of a SHREC Project; or (iii) any state, federal or private grants relating to the construction or ownership of a SHREC Project or the output thereof. If during the delivery period, a change in laws or regulations occurs that creates value in Environmental Attributes, then at the applicable Utility's request, the Green Bank will cooperate with such Utility to register such Environmental Attributes or take other action necessary to obtain the value of such Environmental Attributes for such Utility. The below list constitutes the definition of a SHREC generation system that qualifies as a "SHREC Project" under the Master Purchase Agreements:

- The Connecticut Public Utilities Regulatory Authority (or any successor thereto) ("CT PURA") has issued an order, decision or ruling that the system uses a Class I renewable energy source, as defined by Section 16-1(a)(20) of the Connecticut General Statutes. (Solar PV systems are Class I renewable energy sources).
- The Green Bank provided an incentive for the installation of the system.
- The system emits no pollutants.
- The system's RSIP incentive was approved by the Green Bank on or after January 1, 2015.
- The system is installed on the customer side of the revenue meter of a residential property that comprises at least one and no more than four family dwelling units.
- The system serves the distribution system of an electric distribution company.

In addition to the enabling legislation and qualification criteria described above, the following actions are taken by the Green Bank when creating SHRECs:

- The Green Bank reviews the design details of systems and concludes whether they qualify to receive incentives and will be eligible to produce SHRECs.
- The Green Bank mandates that the system is connected to a revenue grade meter, which transmits, on a continuous basis, electricity generation data to the Green Bank when the system starts producing electricity.
- The Green Bank applies to the CT PURA to obtain Class I certification for any system the Green Bank has designated as SHREC-eligible through a standardized batch process.
- SHREC-eligible systems with Class I certification are placed into SHREC Tranches. To create a SHREC Tranche, the Green Bank and the Utilities execute standardized Transaction Confirmations. The Transaction Confirmations contain system details including location, size (kW), and approval to energize date, and are appended to the Master Purchase Agreements.
- The Master Purchase Agreements allow the Green Bank to create SHREC Tranches on an annual basis with the final SHREC Tranche to be created no later than January 1, 2022.
- The Green Bank fixes the SHREC price related to a SHREC Tranche, which means that every SHREC generated by the solar PV systems in a particular SHREC Tranche will have a fixed price for a 15-year term. Three SHREC Tranches have been created to date, and the SHREC price is \$48/megawatt hour for SHREC Tranche 3.

**SHREC Creation.** On a quarterly basis, the Green Bank downloads the electricity generation data from SHREC-eligible, tranced residential solar PV systems. The Green Bank accesses the data via a web-hosted platform called Locus that receives generation data every 15 minutes from meters located on the platform.

To convert the downloaded electricity generation data to SHRECs, the Green Bank submits the data to the NEPOOL GIS. There is a time lag of one calendar quarter between when the electricity was generated and when the data is submitted to NEPOOL GIS and the SHRECs created:

<b>Electricity generated (Calendar Quarter)</b>	<b>Green Bank submits electricity generation data to NEPOOL GIS (date)</b>	<b>SHRECs created by NEPOOL GIS (date)</b>
1. (January 1—March 31)	July 10	July 15
2. (April 1—June 30)	October 10	October 15
3. (July 1—September 30)	January 10	January 15
4. (October 1—December 31)	April 10	April 15

NEPOOL GIS creates SHRECs on a one for one basis, i.e., one SHREC created for one megawatt hour of electricity generated.

**Sale of SHRECs.** On the day they are created, SHRECs are automatically transferred from the Green Bank’s NEPOOL GIS account to the NEPOOL GIS accounts of the two Utilities. Under the terms of the Master Purchase Agreements, there is an 80%/20% split in this automatic transfer, with 80% of the SHRECs being transferred to Eversource’s account and 20% to United Illuminating’s account. Title to the SHRECs passes from the Green Bank to each respective Utility upon this transfer, and the Green Bank is able to invoice the Utilities for the sale.

The Green Bank issues invoices to the Utilities in the amount of the quantity of SHRECs sold, multiplied by the fixed price per SHREC, depending upon the SHREC Tranche from which the SHRECs were generated. Delivery of the SHRECs is deemed to occur upon the completion of the transfer and receipt of SHRECs via the NEPOOL GIS to the NEPOOL GIS account designated by each Utility. On or before the 15th day following the end of each SHREC creation month, the Green Bank is required to render to each Utility an invoice for the payment obligations incurred during the preceding month, based on the SHRECs delivered by the Green Bank in the preceding month to such Utility’s NEPOOL GIS account. Payment from the Utilities is due on the last business day of the month following the month during which such SHRECs were delivered.

### **The Master Purchase Agreements**

The following is a summary of the terms of the Master Purchase Agreements, as amended and in effect (the “Master Purchase Agreements”) between the Green Bank and each of the Utilities.

**Each Utility’s Percentage Entitlement.** Eversource is required to purchase 80% of the SHRECs created within each SHREC Tranche; and United Illuminating is required to purchase 20% of the SHRECs created within each SHREC Tranche. Eversource and United Illuminating are severally liable under their respective Master Purchase Agreements: Eversource, for example, is not required to purchase the remaining 20% of SHRECs set aside for United Illuminating in the event United Illuminating is unable to purchase its 20% percentage entitlement; and United Illuminating is not required to purchase the remaining 80% of SHRECs set aside for Eversource.

**Effective Date.** The effective date of the Master Purchase Agreements (the “Master Purchase Agreement Effective Date”) was February 7, 2017.

**Product Purchased Under Master Purchase Agreements: SHRECs.** The product purchased under the Master Purchase Agreements is SHRECs, each representing one MWh of solar electricity generated on or after January 1, 2015 and qualifying for Connecticut Class I REC status. Individual SHRECs will be aggregated into SHREC Tranches.

**SHREC Tranche Purchase Price.** The purchase price agreed upon on a per SHREC basis for a particular SHREC Tranche is the “SHREC Tranche Purchase Price”. The SHREC Tranche Purchase Price for SHREC Tranche 3 is \$48 per SHREC as of the Master Purchase Agreement Effective Date and may be different for each subsequent SHREC Tranche, declining commensurate with RSIP as applicable. The SHREC Tranche Purchase Price is capped at the lesser of (i) small

Zero Emissions Renewable Energy Credit (ZREC) prices for the preceding year; and (ii) the price of the alternative compliance payment pursuant to Section 16-425(k) of the Connecticut General Statutes less five dollars (which for SHREC Tranche 3 amounts to a cap of \$50).

**Term.** The Utilities' obligation to enter into Master Purchase Agreements commenced on the Master Purchase Agreement Effective Date and will expire at the earlier to occur of (a) the date that 305.4 MW of aggregate SHREC Projects (the Energy Act's 350MW target less the amount of projects approved for incentives under the RSIP prior to 2015) are approved under the RSIP program on and after January 1, 2015; and (b) December 31, 2022.

**SHREC Project.** For purposes of the Master Purchase Agreements, a qualifying SHREC project (a "SHREC Project") is a residential solar photovoltaic system, that satisfies the criteria listed for a SHREC Project. See the caption "Description of SHRECs" above.

**Creating and Defining a "SHREC Tranche".** The Master Purchase Agreements define a SHREC Tranche by identifying the SHREC Projects that generate SHRECs during the 12 calendar months commencing on January 1st of a particular year. For any given year, all SHRECs that are generated by SHREC Projects that have not been included in a prior SHREC Tranche and that start producing SHRECs in time to be included in the specified year's trading period for first quarter generation, will constitute a "SHREC Tranche" for that year. For example, the 2017 SHREC Tranche will include all SHRECs generated in the first quarter with a NEPOOL creation date of July 15, 2017. The same SHREC Tranche included all SHRECs generated by the associated systems for 15 years thereafter. In the example above, the 15-year period begins on January 1, 2017 and obligates the Utilities to purchase the SHRECs generated after January 1, 2017 by each of the SHREC Projects included in the 2017 SHREC Tranche.

Both the Utilities and the Green Bank are required to execute a SHREC Tranche confirmation that details, as to each SHREC Tranche, the SHREC Projects included in the SHREC Tranche, the aggregate capacity of such projects, the SHREC Tranche delivery term start date and the SHREC Tranche Purchase Price.

**SHREC Creation Process.** Under Rule 2.1 of the NEPOOL GIS Operating Rules, RECs are created quarterly on the 15th day of the calendar quarter that is the second calendar quarter following the calendar quarter in which the energy associated with a certificate was generated. For example, certificates from energy generation occurring in the first quarter of a calendar year will be created on July 15th of the same year. Under Rule 3.2 of the NEPOOL GIS Operating Rules, other than trading occurring under forward certificate transfers described below, each REC is transferrable from its creation date through 15 days prior to the end of its creation date quarter. From the above example, such RECs would be eligible for trades from July 15th through September 15th.

The NEPOOL GIS allows an owner to schedule SHREC transfers in advance of their creation date, under the "forward certificate transfers" process. After being scheduled in advance, the trade is completed during the trading period defined above. The Green Bank intends to execute the majority of its trades via forward certificate transfer.

SHREC Projects must be located behind the meter of a distribution customer of one of the two investor owned electric distribution companies (i.e., the Utilities) in Connecticut. Each SHREC Project must have a separate meter dedicated to SHREC measurement, the "REC Meter".

**Green Bank's Obligations Regarding SHRECs.** The Green Bank, as the seller of the SHRECs, is obligated to undertake the following, pursuant to the Master Purchase Agreements:

- The Green Bank will sell and deliver the Utility's applicable percentage entitlement of the SHRECs for a particular SHREC Tranche;
- The Green Bank will sell to the Utility all SHRECs generated by a particular SHREC Tranche's SHREC Projects beyond the 15-year term of the Master Purchase Agreements at no cost, for as long as a SHREC Project continues to generate SHRECs;
- The Green Bank will not transfer or assign SHRECs to anyone other than a Utility, except as specified in Section 9.2 of the applicable Master Purchase Agreement (which is discussed under the caption "*Green Bank Collateral Assignment Rights (Section 9.2 and First Amendment)*" below);

- The Green Bank will comply with all NEPOOL GIS operating rules, and maintain accounts required to store and deliver SHRECs with NEPOOL GIS and ISO-New England (the independent system operator (ISO) that is an independent not-for-profit regional transmission organization overseeing the New England region's bulk electric power system and transmission lines, which includes the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont and parts of New York and Canada);
- The Green Bank will verify all pre-requisites to sale;
- The Green Bank will provide the Utility with any necessary information and support to achieve regulatory and corporate approvals; however, the Green Bank shall not incur costs in excess of \$100,000 per year to support this effort, unless the Utility agrees in writing to reimburse the Green Bank for an agreed-upon portion of the costs; and
- The Green Bank will warrant upon delivery that title to any and all of the SHRECs delivered to the Utility are delivered free and clear of any encumbrances. Upon delivery, the Green Bank will represent and warrant to the Utility that it has sold the SHRECs exclusively to such Utility and such SHRECs have not expired.

***Green Bank Collateral Assignment Rights (Section 9.2 and First Amendment).*** The Green Bank has the right to collaterally assign, mortgage, pledge, grant security interests, or otherwise encumber its rights and obligations (including but not limited to the right to receive payments) in the Master Purchase Agreements to any lender in connection with a financing only pursuant to Section 9.2 of the applicable Master Purchase Agreement.

Additionally, each of the initial Master Purchase Agreements between the Green Bank and each of the Utilities, respectively, was amended by a First Amendment to Master Purchase Agreement made effective July 30, 2018 to enable the Green Bank to assign its interests in such Master Purchase Agreement including the income stream associated with the SHRECs, to an affiliate or affiliates of the Green Bank for the purpose of effectuating a monetization of the SHREC cash flow streams.

***Utilities' Obligations.*** Each of the Utilities is obligated to undertake the following pursuant to the applicable Master Purchase Agreement:

- The Utility will purchase and receive its applicable percentage entitlement of the SHRECs for a particular SHREC Tranche; and
- The Utility will consent to the Green Bank's obtaining financing secured by all payments made by the Utility to the Green Bank under the Master Purchase Agreements.

Each Utility agrees that in an event of default, the Green Bank's collateral assignee will be entitled to exercise rights and remedies of Green Bank. Each Utility agrees that the collateral assignee will have the right but not the obligation to cure any default on the part of the Green Bank, unless the assignee has succeeded to the Green Bank's obligations under the Master Purchase Agreements. Each Utility agrees to execute any consents to assignment and provide a written acknowledgement within twenty days of written request.

***Utility SHREC Utilization Rights.*** Each Utility has the right to utilize, resell or convey SHRECs at its sole discretion. If the statutory and regulatory framework governing SHRECs is amended or suspended following SHREC Tranche confirmation, such Utility may choose to qualify SHREC Projects in another state or federal program.

***Delivery and Title Transfer; Payment for SHRECs.*** Delivery under the Master Purchase Agreement occurs when transfer and receipt via NEPOOL GIS to the account maintained by the applicable Utility is complete. The Green Bank will effect the transfer to the applicable Utility's account via a forward certificate transfer, and upon such Utility's receipt, all rights, title and interest in SHRECs will transfer to such Utility.

Payment for SHRECs delivered is due on the last business day of the month following the month during which such SHRECs were delivered. The Green Bank is required to render an invoice to each Utility by the 15th day of the month following the SHREC delivery month.

Any late payments under the Master Purchase Agreements will accrue interest at a rate equal to the federal funds effective interest rate as set forth in the weekly statistical release designated as H.15(519), or any successor publication, published by the Board of Governors of the Federal Reserve System.

If a party disputes a payment obligation, the disputing party must notify the other in writing and will withhold payment pending resolution of the dispute. Withheld amounts will accrue interest in the same manner as late payments on any amounts determined to have been properly billed. If a Utility seeks clarification from the CT PURA on uses or cost recovery methods for SHRECs, interest will not accrue during the period pending clarification. There will be a 24-month statute of limitations on new disputes for any particular payment. Interest on late payments will bear interest from and including the due date and will be calculated at the current date's Federal Funds Effective Rate.

***Prerequisites for Purchase.*** A Utility's obligation to purchase SHRECs for any particular SHREC Tranche is contingent upon satisfaction of all of the following conditions:

- such Utility has received a final decision of approval from the CT PURA, as well as the Utility's corporate approval, of the Master Purchase Agreement (both of which have already been obtained);
- SHREC Tranche confirmations have been executed (such confirmations have been delivered with respect to SHREC Tranche 3); and
- the Green Bank has provided and such Utility has accepted a notice certifying (a) that generation associated with creation of SHRECs has begun prior to the Tranche Delivery Term Start Date; and (b) the amount of the SHREC Tranche Purchase Price; and (c) that each SHREC Project, as constructed, satisfies the criteria listed for a SHREC Project; and (d) the Green Bank has satisfied its obligations set forth in the Master Purchase Agreement necessary to complete the delivery of such SHRECs to such Utility (which notice has been provided by the Green Bank and accepted by each such Utility with respect to SHREC Tranche 3).

***Failure to Obtain Regulatory Approval.*** The Master Purchase Agreements have already received final approval from the CT PURA under Docket No. 16-05-07. If for any reason the CT PURA were to reopen Docket No. 16-05-07 and the CT PURA were to make a decision that invalidates a provision of the Master Purchase Agreement, other than one that impacts the transfer of SHRECs or the applicable Utility cost recovery, (a) the remaining provisions of the Master Purchase Agreement will remain in full force and effect; and (b) the applicable Utility and the Green Bank will endeavor in good faith to replace the invalid provisions with provisions that preserve the economic effects and fundamental rights of the parties under the Master Purchase Agreement.

***Events of Default and Remedies under the Master Purchase Agreements.*** An event of default under the Master Purchase Agreement has occurred when:

- A party breaches any of its obligations and (a) does not cure the breach within ten (10) business days of written notice from the non-breaching party, or (b) does not cure the breach within twenty (20) business days after notice, following a ten-day extension for diligent work; or
- A representation or warranty made by a party proves false in any material respect; or
- A party becomes bankrupt.

Upon the occurrence of an event of default under a Master Purchase Agreement, the non-defaulting party may do any one or more of the following:

- Pursue rights and remedies as may be available in law and equity;
- Withhold any payments due in respect of the Master Purchase Agreement up to the extent of its damages;
- Terminate the Master Purchase Agreement, subject to the limitations of early termination (described in the following paragraph); and

- Suspend performance of its obligations with regards to transfer of SHRECs until such event of default is cured.

Each Utility agrees that it will not exercise any right to terminate or suspend the Master Purchase Agreement unless it has given the defaulting party (the Green Bank or its assignee) prior written notice of its intent and the defaulting party has not caused the defaulting condition to be cured within 15 days after the later of: (a) such Utility's notice, or (b) the expiration of the applicable periods of grace provided under the Master Purchase Agreement. If such default cannot be reasonably cured by the defaulting party within 15 days, the cure period will be extended for a reasonable period of time not to exceed 15 days (for an aggregate 30-day cure period).

**Force Majeure Events.** Under the Master Purchase Agreement, a "Force Majeure Event" means any event or circumstance which is beyond the control and without the fault or negligence of the party affected and which by the exercise of reasonable diligence the party affected was unable to prevent, provided that such events or circumstances shall be limited to a list of circumstances.

"Force Majeure Events" are defined to include, generally: (1) Political instability events such as riot, war, compulsory acquisition or acts of terrorism; (2) Ionizing events such as contact with nuclear waste or radiation; (3) Natural disasters such as earthquakes or fires; and (4) Strikes or industrial disputes.

"Force Majeure Events" are defined not to include any of the following events: (1) Curtailment arising from mechanical or equipment failure attributable to wear and tear; (2) Financial hardship, including events that merely increase cost to one of the parties; (3) the Green Bank's ability to sell SHRECs at a price greater than the SHREC Tranche Purchase Price that has been established; or (4) a Utility's ability to purchase SHRECs at a price lower than the SHREC Tranche Purchase Price. In addition, a delay or inability to perform due to a party's lack of preparation for a known risk or condition to satisfy its obligations, a party's failure to timely obtain and maintain all necessary permits or approvals (excepting the regulatory approval necessary for entering into the Master Purchase Agreements) or qualifications, or a failure to satisfy contractual conditions or commitments, shall each not constitute a Force Majeure or be the basis for a claim of Force Majeure under the Master Purchase Agreements.

The implication of the Force Majeure definition in the Master Purchase Agreements is that it permits a party to be excused from or permitted a delay in performance of one or more of its obligations under the Master Purchase Agreements.

**Governing Law.** The Master Purchase Agreements are interpreted and governed by the laws of the State of Connecticut.

### SHREC Tranche 3

SHREC Tranche 3, with a SHREC Tranche Delivery Term Start Date (as defined in the Master Purchase Agreements) of January 1, 2019, consisted of 4,818\* SHREC Projects representing a total "nameplate" capacity of approximately 39.3 MW-DC and was executed by the Green Bank and the Utilities as of July 1, 2019. Taking into account an annual rate of degradation of one-half percent and a SHREC Tranche Purchase Price (as defined in the Master Purchase Agreement) of \$48/MWh, the Green Bank projects gross SHREC Receivables of \$25.2 million over the remaining 14-year term of SHREC Tranche 3.† The aggregation of these SHREC Projects in SHREC Tranche 3 was approved by PURA between April 17, 2019 and June 12, 2019 through Docket Nos. 190204, 190205, 190206, 1902070E (corrected), 190208, 190209, 190210, and 190211.

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\* This number diverges from the total number of SHREC Projects initiated under the Master Purchase Agreements due to cancelled/decommissioned SHREC Projects.

† These figures are estimates of production only, and no guarantee of future performance is offered, granted, suggested or implied.

SHREC Tranche 3 has the following characteristics as set forth in the following tables as of May 11, 2020 (the “Statistical Cutoff Date”):

**Composition of SHREC Tranche 3  
as of the Statistical Cutoff Date**

Number of PV Systems <sup>1</sup>	4,811
Aggregate PV System Size (kW-DC)	39,205
Average PV System Size (kW-DC)	8.1
Range of PV System Size (kW-DC)	0.5 to 39.6
Average RSIP Incentive Approval Date	1/26/2018
Average Utility Interconnection Approval Date	5/19/2018
Average Panel Age - Months since RSIP Incentive Approval	28.0
Average Panel Age - Months since Utility Interconnection Approval	24.2
Third Party Owned	74%
Homeowner Owned	26%
Average FICO <sup>2</sup>	745
Range of Non-Zero Credit Score	447 to 850
Eversource Energy Grid Connection	68%
United Illuminating Grid Connection	32%

<sup>1</sup> This number diverges from the total number of SHREC Projects initiated under the Master Purchase Agreements due to cancelled/decommissioned SHREC Projects.

<sup>2</sup> As of May 31, 2019

**Distribution of SHREC Tranche 3 by Owner  
as of the Statistical Cutoff Date**

Owner	Number of PV Systems	Percentage of PV Systems	Nameplate Capacity (kW-DC)	Percentage of Nameplate Capacity
Sunnova	1,694	35.2%	13,375	34.1%
Sunrun	532	11.1	4,364	11.1
PosiGen	518	10.8	3,401	8.7
Vivint Solar	453	9.4	3,670	9.4
SunPower	348	7.2	3,333	8.5
Other Owners (less than 5%)	7	0.1	49	0.1
Homeowner	<u>1,259</u>	<u>26.2</u>	<u>11,012</u>	<u>28.1</u>
Total	<u>4,811</u>	<u>100.0%</u>	<u>39,205</u>	<u>100.0%</u>

**Distribution of SHREC Tranche 3 by Utility Company  
as of the Statistical Cutoff Date**

Utility Company	Number of PV Systems	Percentage of PV Systems	Nameplate Capacity (kW-DC)	Percentage of Nameplate Capacity
Eversource Energy	3,257	67.7%	27,475	70.1%
United Illuminating	<u>1,554</u>	<u>32.3</u>	<u>11,730</u>	<u>29.9</u>
Total	<u>4,811</u>	<u>100.0%</u>	<u>39,205</u>	<u>100.0%</u>



**Distribution of SHREC Tranche 3 by Range of PV System Size (kW-DC)  
as of the Statistical Cutoff Date**

<b>Range of PV System Size (kW-DC)</b>	<b>Number of PV Systems</b>	<b>Percentage of PV Systems</b>	<b>Nameplate Capacity (kW-DC)</b>	<b>Percentage of Nameplate Capacity</b>
0.001-2.000	5	0.1%	7	0.0% <sup>1</sup>
2.001-4.000	325	6.8	1,071	2.7
4.001-6.000	1,125	23.4	5,638	14.4
6.001-8.000	1,267	26.3	8,749	22.3
8.001-10.000	909	18.9	8,112	20.7
10.001-12.000	525	10.9	5,717	14.6
12.001-14.000	299	6.2	3,855	9.8
14.001-16.000	160	3.3	2,391	6.1
16.001-18.000	98	2.0	1,650	4.2
18.001-20.000	54	1.1	1,027	2.6
>20.000	<u>44</u>	<u>0.9</u>	<u>988</u>	<u>2.5</u>
<b>Total</b>	<b><u>4,811</u></b>	<b><u>100.0%</u></b>	<b><u>39,205</u></b>	<b><u>100.0%</u></b>

<sup>1</sup> Greater than 0.0%, but less than 1.0%.

**Distribution of SHREC Tranche 3 by Host Customer County  
as of the Statistical Cutoff Date**

<b>Host Customer County</b>	<b>Number of PV Systems</b>	<b>Percentage of PV Systems</b>	<b>Nameplate Capacity (kW-DC)</b>	<b>Percentage of Nameplate Capacity</b>
Fairfield County	857	17.8%	7,029	17.9%
Hartford County	1,272	26.4	9,784	25.0
Litchfield County	176	3.7	1,745	4.4
Middlesex County	255	5.3	2,200	5.6
New Haven County	1,566	32.6	12,443	31.7
New London County	382	7.9	3,334	8.5
Tolland County	156	3.2	1,371	3.5
Windham County	<u>147</u>	<u>3.1</u>	<u>1,299</u>	<u>3.3</u>
<b>Total</b>	<b><u>4,811</u></b>	<b><u>100.0%</u></b>	<b><u>39,205</u></b>	<b><u>100.0%</u></b>

**Distribution of SHREC Tranche 3 by Module Manufacturer  
as of the Statistical Cutoff Date**

<b>Module Manufacturer</b>	<b>Number of PV Systems</b>	<b>Percentage of PV Systems</b>	<b>Nameplate Capacity (kW-DC)</b>	<b>Percentage of Nameplate Capacity</b>
Hanwha Q-Cells	1,766	36.7%	13,834	35.3%
Silfab	624	13.0	4,313	11.0
LG Electronics Solar Cell Division	561	11.7	5,384	13.7
Jinko Solar	545	11.3	4,343	11.1
SunPower	497	10.3	4,670	11.9
Trina Solar	348	7.2	2,633	6.7
REC Solar	170	3.5	1,375	3.5
SolarCity	47	1.0	370	0.9
Other	<u>253</u>	<u>5.3</u>	<u>2,283</u>	<u>5.8</u>
<b>Total</b>	<b><u>4,811</u></b>	<b><u>100.0%</u></b>	<b><u>39,205</u></b>	<b><u>100.0%</u></b>

The Green Bank uses Clean Power Research's (CPR) SolarAnywhere FleetView to derive energy forecasts. The forecasts are derived from the following information for each installed system:

- Location;
- Number of arrays, inverters per array;
- PV module manufacturer, model, quantity, and cost;
- Inverter manufacturer, model, quantity, and cost;
- Fixed tilt or tracking array type;
- Azimuth and tilt for each array; and
- Solar obstruction (shading) angles or monthly (solar access) percentages for each array.

CPR SolarAnywhere FleetView maintains a database of typical meteorological year (TMY) 3 and satellite irradiation data. The TMY data sets hold hourly values of solar radiation and meteorological elements for a 1-year period. Their intended use is for computer simulations of solar energy conversion systems and building systems to facilitate performance comparisons of different system types, configurations, and locations in the United States and its territories. Using this information, the Green Bank can develop a solar radiation forecast for each system location.

The Green Bank's annual energy generation estimates are adjusted, with certain exceptions, using a fixed 10% derate factor (the derate factor for soiling accounts for dirt, snow, or other foreign matter on the surface of the PV module that reduces the amount of solar radiation reaching the solar cells of the PV module) and a 0.5% assumed annual system degradation rate.

The energy forecast for SHREC Tranche 3 was provided to DNV GL, independent engineers, to confirm the accuracy of the Green Bank's current and future energy production estimates. The Green Bank provided DNV GL with a dataset with detailed system information and monthly energy generation forecasts for 4,811 systems with Approval to Energize dates between 3 February 2015 and 17 January 2019.

DNV GL refined and analyzed the Green Bank's operational data and assessed all PV systems using available historical data to gain insight on the operational performance of SHREC Tranche 3. After making any appropriate adjustments, DNV GL developed a revised forecast of the annual electricity production for SHREC Tranche 3 at various probabilities of exceedance (e.g., P50, P90, P99, where P90 represents an electricity production forecast that will be matched or exceeded with 90% probability). These annual forecasts are multiplied by the \$48 price per SHREC to calculate projected annual SHREC Receivables. The Green Bank then applied seasonality assumptions derived by CPR SolarAnywhere FleetView (projected annual production for a SHREC Project is assumed to be generated as follows: 19.18% in the first quarter; 33.64% in the second quarter; 32.55% in the third quarter; and 14.64% in the fourth quarter).

The following table indicates the Green Bank's and DNV GL's estimates of the Green Bank's Year One estimate of production for each of the 15 years of the SHREC Projects for the P50 production probability. Generally, DNV GL's production estimates were above those of the Green Bank; however, DNV GL had a higher degradation rate (0.68% for the DNV GL estimates vs. 0.50% for the Green Bank estimates).

**Percent of Green Bank's Year 1 Estimates (P50)**

<b>Year</b>	<b>Green Bank Estimates</b>	<b>DNV GL Estimates</b>
1	99.1%	102.3%
2	98.6	101.6
3	98.1	100.9
4	97.6	100.2
5	97.1	99.5
6	96.6	98.8
7	96.1	97.9
8	95.6	97.0
9	95.2	95.8
10	94.7	94.6
11	94.2	93.6
12	93.7	93.4
13	93.3	93.2
14	92.8	92.9
15	92.3	92.5

The following table provides DNV GL's annual production (MWh) forecasts for various probabilities of exceedance for 1-year periods, with Year 1 representing April 30, 2020 to May 1, 2021. The relative production forecasts shown below will change if the final SHREC Tranche 3 composition differs materially from the SHREC Projects analyzed by DNV GL.

**Production Forecasts (MWh) for SHREC Trance 3 in MWh, 1-Year Period**

<b>Year</b>	<b>P50</b>	<b>P90</b>	<b>P99</b>
1	40,937	37,811	35,262
2	40,659	37,528	34,974
3	40,382	37,236	34,664
4	40,103	36,933	34,333
5	39,823	36,620	33,980
6	39,530	36,286	33,597
7	39,191	35,901	33,156
8	38,809	35,469	32,662
9	38,358	34,966	32,095
10	37,852	34,407	31,468
11	37,447	33,935	30,913
12	37,391	33,771	30,633
13	37,319	33,586	30,325
14	37,189	33,342	29,956
15	37,024	33,060	29,547

Using the annual MWh production forecasts provided by DNV GL, adjusting the SHREC Receivables for annual periods ending on the principal payment dates (November 15), making the seasonality adjustments described above, assuming that only 96.4% of the SHREC Project production within SHREC Tranche 3 is available at any one time and multiply the result MWh production forecasts by the \$48/MWh pursuant price under the Master Purchase Agreements, the following table provides the estimated SHREC Receivables (after the payment of Trustee fees, charges and expenses) available to pay debt service on the Series 2020 Bonds and the related debt service coverage ratios for each of the P50, P90 and P99 production probabilities. Although there will be no SHREC Receivables available to pay debt service on the Series 2020 Bonds in the calendar year 2035, it is anticipated that the amounts on deposit in the Special Capital Reserve Fund will be sufficient to make such payments.

### Debt Service Coverage Table

	Expected Net SHREC Receivables (P50)*	Expected Net SHREC Receivables (P90)	Expected Net SHREC Receivables (P99)	Projected Annual Debt Service	Expected P50 Debt Service Coverage	Expected P90 Debt Service Coverage	Expected P99 Debt Service Coverage
11/15/2020	\$ 350,756	\$ 323,015	\$ 300,399	\$ 132,064	2.66x	2.45x	2.27x
11/15/2021	1,882,398	1,737,664	1,619,640	1,496,519	1.26x	1.16x	1.08x
11/15/2022	1,869,547	1,724,438	1,605,964	1,488,267	1.26x	1.16x	1.08x
11/15/2023	1,856,676	1,710,748	1,591,295	1,475,755	1.26x	1.16x	1.08x
11/15/2024	1,843,756	1,696,574	1,575,624	1,459,689	1.26x	1.16x	1.08x
11/15/2025	1,830,594	1,681,751	1,558,821	1,441,804	1.27x	1.17x	1.08x
11/15/2026	1,816,318	1,665,495	1,540,184	1,423,167	1.28x	1.17x	1.08x
11/15/2027	1,799,965	1,646,947	1,518,956	1,401,670	1.28x	1.17x	1.08x
11/15/2028	1,781,220	1,625,855	1,494,954	1,376,928	1.29x	1.18x	1.09x
11/15/2029	1,759,489	1,601,717	1,467,772	1,349,777	1.30x	1.19x	1.09x
11/15/2030	1,737,654	1,577,194	1,439,899	1,321,445	1.31x	1.19x	1.09x
11/15/2031	1,724,379	1,560,154	1,418,528	1,294,925	1.33x	1.20x	1.10x
11/15/2032	1,721,525	1,552,240	1,405,116	1,273,580	1.35x	1.22x	1.10x
11/15/2033	1,717,290	1,542,755	1,389,915	1,253,595	1.37x	1.23x	1.11x
11/15/2034	1,382,192	1,237,517	1,110,039	1,075,901	1.28x	1.15x	1.03x
11/15/2035	1,068,401**	1,068,401**	1,068,401**	906,071	1.18x	1.18x	1.18x

\* Expected Net SHREC Receivables based on P50 production. P-measures are a statistical estimate of how often, given variances in weather and system performance, solar projects will exceed that value. P50 means that for each year, 50% of the time generation is expected to be above the generation forecast and 50% of the time generation is expected to be below the generation forecast for such year; Expected Net SHREC Receivables are net of Trustee fees, charges and expenses.

\*\* Represents the reserve fund release net of trustee fees, charges and expenses.

Pursuant to the Indenture, the Green Bank is required to use its best efforts to direct all payments on the SHREC Receivables to the Trustee for deposit into the Funds and Accounts under the Indenture, and if such payments are misdirected or erroneously deposited into another Green Bank fund or account, the Green Bank is required to promptly transfer the applicable amount to the Trustee for deposit under the Indenture.

The Revenue Fund will be established to hold funds received from the Utilities as well as other Revenues (the "Revenue Fund"). Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) and other investment earnings (but not profits or losses) on any moneys or investments in the Funds and Accounts, other than the Special Capital Reserve Fund, shall be paid into the 2020 SHREC Economic Energy and Security Fund as and when received. Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) and other investment earnings (but not profits or losses) on any moneys or investments in the Special Capital Reserve Fund shall be paid into the Debt Service Fund.

### USE OF PROCEEDS

#### Sources and Uses

The proceeds of the Series 2020 Bonds, together with moneys of the Green Bank, are being used to: (a) refinance expenditures of the Green Bank related to the RSIP, (b) fund a Special Capital Reserve Fund and (c) pay the costs of issuing

the Series 2020 Bonds. The following are the estimated sources and uses of proceeds of the Series 2020 Bonds and moneys of the Green Bank:

**Estimated Sources:**

Proceeds of the Series 2020 Bonds .....	\$
Funds of the Green Bank .....	
Total Sources .....	\$

**Estimated Uses:**

Refinance expenditures of the Green Bank related to the RSIP .....	\$
Deposit to the Special Capital Reserve Fund .....	
Pay the costs of issuing the Series 2020 Bonds.....	
Total Uses .....	\$

**Climate Bond Certified**

The Green Bank is a recognized leader in Green Finance with a goal of increasing investment in green technology and renewable energy. The Green Bank has set goals to increase annual clean energy investment to \$800 per person, which is the level needed to hold off the worst effects of climate change as identified by the Intergovernmental Panel on Climate Change.

Working to advance its mission to “confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy,” The Green Bank envisions a world powered by the renewable energy of community. With this vision in mind, the SHREC Projects are designed to support renewable energy production free from harmful emissions through solar energy production. See the caption “THE TRUST ESTATE” herein for more information on the SHREC Projects.

The information set forth below concerning (i) the Climate Bonds Initiative (“CBI”) and the process for obtaining certification from CBI, and (ii) Kestrel Verifiers (“Kestrel”) in its role as a verifier with respect to the certification of the Series 2020 Bonds as Climate Bond Certified, all as more fully described below, has been extracted from materials provided by CBI and Kestrel. Additional information relating to CBI and the certification process can be found at [www.climatebonds.net](http://www.climatebonds.net). The CBI website is included for reference only and the information contained therein is not incorporated by reference in this Official Statement.

In connection with the Series 2020 Bonds and the SHREC Projects, the Green Bank applied to the Climate Bonds Initiative (“CBI”) for designation of the Series 2020 Bonds as “Climate Bond Certified.” CBI is an independent not-for-profit organization that works solely on mobilizing the bond market for climate change solutions. CBI has established a certification program that provides criteria for eligible projects to be considered a Certified Climate Bond. Rigorous scientific criteria ensure that financed activities are consistent with the 2 degrees Celsius warming limit established in the 2016 Paris Agreement which exists within the United Nations Framework Convention on Climate Change, to address greenhouse-gas-emissions mitigation, adaptation, and finance. The CBI certification program is used globally by bond issuers, governments, investors and the financial markets to prioritize investments which genuinely contribute to addressing climate change.

The CBI standards use credible, science-based, widely supported guidelines about what should and should not be considered a qualifying climate-aligned investment to assist investors in making informed decisions about the environmental credentials of a bond. In order to receive the CBI certification, the Green Bank engaged Kestrel, a third-party CBI approved verifier, to provide verification to the CBI Certification Board that the Green Bank’s SHREC Projects meets the CBI standards and relevant sector criteria. Kestrel reviewed and provided an opinion on the Green Bank’s Programmatic Green Bond Framework and verification to CBI on the first bond issued in the program, which CBI certified as Climate Bonds on March 28, 2019. Kestrel will also provide a post-issuance report to CBI as to whether the proceeds of the Series 2020 Bonds have been allocated properly.

The terms “Climate Bond Certified” and “Green Bonds” are solely for identification purposes and are not intended to provide or imply that the owners of the Series 2020 Bonds are entitled to any security other than that described under the caption “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS” herein.

The certification of the Series 2020 Bonds as Climate Bonds by the CBI is based solely on the Climate Bond Standard and does not, and is not intended to, make any representation or give any assurance with respect to any other matter relating to the Series 2020 Bonds or the SHREC Projects, including but not limited to this Official Statement, the transaction documents, the Green Bank or the management of the Green Bank

The certification of the Series 2020 Bonds as Climate Bonds by the CBI was addressed solely to the Green Bank’s Board of Directors and is not a recommendation to any person to purchase, hold or sell the Series 2020 Bonds and such certification does not address the market price or suitability of the Series 2020 Bonds for a particular investor. The certification also does not address the merits of the decision by the Green Bank or any third party to participate in any nominated project and does not express and should not be deemed to be an expression of an opinion as to the Green Bank or any aspect of the SHREC Projects (including but not limited to the financial viability of the SHREC Projects) other than with respect to conformance with CBI’s standards for Certified Climate Bonds.

In issuing or monitoring, as applicable, the certification, CBI and Kestrel have assumed and relied upon and will assume and rely upon the accuracy and completeness in all material respects of the information supplied or otherwise made available to CBI and Kestrel. CBI does not assume or accept any responsibility to any person for independently verifying (and it has not verified) such information or to undertake (and it has not undertaken) any independent evaluation of any nominated project or the Green Bank.

In addition, CBI and Kestrel do not assume any obligation to conduct (and have not conducted) any physical inspection of any nominated project. The certification may only be used with the Series 2020 Bonds and may not be used for any other purpose without CBI’s prior written consent.

The certification does not and is not in any way intended to address the likelihood of timely payment of interest when due on the Series 2020 Bonds and/or the payment of principal at maturity or any other date.

The certification may be withdrawn at any time in the Climate Bonds Initiative’s sole and absolute discretion and there can be no assurance that such certification will not be withdrawn.

### **Approved Verifier for Third Party Verification of Programmatic Climate Bond**

The Green Bank has engaged Kestrel to provide a Second Party Opinion on conformance of the Green Bank’s Programmatic Green Bond Framework with the International Capital Market Association Green Bond Principles and the Climate Bond Standard V3.0. In accordance with Programmatic Certification procedures established in the Climate Bonds Standard, Kestrel verified the first bond in the program, Solar Home Renewable Energy Credits (SHREC) Collateralized Notes, Series 2019-1 Class A and B on March 28, 2019. Following the Climate Bonds Programmatic Certification procedures, Connecticut Green Bank is approved to issue Certified Climate Bonds in the Solar Sector. Projects to be financed with the proceeds of the Series 2020 Bonds satisfy the Climate Bond Standard V3.0 and the Solar Sector Criteria. Accredited as an “Approved Verifier” by the Climate Bonds Initiative, Kestrel is qualified to evaluate bonds against the Climate Bonds Initiative Standards and Criteria in all sectors worldwide. Kestrel’s Second Party Opinion on the Programmatic Green Bond Framework can be found in “APPENDIX I-F—CLIMATE BOND VERIFIER’S REPORT” hereto.

### **“Green Bond” Designation**

The Green Bank is designating the Series 2020 Bonds as “Green Bonds” (also known as “Climate Bonds”). The purpose of designating the Series 2020 Bonds as “Green Bonds” is to allow investors to invest directly in bonds that finance environmentally beneficial project (“Green Projects”). The particular improvements that the Green Bank has defined as “Green Projects” in connection with the Series 2020 Bonds are the SHREC Projects, which provide solar energy production. The term “Green Bonds” and “Climate Bonds” are neither defined in, nor related to, provisions in the Indenture. Owners of the Series 2020 Bonds do not have any security other than as provided in the Indenture nor do such owners of the Series 2020 Bonds assume any special project risk related on any of the SHREC Projects. The Green Bank will undertake reasonable efforts to ensure that any actions taken with respect to the Series 2020 Bonds will not result in a revision or withdrawal of the CBI certification described under the caption “Climate Bond Certified” above; however, there can be no guarantee that

any such action or a further revision to the CBI's criteria for certifying bonds will not result in a withdrawal or revision of the CBI's certification.

### **United Nations Sustainable Development Goals**

By reference to the International Capital Markets Association's "Green and Social Bonds: A High Level Mapping to the Sustainable Development Goals" (June 2019), the Green Bank has determined that the Green Bank's "Green Bonds" designation reflects the use of the proceeds of the Series 2020 Bonds in a manner that is consistent with the United Nations Sustainable Development Goals ("UNSDG"). The efforts of the Green Bank to increase investment in and deployment of clean energy projects – which result in increased benefits to Connecticut and all of society – can be looked at through the lens of its Green Bonds Framework, and thereby through the following UNSDG as well:



*Goals 1 & 10. No Poverty and Reduced Inequalities:* SHREC Tranche 3 has supported over \$32 million of investment in houses where the area median income is 80% or less, and over \$41 million in distressed communities across Connecticut.

*Goal 3. Good Health and Well-Being:* By reducing air pollution in terms of CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, and other particulates, there is a contribution to public health. The lifetime benefits to public health from SHREC Tranche 3 are estimated to be between \$21 million and \$49 million.

*Goal 7. Affordable Clean Energy:* By providing incentives that bring down the cost of solar systems, the Residential Solar Investment Program is helping to ensure access to affordable, renewable, sustainable and modern energy for all. The lifetime clean energy generation of SHREC Tranche 3 is expected to be over 1,000,000 MWh.

*Goals 8 & 9. Decent Work and Economic Growth, Industry, Innovation and Infrastructure:* SHREC Tranche 3 is estimated to have created 548 direct job-years and 721 indirect and induced job-years.

*Goal 11. Sustainable Cities and Communities:* SHREC Tranche 3 has resulted in over \$138 million of investment in 164 of 169 of Connecticut's cities and towns – an average of 29 projects and over \$840,000 of investment per town.

### **DESCRIPTION OF THE INDENTURE**

The following is a brief summary of certain provisions of the Indenture. For the full terms of the Indenture, see "APPENDIX I-A—FORM OF THE INDENTURE" hereto. The following brief summary, however, is to be considered a full statement of the terms of the Indenture and, accordingly, is qualified by reference thereto and are subject to the full text thereof. Capitalized terms not otherwise previously defined in this Official Statement or defined below have the meaning set forth in "APPENDIX I-A—FORM OF THE INDENTURE" hereto.

### **Funds**

Each of the following Funds is established under and governed by the terms of the Indenture:

- (a) Revenue Fund;
- (b) Debt Service Fund;
  - (i) Interest Account, and
  - (i) Principal Account;

- (c) Cost of Issuance Fund;
- (d) Special Capital Reserve Fund;
- (e) Redemption Fund; and
- (f) 2020 SHREC Economic and Energy Security Fund.

In addition to the Accounts described above, the Trustee shall, at the written request of Green Bank, establish such additional Funds or, within any Fund held by the Trustee, such Accounts as shall be designated in the written instructions of an Authorized Representative of Green Bank and shall in like manner establish within any Account such subaccounts for the purposes of such Accounts as shall be so designated.

The Trustee is required to deposit into the Revenue Fund, as and when such amounts are received, (i) all Revenues, (ii) all amounts delivered by or at the direction of the Green Bank to the Trustee for deposit therein, and (iii) any other amounts required to be deposited therein pursuant to the Indenture.

#### **Application of Revenues held in the Revenue Fund**

The Trustee is required to use and withdraw amounts in the Revenue Fund on the second Business Day immediately preceding the first day of each calendar month and apply such amounts as follows:

FIRST: to the Trustee's unpaid fees, charges and expenses;

SECOND: to the Interest Account in the Debt Service Fund, the amount necessary to make the payment of the next succeeding Interest Payment, less any amounts in the Interest Account as each date of deposit;

THIRD: to the Principal Account in the Debt Service Fund, the amount necessary to make the next succeeding Principal Payment, less any amounts in the Principal Account as each date of deposit;

FOURTH: to the Special Capital Reserve Fund, the amount, if any, necessary to make the total on deposit equal the Special Capital Reserve Fund Requirement;

FIFTH: to the Redemption Fund, the amount, if any, required pursuant to the Indenture; and

SIXTH: to the 2020 SHREC Economic Energy and Security Fund, the balance.

#### **Debt Service Fund**

The Debt Service Fund is established to pay the Principal Payments and Interest Payments on the Series 2020 Bonds. See the caption "Funds and Accounts—*Debt Service Fund*" in "APPENDIX I-A—FORM OF THE INDENTURE" hereto.

The Trustee is required to pay from the moneys or deposits in the respective Accounts in the Debt Service Fund (i) on each Interest Payment Date, the amounts required for the payment of the Interest Payment due on such date, (ii) on each Principal Payment Date, the amounts required for the payment of the Principal Payment (including any Sinking Fund Installments) due on such date, and (iii) on any redemption date or date of purchase, the amounts required for the payment of accrued interest on the Series 2020 Bonds to be redeemed or purchased on such date unless the payment of such accrued interest shall be otherwise provided. Thirty (30) days prior to each Interest Payment Date and Principal Payment Date, the Trustee shall determine whether the moneys or deposits in the respective Accounts within the Debt Service Fund are sufficient to make the next succeeding Interest Payment and Principal Payment. If such moneys or deposits are not sufficient to make such payments, the Trustee shall, no later than the next Business Day, provide a notice of such insufficiency. The Green Bank will thereafter pay to the Trustee the Project Support Debt Service Amount as provided in the Project Support Commitment & Undertaking. The Project Support Commitment & Undertaking is solely for the benefit of the State of Connecticut and, other than amounts pledged pursuant to the Indenture, there are no other moneys or assets of the Green Bank pledged to the repayment of the Series 2020 Bonds or to the making of any Project Support Debt Service Amounts,



and Owners of the Series 2020 Bonds should not rely upon the Green Bank to fund any deficiency in any Interest Payment or Principal Payment.

The amounts accumulated in the Principal Account of the Debt Service Fund for each Sinking Fund Installment will, if so directed in writing by an Authorized Representative, be applied (together with amounts with respect to interest on the Term Series 2020 Bonds for which such Sinking Fund Installment was established) by the Trustee prior to the forty-fifth (45th) day preceding the due date of such Sinking Fund Installment to the purchase of the Term Series 2020 Bonds and maturity for which such Sinking Fund Installment was established, at prices (including any brokerage and other charges) not exceeding the Redemption Price payable for such Term Series 2020 Bonds when such Term Series 2020 Bonds are redeemable by application of such Sinking Fund Installment, plus unpaid interest accrued to the date of purchase, such purchases to be made by the Trustee as directed in writing by an Authorized Representative.

Upon the purchase of any Term Series 2020 Bond described in the preceding paragraph, an amount equal to the principal amount of the Term Series 2020 Bond so purchased or redeemed shall be credited toward the next Sinking Fund Installment thereafter to become due and the amount of any excess of the amounts so credited over the amount of such Sinking Fund Installment shall be credited against future Sinking Fund Installments in direct chronological order.

In connection with each Sinking Fund Installment, the Trustee is required to provide notice of redemption to the Bondholders of the Term Series 2020 Bonds for which such Sinking Fund Installment was established in such amount as shall be necessary to complete the retirement of the principal amount specified for such Sinking Fund Installment of the Term Series 2020 Bonds. The Trustee shall so call such Term Series 2020 Bonds for redemption whether or not it then has moneys in the Debt Service Fund sufficient to pay the applicable Redemption Price thereof on the redemption date.

### **Special Capital Reserve Fund**

The Special Capital Reserve Fund is established to secure the payment of the Principal Payments and Interest Payments on the Series 2020 Bonds. See the caption “USE OF PROCEEDS—Sources and Uses” herein and the caption “Funds and Accounts—*Special Capital Reserve Fund*” in “APPENDIX I-A—FORM OF THE INDENTURE” hereto.

The Special Capital Reserve Fund will initially be funded in an amount equal to \$1,496,519\* from the proceeds of the Series 2020 Bonds (which amount is equal to the initial Special Capital Reserve Fund Requirement). Any additional amounts paid by the Green Bank to the Trustee shall, as provided by the Green Bank, be deposited by the Trustee into and credited to the Interest Account in the Debt Service Fund until such amount equals the amount required to pay the Interest Payment due on the next succeeding Interest Payment Date, then to the Principal Account in the Debt Service Fund until such amount equals the amount required to pay the Principal Payment due on the next succeeding Principal Payment Date, then to the Special Capital Reserve Fund to satisfy the Special Capital Reserve Fund Requirement; and any balance not so applied shall be transferred by the Trustee to the 2020 SHREC Economic Energy and Security Fund.

If at any time any Principal Payment, including any Sinking Fund Installment, or any Interest Payment due thereon, or any Redemption Price of Bonds has become due and payable and payment thereof in full has not been made or provided for, the Trustee shall (i) forthwith withdraw from the Special Capital Reserve Fund an amount which together with other amounts available for such payment shall be sufficient to provide for such payment in full and apply the amount so withdrawn to such payment, and (ii) no later than the next Business Day after such withdrawal, provide a Notice to the Green Bank that the Green Bank immediately pay to the Trustee any and all amounts available to the Green Bank necessary to restore the Special Capital Reserve Fund to the amount of the Special Capital Reserve Fund Requirement no later than November 30 of any calendar year after such Notice is given. Other than amounts pledged pursuant to the Indenture, there are no other moneys or assets of the Green Bank pledged to the repayment of the Series 2020 Bonds, and Owners of the Series 2020 Bonds should not rely upon the Green Bank to fund any deficiency in the Special Capital Reserve Fund Requirement.

In the case of any purchase, redemption in whole or in part, or payment of principal at maturity, of any Series 2020 Bonds, the Green Bank may, as provided in a Certificate of an Authorized Representative, direct the Trustee to apply moneys in the Special Capital Reserve Fund to the payment of the principal or Redemption Price of and interest on the Series 2020

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\* Preliminary; subject to change.

Bonds being paid or redeemed up to the amount by which such amounts in the Special Capital Reserve Fund exceed the Special Capital Reserve Fund Requirement after giving effect to such purchase, redemption or payment.

On December 1 of each year if:

(1) the amount in the Special Capital Reserve Fund exceeds the Special Capital Reserve Fund Requirement, and

(2) all withdrawals from the Special Capital Reserve Fund provided for in two preceding paragraphs have been made, the Trustee will withdraw the excess from the Special Capital Reserve Fund and deposit the amount so withdrawn into the 2020 SHREC Economic Energy and Security Fund.

The Green Bank shall pay to the Trustee upon receipt thereof any moneys allotted and paid to the Green Bank by the State pursuant to the Act for the purpose of restoring the Special Capital Reserve Fund to the amount of the Special Capital Reserve Fund Requirement. See the captions “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS—The Special Capital Reserve Fund” and “—Covenants as to Special Capital Reserve Fund” herein.

### **Cost of Issuance Fund**

The Cost of Issuance Fund is established to pay the costs of issuing the Series 2020 Bonds. See the caption “USE OF PROCEEDS—Sources and Uses” herein and the caption “Funds and Accounts—*Cost of Issuance Fund*” in “APPENDIX I-A—FORM OF THE INDENTURE” hereto.

Moneys on deposit in the Costs of Issuance Fund shall be applied to pay the persons entitled thereto the Costs of Issuance relating to the issuance of the Series 2020 Bonds. Any moneys remaining on hand in the Costs of Issuance Fund upon the earlier of (i) payment of all Costs of Issuance or (ii) one hundred twenty (120) after the issuance of the Series 2020 Bonds, shall be transferred by the Trustee to the Revenue Fund.

### **Redemption Fund**

The Redemption Fund is established to pay the Redemption Price on the Series 2020 Bonds. See the caption “Funds and Accounts—*Redemption Fund*” in “APPENDIX I-A—FORM OF THE INDENTURE” hereto.

There shall be deposited into the Redemption Fund amounts required to be deposited therein pursuant to paragraph “FIFTH” described under the caption “Application of Revenues held in the Revenue Fund” above for the redemption of Series 2020 Bonds. Amounts in the Redemption Fund may be applied as directed by the Green Bank to the purchase of Series 2020 Bonds at prices not exceeding the Redemption Price thereof applicable on the next redemption date plus accrued interest to such next redemption date (such redemption date shall be the earliest date upon which Series 2020 Bonds are subject to redemption from such amounts) or to the redemption of Bonds as described under the caption of “THE SERIES 2020 BONDS—Redemption” herein.

### **2020 SHREC Economic and Energy Security Fund**

The 2020 SHREC Economic and Energy Security Fund is established to collect Revenues not otherwise required to be deposited to the other Funds and Accounts established pursuant to the Indenture. See the caption “Funds and Accounts—*2020 SHREC Economic and Energy Security Fund*” in “APPENDIX I-A—FORM OF THE INDENTURE” hereto.

The Trustee shall, no later than the second Business Day of each calendar month, transfer moneys credited to the 2020 SHREC Economic and Energy Security Fund to the Green Bank.

### **Consents to Amendment of the Indenture**

Green Bank agrees that it will not amend the Indenture in any way that impairs the funding to and payments from the Funds and Accounts described under the caption “Debt Service Fund” above without the prior written consent of the Secretary of the Office of Policy and Management and the State Treasurer, unless all of the Series 2020 Bonds, together

with the interest thereon, and all costs and expenses in connection with any action or proceeding by or on behalf of such holders, are fully met and discharged.

## **INVESTMENT CONSIDERATIONS**

*The following investment considerations describe certain risk factors of an investment in the Series 2020 Bonds. Additional investment considerations relating to an investment in the Series 2020 Bonds are described throughout this Official Statement, whether or not specifically designated as investment considerations. Investors should consider such investment considerations in deciding whether to purchase any of the Series 2020 Bonds. There can be no assurance that other investment considerations will not become material in the future. In the event of a shortfall of Revenues, material delays in payments of principal or interest, or losses, on the Series 2020 Bonds could result and could materially reduce the value of the Series 2020 Bonds. These and other factors could result in a loss of marketability, or of market value, of the Series 2020 Bonds even if no such payment delay or loss occurs.*

### **Reliance on State of Connecticut Rating**

The Series 2020 Bonds are supported by the State of Connecticut through a special capital reserve fund (see the caption “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS—The Special Capital Reserve Fund” herein) and the Green Bank is advised by the rating agency that its State of Connecticut supported revenue bonds, including the Series 2020 Bonds, are rated based upon the creditworthiness of the State of Connecticut. See Part II of this Official Statement and the appendices thereto for a discussion of the State of Connecticut. To the extent that the Green Bank is unable to pay the interest on and principal of the Series 2020 Bonds from the SHREC Receivables, owners of the Series 2020 Bonds will be relying upon the State of Connecticut to fund the Special Capital Reserve Fund. In addition, due to the 15 year limitation on payments required pursuant to the Master Purchase Agreements, there will be not be any SHREC Receivables available to make the interest payments on May 15, 2035 and November 15, 2035 and the final sinking fund payment on the Series 2020 Bonds maturing on November 15, 2035, which will be paid from amounts on deposit in the Special Capital Reserve Fund. See the caption “The Expected Source of the Repayment is the Potential Stream of Payments Made Under the Master Purchase Agreements” below.

### **General Economic Conditions.**

Worsening economic conditions within the State of Connecticut could have a negative impact on State of Connecticut’s ability to cure a deficiency in the Special Capital Reserve Fund maintained to meet payments of debt service on Series 2020 Bonds. See the caption “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS—The Special Capital Reserve Fund” herein. The State of Connecticut’s financial results could be harmed by a national or localized outbreak of a highly contagious or epidemic disease. If an outbreak of an infectious disease such as, but not limited to, the COVID-19 disease, Zika virus or Ebola virus were to occur in the State of Connecticut, its financial results could be adversely affected. The effect of these factors, including the effect on the timing and amount of available funds to cure a deficiency in the Special Capital Reserve Fund, is impossible to predict.

The ability of the Utilities’ customers who are generating SHRECs to keep systems operational may be affected by a variety of social and economic factors. Economic factors include interest rates, unemployment levels, upward adjustments in monthly mortgage payments, utility rate structures and the rate of inflation and consumer perceptions of economic conditions generally. Economic conditions may also be affected by localized natural disasters. The Green Bank is unable to determine and has no basis to predict to what extent social or economic factors will affect the Trust Estate and the Green Bank’s ability to receive SHREC Receivables.

### **COVID-19 (Coronavirus Disease 2019)**

On January 31, 2020, the United States Department of Health and Human Services Secretary declared a public health emergency in response to the spread of the novel coronavirus (“COVID-19” and the “COVID-19 Pandemic”). The COVID-19 Pandemic has affected travel, commerce and financial markets globally, and it widely expected to affect economic growth worldwide. On March 13, the President of the United States declared a national emergency beginning March 1, 2020. On March 10, 2020, Governor Lamont declared a public health emergency due to the spread of COVID-19 throughout the State. In addition, on March 28, 2020, President Trump approved Governor Lamont’s request for a disaster

declaration for the State. Under the declaration, it is expected that federal funding will be made available to state, tribal and eligible local governments and certain private nonprofit organizations for emergency protective measures, including direct federal assistance, for all areas of Connecticut impacted by COVID-19. The State has a dedicated website providing up-to-date information concerning the State's actions in response to COVID-19: [ct.gov/coronavirus](http://ct.gov/coronavirus).

*The Federal CARES Act.* The United States Congress has enacted several COVID-19 Pandemic-related bills, including the Coronavirus Aid, Relief, and Economic Security Act, signed into law on March 27, 2020, the Paycheck Protection and Health Care Enhancement Act, signed into law on April 24, 2020 and the Student Veteran Coronavirus Response Act, signed into law on April 28, 2020 (collectively, the "CARES Acts"), that authorize numerous measures in response to the economic effects of the COVID-19 Pandemic. Such measures include, but are not limited to: direct financial aid to American families; temporary relief from certain federal tax requirements; scheduled payment of federally owned education loans and certain other federal higher education aid requirements; temporary relief for borrowers with federally-related mortgage loans; payroll and operating expense support for small businesses and nonprofit entities; loan assistance for distressed industries; federal funding of higher education institutions' emergency aid to students and operations and support for the capital markets.

The CARES Acts also authorize the United States Department of the Treasury (the "Treasury") to provide up to approximately \$450 billion in loans, loan guarantees and other investments to support programs and facilities established by the Board of Governors of the Federal Reserve System (the "Federal Reserve") that are intended to provide liquidity to the financial system and facilitate lending to eligible businesses and to states, political subdivisions and instrumentalities. Such injection of liquidity follows recent actions by the Federal Reserve, including the purchase of Treasury securities and mortgage-backed securities, facilitating the flow of credit to municipalities by expanding its Money Market Mutual Fund Liquidity Facility to include a wider range of securities, including certain municipal variable rate demand notes, and facilitating the flow of credit to municipalities by expanding its Commercial Paper Funding Facility to include high-quality, tax-exempt commercial paper as eligible securities.

*Potential Effects of the COVID-19 Pandemic Are Uncertain.* The COVID-19 Pandemic has not had a significant operational impact on the Green Bank. The Green Bank operates out of two offices in the State (Stamford and Rocky Hill) with a total of 36 full-time employees. The Green Bank has previously established technology to facilitate access to systems and data by personnel from anywhere in the world at any point in time. The transition to a fully remote work environment took place on March 13, 2020 and was successfully implemented by taking advantage of these existing systems. The Green Bank is now working on transitioning back to on-site access in accordance with the Governor's guidelines, and expects to have a plan in place by June 20, 2020.

The administration of the Green Bank's RSIP and SHREC program has continued uninterrupted. The Green Bank maintains close contact with PV system owners and monitors their fleet through an on-line platform. Remote administration and operation has had no impact on fleet performance, systems, or SHREC creation and delivery.

The full impact of the COVID-19 Pandemic, and of directly and indirectly related developments, on the Green Bank's finances and operations, on the performance of the SHRECs constituting security for the Series 2020 Bonds, and on the security, market value and liquidity of Series 2020 Bonds cannot be predicted at this time. The Green Bank is monitoring and assessing the economic and legal impact of the COVID-19 Pandemic and of governmental responses thereto, including orders, laws, regulations and mandates adopted by the State or the federal government, on its operations and financial position.

*State of Connecticut.* For a description of the effects of COVID-19 on the State of Connecticut, see the caption "COVID-19 and Other Matter" in Part II of this Official Statement.

**The Capacities of the SHREC Projects in the Portfolio are Estimates and Averages Only, Based on Assumptions, and Production May Not Meet These Estimates**

The Green Bank has relied upon certain assumptions of the average capacity across the SHREC Tranche 3 portfolio in estimating what the SHREC Projects can be expected to generate in MWh of electricity.

The Green Bank has also relied upon estimates and assumptions concerning the annual rate of degradation over the 15-year term of SHREC Tranche 3. These assumptions and estimates may not accurately predict the actual

MWh of electricity the SHREC Projects actually produce and that the Utilities are required to purchase under the Master Purchase Agreements. Under the Master Purchase Agreements, the Utilities are required to pay for only the SHRECs that are delivered by the Green Bank in the preceding month to the respective Utility's NEPOOL GIS account. Any decrease in the anticipated amount of such SHRECs generated by the SHREC Projects within SHREC Tranche 3 would result in reduced cash flow from the Utilities to the Green Bank. This would impair the Green Bank's ability to pay the principal and interest on the Series 2020 Bonds from the SHREC Receivables. These estimates of potential SHREC Project capacity are estimates of production only, and no guarantee of ultimate performance is offered, granted, suggested or implied. See the caption "THE TRUST ESTATE—SHREC Tranche 3" herein.

#### **Impact of Natural Disasters, Weather Events, Man-Made Disasters**

The occurrence of natural disasters, including hurricanes, floods, earthquakes, tornadoes, fires, explosions, pandemic disease and man-made disasters, including acts of terrorism and military actions, could adversely affect the functioning of any one or more of the SHREC Projects, the NEPOOL GIS, the Utilities' ability to make the requisite payments under the Master Purchase Agreements, and the Green Bank's ability to pay the principal and interest on the Series 2020 Bonds from the SHREC Receivables.

#### **The Expected Source of the Repayment is the Potential Stream of Payments Made Under the Master Purchase Agreements**

The periodic payments of principal and interest due on the Series 2020 Bonds initially rely on the payments made under the Master Purchase Agreements by the Utilities to the Green Bank in respect of SHRECs transferred to the Utilities from the Green Bank via the NEPOOL GIS. Under the Master Purchase Agreements, the Utilities are required to deliver payment for the SHRECs with respect to any SHREC Tranches exclusively to the Green Bank, and promise that the Utilities shall not sell, divert, grant, transfer or assign any such payment for SHRECs to any person other than the Green Bank during and following the relevant SHREC Tranche Delivery Term. The transfer of SHRECs occurs via the NEPOOL GIS from the Green Bank's NEPOOL GIS account to the Utilities' NEPOOL GIS accounts. The Green Bank invoices the Utilities for the value of the SHRECs transferred via the NEPOOL GIS. The payment of the amounts due on the Series 2020 Bonds is therefore reliant upon the Utilities' ability to pay the amounts due under the Master Purchase Agreements for the SHRECs transferred to the Utilities via NEPOOL GIS.

If an event of default occurs under the Master Purchase Agreements, the Utilities have the right to withhold payments thereunder up to the amount of its damages, terminate the Master Purchase Agreements, or suspend performance with respect to the transfer of SHRECs thereunder until such event of default is cured. Events of default under the Master Purchase Agreements include uncured breaches of representations and warranties, representations and warranties proving false, or the bankruptcy of any party thereto. See the caption "THE TRUST ESTATE—The Master Purchase Agreements—*Events of Default and Remedies Under the Master Purchase Agreements*" herein. Upon an event of default under the Master Purchase Agreements one or both of the Utilities could suspend performance or terminate the related Master Purchase Agreement, in which case SHREC Receivables would not be made available to the Green Bank for deposit into the Revenue Fund. Such an event would adversely affect the yield of the Series 2020 Bonds.

The Green Bank is statutorily required to sell SHRECs to the Utilities at the SHREC Tranche Purchase Prices determined pursuant to the Master Purchase Agreements, as described in this Official Statement under the caption "THE TRUST ESTATE—The Master Purchase Agreements—*SHREC Tranche Purchase Price*" herein. Therefore, even if the Green Bank could obtain a better price from a third-party purchaser, the Green Bank is required to sell SHRECs to the Utilities at the applicable SHREC Tranche Purchase Price. This will limit the amount of SHREC Receivables available to make payments on the Series 2020 Bonds.

In addition, due to the 15 year limitation on payments required pursuant to the Master Purchase Agreements, there will not be sufficient SHREC Receivables to make the interest payments on May 15, 2035 and November 15, 2035 and the final sinking fund payment on the Series 2020 Bonds maturing on November 15, 2035. Therefore, it is anticipated that such interest payments and final sinking fund payment will be paid from amounts on deposit in the Special Capital Reserve Fund. To the extent that there are insufficient amounts on deposit in the Special Capital

Reserve Fund, the holders of the Series 2020 Bonds will rely solely on the State's obligation to replenish the Special Capital Reserve Fund. If there are sufficient amounts on deposit in the Special Capital Reserve Fund to pay the interest payments on May 15, 2035 and November 15, 2035 and the final sinking fund payment on the Series 2020 Bonds maturing on November 15, 2035 once the interest and sinking fund payments due on November 15, 2034 have been fully funded, it is likely that the Green Bank will redeem the Series 2020 Bonds maturing on November 15, 2035 prior to their final maturity date. See the captions "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2020 BONDS—Covenants as to Special Capital Reserve Fund" and "DESCRIPTION OF THE INDENTURE—Special Capital Reserve Fund" herein.

**The Utilities' Power Generation Capacity, Revenues, Costs and Results of Operations are Significantly Influenced by Weather Conditions and Seasonal Variations that are Not Within their Control**

Electricity consumption is seasonal and is mainly affected by weather conditions. In Connecticut, electricity consumption is generally higher during the autumn and winter months, and the Utilities generally experience higher demand during the colder months of October through March and lower demand during the warmer months of April through September. As a result of these seasonal patterns, the Utilities' sales and results of operations are higher in the first and fourth quarters and lower in the second and third quarters. Sales and results of operations for all of the Utilities' energy operations can be negatively affected by periods of unseasonably warm weather during the autumn and winter months.

**Political, Economic or Other Factors that are Beyond the Green Bank's Control May Have an Adverse Effect on the Utilities' Business, Results of Operation and Cash Flows**

The Utilities are dependent on domestic, regional and market conditions. Their performance, growth, and market demand for energy may be adversely affected by an economic downturn in the local, regional or global economies. The Utilities' growth is affected by various factors, including Connecticut and New England energy consumption. Consequently, any future slowdown in Connecticut's or the New England region's economy could harm the Utilities' business, results of operations, cash flows and financial condition.

**Impact of Bankruptcy of Utilities**

There can be no assurance that one or both of the Utilities will not become insolvent and/or file a voluntary petition, or that an involuntary petition will not be filed against, either or both of the Utilities under the United States Bankruptcy Code, 11 U.S.C. Section 101, *et seq.*, as amended (the "Bankruptcy Code"), or any similar applicable state law (collectively, with the Bankruptcy Code, the "Insolvency Laws"). Both debt risk and revenue risk can be contributing factors in a Utility bankruptcy. Utilities tend to have high credit ratings at all times, even when leading up to a bankruptcy, making the risk of a utility bankruptcy appear lower than the actual risk levels. These high credit ratings imply a low risk of default, but for utilities this can be a misleading representation of credit worthiness. Further, despite the fact that utilities provide an important and irreplaceable product, they still face the effects of economic downturns as economic activity is highly cyclical.

Neither of the Utilities is a special purpose bankruptcy remote entity. Both Connecticut Light and Power Company d/b/a Eversource Energy and United Illuminating Company (the "Utilities") are engaged in other business activities, in addition to being obligated under the Master Purchase Agreements to make payments to the Green Bank through the purchase of the SHRECs through the NEPOOL GIS. As a consequence, either or both of the Utilities may be the subject of a voluntary or involuntary petition for relief by or against either or both Utilities under the Bankruptcy Code or other applicable insolvency laws.

In a case under Chapter 11 of the Bankruptcy Code, assuming that the Master Purchase Agreements are considered to be executory contracts, a Utility's bankruptcy trustee, or the Utility as a debtor-in-possession (as to either, the "bankruptcy trustee") will have the opportunity to assume or reject the Master Purchase Agreement, and the decision may not be made until the time of a confirmation hearing on a final plan of reorganization. If the Master

Purchase Agreement is not assumed or rejected at any time before confirmation of a plan of reorganization, the Green Bank will be obligated to continue performing under the applicable Master Purchase Agreement, without receiving return performance from the bankruptcy trustee, unless on request of the Green Bank and after notice and a hearing, the bankruptcy court orders the bankruptcy trustee to assume or reject the Master Purchase Agreement, or in the interim period before assumption or rejection, the bankruptcy court grants an order allowing such return performance, in whole or in part, as an administrative expense, or directs the payment of monies due under the Master Purchase Agreement (the return performance), or both.

The suspension of payments of amounts due to the Green Bank under the Master Purchase Agreement during the period after commencement of the Chapter 11 case, or the failure of the trustee in bankruptcy to resume making payments due to the Green Bank under the Master Purchase Agreement thereafter, could result in delays or reductions in SHREC Receivables.

If one or both of the Utilities were to become a debtor under the Bankruptcy Code, there can be no assurance that the Utilities will be able to successfully reorganize their businesses, and it is possible that the Utilities may be forced to sell their assets, otherwise liquidate or seek modifications to their obligations, including the obligation to purchase SHRECs pursuant to the applicable Master Purchase Agreement.

### **Risks Associated with the Green Bank**

The Green Bank performs certain function with respect to the SHRECs, including the purchase and sale of SHRECs in accordance with the Master Purchase Agreements and critical functions regarding protection of the Trust Estate and the security interest in the Trust Estate. You must rely on the Green Bank to perform all of the necessary management functions for minting the SHRECs and selling the SHRECs to the Utilities under the Master Purchase Agreements and maintaining the payment streams and the Trust Estate for the Series 2020 Bonds.

The Green Bank is a public instrumentality and political subdivision of the State of Connecticut established and created for the performance of an essential public and governmental function. The Green Bank is reliant on public sources of funding to maintain its sophisticated operations. The Green Bank employees participate in the employee benefits programs and retirement programs offered by the State of Connecticut. Although payments of the amounts due under the Series 2020 Bonds do not rely on any of the State of Connecticut (other than the Special Capital Reserve Fund) or the Green Bank (as the Series 2020 Bonds are without recourse to the Green Bank), the obligations of the Green Bank rely on the continued performance of its workforce. As the State of Connecticut is faced with economic and budgeting pressures, the Green Bank's sources of funding may be reduced. These funding sources may be affected by a variety of political and economic factors outside of the Green Bank's control. Reduced funding could negatively affect the Green Bank's ongoing operations and ability to maintain the staff it needs to support the management function. See the caption "General Economic Conditions" above.

As the Green Bank was established and created by the State of Connecticut pursuant to the Green Bank Statute, the State of Connecticut would have the sole power and authority to discontinue the Green Bank's existence. However, under the terms of subsection (h) of the Green Bank Statute, the State of Connecticut pledges and agrees

“with any person with whom Connecticut Green Bank may enter into contracts pursuant to the provisions of this section that the state will not limit or alter the rights hereby vested in said bank until such contracts and the obligations thereunder are fully met and performed on the part of said bank, provided nothing herein contained shall preclude such limitation or alteration if adequate provision shall be made by law for the protection of such persons entering into contracts with said bank.”

### **A Perfected Security Interest in the Trust Estate Must Be Maintained in Favor of the Trustee**

Pursuant to the Indenture, the Green Bank will grant to the Trustee for the benefit of the Trustee and the Bondholders a security interest in the Trust Estate. The Indenture requires the Green Bank to take various actions to perfect, maintain and preserve the lien (and the priority of such lien) of the Trustee in the Trust Estate, including, but not limited to, filing or causing to be filed Uniform Commercial Code (the "UCC") financing statements that are

appropriate, to the extent that the UCC applies, to perfect the security interests of the Trustee in the Trust Estate under the Indenture. We cannot assure you that the UCC applies to such security interests or ownership interests, and thus we cannot assure you that the filing of such financing statements will perfect such security interests or ownership interests under applicable law.

The liens granted under the Indenture may not be perfected, or may become subordinated to the liens of other creditors, if the Green Bank fails to take such actions. The Trustee has no independent duty to nor will it monitor the acquisition of the initial property or additional property or rights that constitute the Trust Estate or the perfection (or maintenance of perfection or priority) of any such security interests, which may expose Bondholders to a failure of priority or perfection with respect to competing creditors and resulting losses on the Series 2020 Bonds.

**Failure of the Green Bank to Remove Ineligible SHRECs When Required Will Reduce Funds Available to Make Payments on the Series 2020 Bonds**

None of the SHRECs is insured or guaranteed by the State of Connecticut or any governmental agency or instrumentality. Pursuant to the Indenture, the Green Bank will be obligated remove any Ineligible SHREC pledged by the Green Bank to the Trustee under the Indenture by depositing an amount, established by the Green Bank, equal to the fair market value equivalent of the Ineligible SHREC originally pledged. Upon such deposit, the Green Bank may remove the related Ineligible SHREC from the Trust Estate.

The Green Bank is the sole warranting party in respect of the SHRECs pledged under the Indenture. In the event the Green Bank fails to fulfill its obligations, you could experience cash flow disruptions or losses on the Series 2020 Bonds. We cannot assure you that the Green Bank will effect such a payment and removal. In addition, the Green Bank may have various legal defenses available to it in connection with a removal obligation. Except for the foregoing obligations with respect to Ineligible SHRECs, the Green Bank will not have any payment or removal obligations in respect of the SHRECs.

**Bankruptcy of the Green Bank May Adversely Affect Payments on the Series 2020 Bonds**

The Green Bank cannot file for bankruptcy under the U.S. Bankruptcy Code (the “Bankruptcy Code”). Chapter 9 of the Bankruptcy Code allows a municipality to file a petition for bankruptcy under certain conditions. Under Chapter 9, a “municipality” is defined as a political subdivision or public agency or instrumentality of a state, and can also include revenue-producing bodies that provide services that are paid for by users rather than general taxes. The Green Bank falls within the Bankruptcy Code’s definition of “municipality” because Section 16-245n of the Connecticut General Statutes defines Green Bank as “a body politic and corporate, constituting a public instrumentality and political subdivision of the State of Connecticut established and created for the performance of an essential public and governmental function.” The Green Bank does not have the traditional powers associated with a “municipality,” such as taxing power, police powers or eminent domain powers.

However, the Bankruptcy Code also requires a municipality to be specifically authorized to file for Chapter 9 bankruptcy by either state law, or a governmental officer or organization empowered to provide such authorization by state law. With regard to a “municipality,” as that term is defined under Connecticut state law, Section 7-566 of the Connecticut General Statutes authorizes a Chapter 9 filing by a “municipality” only upon obtaining the Governor's express prior written consent. The definition of “municipality” under this statute only applies to entities traditionally considered state municipalities—any town, city, borough, metropolitan district, fire, sewer or other district—and any political subdivision of the State of Connecticut having the power to levy taxes and to issue bonds, notes or other obligations (Section 7-566 of the Connecticut General Statutes). Because the Green Bank is not a town, city, borough, metropolitan district, fire, sewer or other district, and is not authorized to levy taxes, it does not meet the definition of “municipality” under Section 7-566 of the Connecticut General Statutes, and therefore is not authorized to file for Chapter 9 bankruptcy under that state law, as presently codified.



### **The Series 2020 Bonds May Not Be Accelerated**

The Series 2020 Bonds may not be accelerated following an Event of Default under the Indenture. The Bondholders sole remedy upon an Event of Default is to enforce the Green Bank's performance under the Indenture. See the caption "Defaults; Remedies on Default—*Remedies Upon Default*" in "APPENDIX I-A—FORM OF THE INDENTURE" hereto.

### **Political and State Risks**

The Green Bank is reliant on public sources of funding to maintain operations. These funding sources may be affected by a variety of political and economic factors. The Green Bank is unable to determine and has no basis to predict to what extent political or economic factors will affect the Green Bank's ongoing operations.

### **Combination or "Layering" of Multiple Risks May Significantly Increase Risk of Loss**

Although the various risks discussed in this Official Statement are generally described separately, prospective Bondholders should consider the potential effects on the Series 2020 Bonds of the interplay of multiple risk factors. Where more than one significant risk factor is present, the risk of loss to Bondholders may be significantly increased. There are many circumstances in which layering of multiple risks with respect to the Trust Estate and the Series 2020 Bonds may magnify the effect of those risks. In considering the potential effects of layered risks, prospective investors should carefully review the descriptions of the Trust Estate and the Series 2020 Bonds.

### **Limited Liquidity**

There is no secondary market for the Series 2020 Bonds, and the Underwriters will not be obligated to establish a secondary market in the Series 2020 Bonds or, if it commences market making activities, to continue any such market making activities. It is not expected that a meaningful secondary market for the Series 2020 Bonds will develop. Bondholders should be prepared to bear the risk of holding the Series 2020 Bonds for as long they are outstanding. As a result of a lack of a secondary market for the Series 2020 Bonds, should Bondholders decide to sell the Series 2020 Bonds, they may be unable to obtain the price they wish to receive and may suffer a loss.

### **The Series 2020 Bonds are Expected to be Issued Only in Book-Entry Form**

The Green Bank expects that the Series 2020 Bonds will be initially represented by certificates registered in the name of Cede & Co., the nominee for DTC, and will not be registered in the name of any holder or the name of its nominee. Unless and until definitive securities are issued, beneficial owners of the Series 2020 Bonds will not be recognized by the Trustee as Bondholders as that term is used in the Indenture and beneficial owners of the Series 2020 Bonds will only be able to exercise the rights of Bondholders indirectly through DTC and its participating organizations. See the caption "THE SERIES 2020 BONDS—Securities Depository" herein.

### **The Rating of the Series 2020 Bonds is Not a Recommendation to Purchase and may Change**

It is a condition to the issuance of the Series 2020 Bonds that they be rated as described under the caption "SUMMARY OF TERMS—Rating" herein. The rating is based on the creditworthiness of the State of Connecticut, the amount of the Special Capital Reserve Fund Requirement and the legal structure of the transaction. The rating is not a recommendation to purchase, hold or sell the Series 2020 Bonds inasmuch as the rating does not comment as to the market price or suitability for any investor. The ratings may be increased, lowered or withdrawn by the rating agency if in the rating agency's judgment circumstances so warrant. A downgrade in the rating of the Series 2020 Bonds is likely to decrease the price a subsequent purchaser will be willing to pay for the Series 2020 Bonds. The rating of the Series 2020 Bonds will not address the market liquidity of the Series 2020 Bonds.

## STATE PLEDGE AND AGREEMENT

The State of Connecticut pledges to and agree with any person with whom the Green Bank may enter into contracts pursuant to the provisions of the Green Bank Statute that the State will not limit or alter the rights hereby vested in the Green Bank until such contracts and the obligations thereunder are fully met and performed on the part of the Green Bank, provided nothing shall preclude such limitation or alteration if adequate provision shall be made by law for the protection of such persons entering into contracts with the Green Bank.

## LEGALITY FOR INVESTMENT AND DEPOSIT

Bonds, including the Series 2020 Bonds, are securities in which all public officers and public bodies of the State and its political subdivisions, all insurance companies, state banks and trust companies, national banking associations, savings and loan associations, investment companies, executors, administrators, trustees and other fiduciaries may properly and legally invest funds, including capital in their control or belonging to them. Such bonds of the Green Bank are also securities which may properly and legally be deposited with and received by any agency or political subdivision of the State for any purpose for which the deposit of bonds or obligations of the State may be authorized by law.

## TAX MATTERS

In the opinion of Bond Counsel, under existing statutes and regulations, interest on the Series 2020 Bonds is included in gross income for federal income tax purposes pursuant to the Internal Revenue Code of 1986, as amended, as described in “APPENDIX I-B—FORM OF LEGAL OPINION OF BOND COUNSEL AND TAX STATUS” herein. In the opinion of Bond Counsel, under existing statutes, interest on the Series 2020 Bonds is excluded from State of Connecticut taxable income for purposes of the State of Connecticut income tax on individuals, trusts and estates and is excluded from amounts on which the net State of Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax.

## UNDERWRITING

The Underwriters have agreed, subject to certain conditions, to purchase the Series 2020 Bonds from the Green Bank at an aggregate purchase price of \$\_\_\_\_\_, reflecting an Underwriters’ discount of \$\_\_\_\_\_. The Underwriters have agreed to purchase all Series 2020 Bonds if any are purchased.

The Underwriters may offer and sell Series 2020 Bonds to certain dealers (including dealers depositing Series 2020 Bonds into investment trusts) and others at prices lower than the offering prices stated on the cover page of this Official Statement. After the initial public offering, the Underwriters may change the price at which the Underwriters offer the Series 2020 Bonds for sale from time to time.

In connection with the offering, the Underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the Series 2020 Bonds. Specifically, the Underwriters may over allot the offering, creating a syndicate short position. The Underwriters may bid for and purchase Series 2020 Bonds in the open market to cover such syndicate short position or to stabilize the price of Series 2020 Bonds. Those activities may stabilize or maintain the market price of such Series 2020 Bonds above independent market levels. The Underwriters are not required to engage in these activities and may end any of these activities at any time.

The bond purchase agreement provides that the Green Bank has agreed to reimburse the Underwriters for the fees and expenses of their counsel.

## LITIGATION

There is not now pending any litigation: (i) restraining or enjoining the issuance or delivery of the Series 2020 Bonds or questioning or affecting the validity of the Series 2020 Bonds or the proceedings and authority under which they are issued; (ii) contesting the creation, organization or existence of the Green Bank, or the title of the directors or officers of the Green Bank to their respective offices; or (iii) questioning the right of the Green Bank to enter into the Indenture and to pledge the Revenues and the Funds and other moneys and securities purported to be pledged by the Indenture in the manner and to the extent provided in the Indenture.

## RATING

The Series 2020 Bonds have been assigned a rating of “A” by S&P Global Ratings (“S&P”). Such rating reflects only the view of such rating agency from which an explanation of the significance of such rating may be obtained. There is no assurance that such rating will continue for any given period of time or that any such rating will not be revised downward or withdrawn entirely if, in the judgment of S&P, circumstances so warrant. A revision or withdrawal of such rating may have an effect on the market price of the Series 2020 Bonds.

## CONTINUING DISCLOSURE

Section 3-20e of the Connecticut General Statutes gives the State and political subdivisions of the State such as the Green Bank the specific authority to enter into continuing disclosure agreements in accordance with the requirements of Securities and Exchange Commission Rule 15c2-12 (the “Rule”). The Green Bank and the State will each enter into a Continuing Disclosure Agreement with respect to the Series 2020 Bonds, substantially in the forms attached as Appendix I-C and I-D, respectively, to this Official Statement (the “Continuing Disclosure Agreements”), to provide or cause to be provided, in accordance with the requirements of the Rule, (i) annual financial information and operating data, (ii) timely notice of a failure by the Green Bank or the State, respectively, to provide the required annual financial information on or before the date specified in the Continuing Disclosure Agreement for the Series 2020 Bonds, and (iii) with respect to the Green Bank, timely notice of the occurrence of certain material events with respect to the Series 2020 Bonds. To its knowledge, the Green Bank has not during the last five (5) years failed to comply in any material respect with its undertakings pursuant to a continuing disclosure agreement.

To its knowledge, in the last five years the State has not failed to comply in any material respect with its undertakings pursuant to a continuing disclosure agreement executed by the State. The State has determined it did not file an event notice for (i) a rating upgrade of its Bradley International Airport Special Obligation Parking Revenue Bonds, Series 2000A in May 2016, (ii) a rating downgrade of its Certificates of Participation (Connecticut Juvenile Training School Energy Center Project) in April 2018 and (iii) a rating upgrade of the short-term rating on the State’s General Obligation Bonds (2016C) (Variable Rate Demand Bonds) in June 2018. The State promptly filed such notices after discovering each omission. In making this disclosure, the State has not concluded and does not admit that these omissions are a material failure to comply with its continuing disclosure obligations. The State has modified its disclosure practices to prevent such failures in the future. Certain prior annual reports of the State and other required reports are available from the Electronic Municipal Market Access website (“EMMA”) of the Municipal Securities Rulemaking Board (the “MSRB”), or such other website as may be designated from time to time by the MSRB or the Securities and Exchange Commission. Filings through EMMA are linked to particular obligations by a 9-digit CUSIP number, based on base (6-digit) CUSIP numbers, which are subject to being changed after the issuance of obligations as a result of various actions. The State has entered into continuing disclosure agreements requiring filings to be made with respect to thousands of CUSIP numbers. Most filings by the State through EMMA, such as annual reports, are made using the base 6-digit CUSIP numbers. Although the State endeavors through this process to link each report filed through EMMA to the correct CUSIP number (including those assigned without its knowledge), there can be no guarantee of complete accuracy in this process, given the large number of 9-digit CUSIP numbers assigned to the State’s obligations. The State does not believe an inaccuracy resulting from such CUSIP process is a material failure to comply with its continuing disclosure obligations.

The Underwriters’ obligations to purchase the Series 2020 Bonds shall be conditioned upon their receiving, at or prior to the delivery date of the Series 2020 Bonds, executed copies of the Continuing Disclosure Agreements.

**[In addition, the Indenture provides that the Green Bank will, within \_\_\_\_ ( ) days after each Interest Payment Date, commencing November 15, 2020, prepare a report setting forth a description of the Series 2020 Bonds Outstanding, the redemptions of Series 2020 Bonds on such Interest Payment Date and the distribution of the Revenues on such Interest Payment Date (the “Information Statement”), and will posting it to the Green Banks’ website (\_\_\_\_\_). See the caption “\_\_\_\_\_” in “APPENDIX I-A—FORM OF THE INDENTURE” hereto.]**

## THIRD-PARTY DUE DILIGENCE REPORTS

Section 15E(s)(4)(A) of the Securities Exchange Act requires the issuer or underwriter of any asset-backed security to make the findings and conclusions of any third-party due diligence report obtained by either of them publicly available. The Green Bank has engaged DNV GL, independent engineers, to perform certain agreed upon procedures with respect to evaluating certain information regarding the SHREC Projects within Tranche 3 in conjunction with the offering of the



**FORM OF THE INDENTURE**

**FORM OF LEGAL OPINION OF BOND COUNSEL AND TAX STATUS**

The legal opinion of the firm of Shipman & Goodwin LLP of Hartford, Connecticut, Bond Counsel, will be furnished when the Bonds are delivered, and a copy of the legal opinion will be included in the record of proceedings of Green Bank authorizing the Bonds. The opinion will be dated and given on and will speak only as of the date of original delivery of the Bonds to the Underwriters.

July \_\_, 2020

Connecticut Green Bank  
845 Brook Street  
Rocky Hill, Connecticut 06067

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the Connecticut Green Bank ("Green Bank") of its \$\_\_\_\_\_ State Supported Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 (Federally Taxable) (Climate Bond Certified) dated July \_\_, 2020, maturing on November 15 of each year from 2021 through 2030 and in 2035 (the "Bonds").

Green Bank is a body politic and corporate constituting a public instrumentality and political subdivision of the State of Connecticut (the "State"), operating and existing under the Constitution of the State (the "Constitution") and laws of the State. The Bonds are authorized to be issued pursuant to Sections 16-245n and 16-245kk through 16-245mm, inclusive, of the Connecticut General Statutes, as amended (the "Act"), the resolutions of Green Bank's Board of Directors dated March 23, 2020 and June 26, 2020 (the "Authorizing Resolutions"), and the Indenture of Trust dated as of July 1, 2020 (the "Indenture") between Green Bank and The Bank of New York Mellon Trust Company, N.A., as Trustee. Terms used but not defined herein shall have the meanings ascribed thereto in the Indenture.

In connection with our representation of Green Bank as bond counsel with respect to the Bonds, we have examined the executed Bonds and certified records of proceedings of Green Bank authorizing the Bonds. In addition, we have examined and relied on originals or copies, identified to us as genuine, of such other documents, instruments or records, and have made such investigations of law as we considered necessary or appropriate for the purposes of this opinion. In making the statements contained in this opinion, we have assumed, without independently verifying, the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of documents submitted to us as certified or photostatic copies, and the legal capacity and authority of all persons executing such documents.

On the basis of our review noted above and subject to the qualifications set forth herein, we are of the opinion that:

1. Under the Act, Green Bank exists as a body politic and corporate and a public instrumentality and political subdivision of the State, performing an essential public function with good right and lawful authority, among other things, to carry out its obligations with respect to the Residential Solar Incentive Program, and to provide funds therefor by the execution of the Indenture and the issuance and sale of the Bonds, and to perform its obligations under the terms and conditions of the Indenture, including collecting and enforcing the collection of Revenues as covenanted in and as defined in the Indenture, except to the extent that such enforcement may be limited by bankruptcy, insolvency, and other laws affecting creditors' rights and remedies heretofore or hereafter enacted, by public policy and by the application of equitable principles.

2. The Indenture has been duly authorized, executed and delivered by Green Bank and, assuming the due authorization, execution and delivery of the Indenture by the Trustee, is valid and binding upon Green Bank and enforceable in accordance with its terms.

3. The Bonds are valid and legally binding special obligations of Green Bank payable solely from the Trust Estate pledged therefor under the Indenture, and are entitled to the benefit, protection, and security of the provisions, covenants, and agreements of the Indenture. The Bonds do not constitute a general obligation of Green Bank nor are they guaranteed by Green Bank. Green Bank has no taxing power.

4. The Indenture creates the valid pledge of and the valid lien upon the Trust Estate as defined therein, including the monies and securities held or set aside or to be set aside and held in the Funds and Accounts established thereunder, which the Indenture purports to create, subject only to the provisions of the Indenture permitting the application thereof for or to the purposes and on the terms and conditions as set forth in the Indenture.

5. Pursuant to the Act, neither the State nor any political subdivision thereof, shall be obligated to pay the principal of or the interest on the Bonds. Neither the full faith and credit nor the taxing power of the State or of any political subdivision thereof, is pledged to the payment of the principal of or the interest on the Bonds. The issuance of the Bonds shall not directly, indirectly or contingently obligate the State or any political subdivision thereof to levy or to pledge any form of taxation or to make any appropriation for the payment of the Bonds.

6. Under existing law, interest on the Bonds is included in gross income of the owners thereof for federal income tax purposes pursuant to the Internal Revenue Code of 1986, as amended.

7. Under existing statutes, interest on the Bonds is excluded from Connecticut taxable income for purposes of the Connecticut income tax on individuals, trusts, and estates, and such interest is excluded from amounts on which the net Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the alternative minimum tax imposed under the Code with respect to individuals, trusts and estates. Interest on the Bonds is included in gross income for purposes of the Connecticut corporation business tax.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

The enforceability of rights and remedies with respect to the Bonds and the Indenture may be limited by bankruptcy, insolvency, and other laws affecting creditors' rights and remedies heretofore or hereafter enacted, by public policy, and by the application of equitable principles.

This opinion is given as of the date hereof and we assume no obligation to revise or supplement this opinion to reflect any change in facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

Very truly yours,

Shipman & Goodwin LLP

## **TAX STATUS - CERTAIN ADDITIONAL FEDERAL TAX CONSEQUENCES**

The following is a brief discussion of certain federal income tax matters with respect to the Bonds. It does not purport to deal with all aspects of federal taxation that may be relevant to a particular owner of a Bond. Prospective owners of the Bonds, particularly those that may be subject to special rules, are advised to consult their own tax advisors regarding the federal tax consequences of owning and disposing of the Bonds.

### **Federal Income Taxes**

In the opinion of Bond Counsel, under existing law, interest on the Bonds is included in gross income for federal income tax purposes pursuant to the Internal Revenue Code of 1986, as amended (the "Code").

### **United States Tax Consequences**

The following is a summary of certain United States federal income tax consequences resulting from the beneficial ownership of the Bonds by certain persons. This summary does not consider all possible federal income tax consequences of the purchase, ownership, or disposition of the Bonds, and is not intended to reflect the individual tax position of any beneficial owner. Moreover, except as expressly indicated, this summary is limited to those persons who purchase a Bond at its issue price, which is the first price at which a substantial amount of the Bonds is sold to the public, and who hold Bonds

as “capital assets” within the meaning of the Code (generally, property held for investment). This summary does not address beneficial owners that may be subject to special tax rules, such as banks, insurance companies, dealers in securities or currencies, purchasers that hold Bonds as a hedge against currency risks or as part of a straddle with other investments or as part of a “synthetic security” or other integrated investment (including a “conversion transaction”) comprising a bond and one or more other investments, or United States Holders (as defined below) that have a “functional currency” other than the United States dollar. This summary is applicable only to a person (a “United States Holder”) who or that is the beneficial owner of Bonds and is (a) an individual citizen or resident of the United States, (b) a corporation or partnership or other entity created or organized under the laws of the United States or any State (including the District of Columbia), or (c) a person otherwise subject to federal income taxation on its worldwide income. This summary is based on the United States tax laws and regulations currently in effect and as currently interpreted and does not take into account possible changes in the tax laws or interpretations thereof any of which may be applied retroactively. Except as provided below, it does not discuss the tax laws of any state, local, or foreign governments.

### ***United States Holders***

*Payments of Stated Interest.* In general, for a United States Holder, interest on a Bond will be taxable as ordinary income at the time it is received or accrued, depending on the beneficial owner’s method of accounting for tax purposes.

*Bonds Purchased at Original Issue Premium.* The initial public offering price of certain maturities of the Bonds are greater than the principal amount payable on such Bonds at maturity. The excess of the initial public offering price at which a substantial amount of these Bonds are sold over the principal amount payable at maturity constitutes original issue premium. The offering prices relating to the yields set forth on the cover page of this Official Statement are expected to be the initial public offering prices at which a substantial amount of each maturity of the Bonds were ultimately sold to the public. Under Section 171 of the Code, a holder of a Bond may elect to treat such excess as “amortizable bond premium”, in which case the amount of interest required to be included in the taxpayer’s income each year with respect to interest on the Bond will be reduced by the amount of amortizable bond premium allocable (based on the Bond’s yield to maturity) to that year. If such an election is made, the amount of each reduction in interest income will result in a corresponding reduction in the taxpayer’s adjusted basis in the Bond. Any election to amortize bond premium is applicable to all taxable debt instruments held by the taxpayer at the beginning of the first taxable year to which the election applies or thereafter acquired by the taxpayer and may not be revoked without the consent of the Internal Revenue Service (“IRS”).

*Bonds Purchased at a Market Discount.* A Bond will be treated as acquired at a market discount (market discount bond) if the amount for which a United States Holder purchased the Bond is less than the Bond’s adjusted issue price, unless such difference is less than a specified de minimis amount. In general, any payment of principal or any gain recognized on the maturity or disposition of a market discount bond will be treated as ordinary income to the extent that such gain does not exceed the accrued market discount on the Bond. Alternatively, a United States Holder of a market discount bond may elect to include market discount in income currently over the life of the market discount bond. That election applies to all debt instruments with market discount acquired by the electing United States Holder on or after the first day of the first taxable year to which the election applies and may not be revoked without the consent of the IRS. If an election is made to include market discount in income currently, the tax basis of the Bond in the hands of the United States Holder will be increased by the market discount thereon as such discount is included in income.

Market discount generally accrues on a straight-line basis unless the United States Holder elected to accrue such discount on a constant yield-to-maturity basis. That election is applicable only to the market discount bond with respect to which it is made and is irrevocable. A United States Holder of a market discount bond that does not elect to include market discount in income currently generally will be required to defer deductions for interest on borrowings allocable to the Bond in an amount not exceeding the accrued market discount on such Bond until maturity or disposition of the Bond.

*Purchase, Sale, Exchange, and Retirement of Bonds.* A United States Holder’s tax basis in a Bond generally will equal its cost, increased by any market discount included in the United States Holder’s income with respect to the Bond, and reduced by the amount of any amortizable bond premium applied to reduce interest on the Bond. A United States Holder generally will recognize gain or loss on the sale, exchange, or retirement of a Bond equal to the difference between the amount realized on the sale or retirement (not including any amount attributable to accrued but unpaid interest) and the United States Holder’s tax adjusted basis in the Bond. Except to the extent described above under *Bonds Purchased at a Market Discount*, gain or loss recognized on the sale, exchange or retirement of a Bond will be capital gain or loss and will be long-term capital gain or loss if the Bond was held for more than one year. The material modification of the terms of any Bond may result in a deemed reissuance thereof, in which event a United States Holder may recognize taxable gain or loss without any corresponding receipt of proceeds.



*Backup Withholding.* United States Holders may be subject to backup withholding on payments of interest and, in some cases, disposition proceeds of the Bonds, if they fail to provide an accurate Form W-9, "Request for Taxpayer Identification Number and Certification," or a valid substitute form, or have been notified by the IRS of a failure to report all interest and dividends, or otherwise fail to comply with the applicable requirements of backup withholding rules. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules will be allowed as a credit against the United States Holder's United States federal income tax liability (or refund) provided the required information is timely furnished to the IRS. Prospective United States Holders should consult their tax advisors concerning the application of backup withholding rules.

*Medicare Tax Affecting United States Holders.* For taxable years beginning after December 31, 2012, a United States Holder that is an individual or estate, or a trust that does not fall into a special class of trusts that is exempt from such tax, will be subject to a Medicare tax on the lesser of (1) the United States Holder's "net investment income" for the taxable year and (2) the excess of the United States Holder's modified adjusted gross income for the taxable year over a certain threshold. A United States Holder's net investment income will generally include its interest income and its net gains from the disposition of the Bonds, unless such interest income or net gains are derived in the ordinary course of the conduct of a trade or business (other than a trade or business that consists of certain passive or trading activities). A United States Holder that is an individual, estate, or trust, should consult its own tax advisor regarding the applicability of the Medicare tax.

### ***Information Reporting***

In general, information reporting requirements will apply with respect to payments to a United States Holder of principal and interest (and with respect to annual accruals of original issue discount) on the Bonds, and with respect to payments to a United States Holder of any proceeds from a disposition of the Bonds. This information reporting obligation, however, does not apply with respect to certain United States Holders including corporations, tax-exempt organizations, qualified pension and profit sharing trusts, and individual retirement accounts. In the event that a United States Holder subject to the reporting requirements described above fails to supply its correct taxpayer identification number in the manner required by applicable law or is notified by the IRS that it has failed properly to report payments of, interest and dividends, a backup withholding tax (currently at a rate of 24%) generally will be imposed on the amount of any interest and principal and the amount of any sales proceeds received by the United States Holder on or with respect to the Bonds.

Any payments of interest and original issue discount on the Bonds to a Non-United States Holder generally will be reported to the IRS and to the Non-United States Holder, whether or not such interest or original issue discount is exempt from United States withholding tax pursuant to a tax treaty or the portfolio interest exemption. Copies of these information returns also may be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the payee resides.

Information reporting requirements will apply to a payment of the proceeds of the disposition of a Bond by or through (a) a foreign office of a custodian, nominee, other agent, or broker that is a United States person, (b) a foreign custodian, nominee, other agent, or broker that derives 50% or more of its gross income for certain periods from the conduct of a trade or business in the United States, (c) a foreign custodian, nominee, other agent, or broker that is a controlled foreign corporation for United States federal income tax purposes, or (d) a foreign partnership if at any time during its tax year one or more of its partners are United States persons who, in the aggregate, hold more than 50% of the income or capital interest of the partnership or if, at any time during its taxable year, the partnership is engaged in the conduct of a trade or business within the United States, unless the custodian, nominee, other agent, broker, or foreign partnership has documentary evidence in its records that the beneficial owner is not a United States person and certain other conditions are met, or the beneficial owner otherwise establishes an exemption.

The federal income tax discussion set forth above is included for general information only and may not be applicable depending upon a beneficial owner's particular situation. Beneficial owners should consult their tax advisors with respect to the tax consequences of the purchase, ownership, and disposition of the Bonds, including the tax consequences under state, local, foreign, and other tax laws and the possible effects of changes in federal or other tax laws.

### **State Taxes**

In the opinion of Bond Counsel, under existing statutes, interest on the Bonds is excluded from Connecticut taxable income for purposes of the Connecticut income tax on individuals, trusts and estates and is excluded from amounts on which the net Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax.

Interest on the Bonds is included in gross income for purposes of the Connecticut corporation business tax.

Owners of the Bonds should consult their tax advisors with respect to other applicable state and local tax consequences of ownership of the Bonds and the disposition thereof, including the extent to which gains and losses from the sale or exchange of Bonds held as capital assets reduce and increase, respectively, amounts taken into account in computing the Connecticut income tax on individuals, trusts and estates and the net Connecticut minimum tax on such taxpayers who are also required to pay the federal alternative minimum tax.

### **General**

The opinions of Bond Counsel are rendered as of their date and Bond Counsel assumes no obligation to update or supplement their opinions to reflect any facts or circumstances that may come to its attention or any changes in law or the interpretation thereof that may occur after the date of its opinions. The discussion above does not purport to address all aspects of federal, state or local taxation that may be relevant to a particular owner of a Bond. Prospective owners of the Bonds, particularly those who may be subject to special rules, are advised to consult their tax advisors regarding the federal, state and local tax consequences of owning and disposing of the Bonds.

**FORM OF CONTINUING DISCLOSURE AGREEMENT—GREEN BANK**

*In accordance with the requirements of Rule 15c2-12 promulgated by the Securities and Exchange Commission, the Green Bank will agree, pursuant to a Continuing Disclosure Agreement for the Series 2020 Bonds to be executed by the Green Bank substantially in the following form, to provide, or cause to be provided, (i) certain annual financial information and operating data, (ii) timely notice of the occurrence of certain events with respect to the Series 2020 Bonds, and (iii) timely notice of a failure by the Green Bank to provide the required annual financial information on or before the date specified in the Continuing Disclosure Agreement for the Series 2020 Bonds.*

**Continuing Disclosure Agreement**

This Continuing Disclosure Agreement (the “Agreement”) is made as of July \_\_, 2020 by the Connecticut Green Bank (the “Issuer”) acting by its undersigned officers, duly authorized, in connection with the issuance of \$16,065,000\* State Supported Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 (the “Series 2020 Bonds”). The Series 2020 Bonds are being issued pursuant to an Indenture of Trust, dated as of July 1, 2020 (the “Indenture”), between the Issuer and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”).

**Section 1. Definitions.** For purposes of this Agreement, the following capitalized terms shall have the following meanings:

“Final Official Statement” means Part I of the official statement of the Issuer prepared in connection with the Series 2020 Bonds.

“MSRB” means the Municipal Securities Rulemaking Board established under the Securities Exchange Act of 1934, as amended, or any successor thereto.

“Repository” means the MSRB or any other information repository established pursuant to the Rule as amended from time to time.

“Rule” means Rule 15c2-12 under the Securities Exchange Act of 1934, as of the date of this Agreement.

“SEC” means the Securities and Exchange Commission of the United States, or any successor thereto.

**Section 2. Annual Financial Information.**

(a) The Issuer agrees to provide or cause to be provided to each Repository, in accordance with the provisions of the Rule and of this Agreement, annual financial information and operating data (commencing with information and data for the fiscal year ending June 30, 2020) as follows:

(i) Financial statements of the Issuer for the prior fiscal year, which statements shall be prepared in accordance with generally accepted accounting principles or mandated state statutory principles as in effect from time to time. As of the date of this Agreement, the Issuer prepares its financial statements in accordance with generally accepted accounting principles. The financial statements will be audited.

(ii) To the extent not included in the financial statements described in clause (i) above, the financial information and operating data within the meaning of the Rule described below (with references to the Final Official Statement); provided, however, that references to the Final Official Statement for the Series 2020 Bonds as a

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\* Preliminary; subject to change.

means of identifying such financial information and operating data shall not prevent the Issuer from reorganizing such material in subsequent official statements or annual information reports:

- (A) the information under the tables entitled: “Composition of SHREC Tranche 3,” “Distribution of SHREC Tranche 3 by Owner,” “Distribution of SHREC Tranche 3 by Utility Company, ” “Distribution of SHREC Tranche 3 by Range of PV System Size (kW-DC),” “Distribution of SHREC Tranche 3 by Host Customer County” and “Distribution of SHREC Tranche 3 by Module Manufacturer” under the heading “THE TRUST ESTATE—SHREC Tranche 3” in the Official Statement as of the prior April 30;
- (B) actual Production (MWh) for the prior April 1 to March 30 period; and
- (C) actual SHREC Receivables for the prior April 1 to March 30 period, net of Trustee fees, charges and expenses.

(b) The financial statements and other financial information and operating data described above will be provided on or before the date eight months after the close of the fiscal year for which such information is being provided. The Issuer’s fiscal year currently ends on June 30.

(c) Annual financial information and operating data may be provided in whole or in part by cross-reference to other documents available to the public on the MSRB’s Internet site referenced in the Rule as amended from time to time or filed with the SEC. All or a portion of the financial information and operating data may be provided in the form of a comprehensive annual financial report, an annual information statement, or an Annual Report.

(d) The Issuer reserves the right (i) to provide financial statements which are not audited if no longer required by law, (ii) to modify from time to time the format of the presentation of such information or data, and (iii) to modify the accounting principles it follows to the extent required by law, by changes in generally accepted accounting principles, or by changes in accounting principles adopted by the Issuer; provided that the Issuer agrees that the exercise of any such right will be done in a manner consistent with the Rule.

### **Section 3. Event Notice.**

The Issuer agrees to provide or cause to be provided, in a timely manner not in excess of ten business days after the occurrence of the event, to each Repository notice of the occurrence of any of the following events with respect to the Series 2020 Bonds:

- (a) principal and interest payment delinquencies;
- (b) non-payment related defaults, if material;
- (c) unscheduled draws on debt service reserves reflecting financial difficulties;
- (d) unscheduled draws on credit enhancements reflecting financial difficulties;
- (e) substitution of credit or liquidity providers, or their failure to perform;
- (f) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Series 2020 Bonds, or other material events affecting the tax status of the Series 2020 Bonds;
- (g) modifications to rights of holders of the Series 2020 Bonds, if material;
- (h) Bond calls, if material and tender offers;

- (i) Bond defeasances;
- (k) release, substitution, or sale of property securing repayment of the Series 2020 Bonds, if material;
- (l) rating changes;
- (m) bankruptcy, insolvency, receivership or similar event of the Issuer;
- (n) the consummation of a merger, consolidation, or acquisition involving the Issuer or the sale of all or substantially all of the assets of the Issuer, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material;
- (o) appointment of a successor or additional trustee or the change of name of a trustee, if material;
- (p) incurrence of a financial obligation of the Issuer, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a financial obligation of the Issuer, any of which affect security holders, if material; and
- (q) default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a financial obligation of the Issuer, any of which reflect financial difficulties.

For purposes of (p) and (q), the term “financial obligation” is defined as a (i) debt obligation, (ii) derivative instrument entered into in connection with or pledged as security or a source of payment for an existing or planned debt obligation, or (iii) guarantee of (i) or (ii). The term financial obligation does not include municipal securities for which a final official statement has been filed with the MSRB pursuant to the Rule.

#### **Section 4. Notice of Failure to Provide Annual Financial Information.**

The Issuer agrees to provide or cause to be provided, in a timely manner, to each Repository notice of any failure by the Issuer to provide annual financial information as set forth in Section 2(a) hereof on or before the date set forth in Section 2(b) hereof.

#### **Section 5. Use of Agents.**

Annual financial information and operating data and notices to be provided pursuant to this Agreement may be provided by the Issuer or by any agents which may be employed by the Issuer for such purpose from time to time.

#### **Section 6. Termination.**

The obligations of the Issuer under this Agreement shall terminate upon the earlier of (i) payment or legal defeasance, at maturity or otherwise, of all of the Series 2020 Bonds, or (ii) such time as the Issuer ceases to be an obligated person with respect to the Series 2020 Bonds within the meaning of the Rule.

#### **Section 7. Enforcement.**

The Issuer acknowledges that the undertakings set forth in this Agreement are intended to be for the benefit of, and enforceable by, the beneficial owners from time to time of the Series 2020 Bonds. In the event the Issuer shall fail to perform its duties hereunder, the Issuer shall have the option to cure such failure within a reasonable time (but not exceeding 30 days with respect to the undertakings set forth in Section 2 of this Agreement or five business days with respect to the undertakings set forth in Sections 3 and 4 of this Agreement) from the time the Issuer’s Executive Director, or a successor, receives written notice from any beneficial owner of the Series 2020 Bonds of such failure. The present address of the Executive Director is 10 Columbus Boulevard, Hartford, Connecticut 06106.

In the event the Issuer does not cure such failure within the time specified above, the beneficial owner of any Series 2020 Bonds shall be entitled only to the remedy of specific performance. The Issuer expressly acknowledges and the beneficial owners are hereby deemed to expressly agree that no monetary damages shall arise or be payable hereunder nor shall any failure to comply with this Agreement constitute an event of default with respect to the Series 2020 Bonds including, without limitation, an Event of Default under the Indenture, or a breach of any duty or obligation of the Trustee under the Indenture.

**Section 8. Miscellaneous.**

(a) All documents provided by the Issuer to a Repository pursuant to the Issuer's undertakings set forth in Sections 2, 3 and 4 of this Agreement shall be in an electronic format as prescribed by the MSRB from time to time and shall be accompanied by identifying information as prescribed by the MSRB from time to time.

(b) The Issuer shall have no obligation to provide any information, data or notices other than as set forth in this Agreement; provided however, nothing in this Agreement shall be construed as prohibiting the Issuer from providing such additional information, data or notices from time to time as it deems appropriate in connection with the Series 2020 Bonds. If the Issuer elects to provide any such additional information, data or notices, the Issuer shall have no obligation under this Agreement to update or continue to provide further additional information, data or notices of the type so provided.

(c) This Agreement shall be governed by the laws of the State of Connecticut.

(d) Notwithstanding any other provision of this Agreement, the Issuer may amend this Agreement, and any provision of this Agreement may be waived, if (i) such amendment or waiver is made in connection with a change of circumstances that arises from a change in legal requirements, a change in law, or a change in the identity, nature or status of the Issuer, (ii) the provisions of the Agreement as so amended or waived would have complied with the requirements of the Rule, taking into account any amendments or interpretations of the Rule as well as any changes in circumstances, in each case as of the date of such amendment to the Agreement or waiver and (iii) such amendment or waiver is supported by either an opinion of counsel expert in federal securities laws to the effect that such amendment or waiver would not materially adversely affect the beneficial owners of the Series 2020 Bonds or an approving vote by the holders of not less than 51% of the aggregate principal amount of the Series 2020 Bonds then outstanding pursuant to the terms of the Indenture. A copy of any such amendment or waiver will be filed in a timely manner with each Repository. The annual financial information provided on the first date following adoption of any such amendment or waiver will explain, in narrative form, the reasons for the amendment or waiver.

(e) This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but such counterparts shall together constitute but one and the same instrument.

CONNECTICUT GREEN BANK

By \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

## FORM OF CONTINUING DISCLOSURE AGREEMENT—STATE

*In accordance with the requirements of Rule 15c2-12 promulgated by the Securities and Exchange Commission, the State of Connecticut (the “State”) will agree, pursuant to a Continuing Disclosure Agreement for the Series 2020 Bonds to be executed by the State substantially in the following form, to provide, or cause to be provided, (i) certain annual financial information and operating data and (ii) timely notice of a failure by the State to provide the required annual financial information on or before the date specified in the Continuing Disclosure Agreement for the Series 2020 Bonds.*

**Continuing Disclosure Agreement**

This Continuing Disclosure Agreement (this “Agreement”) is made as of July \_\_, 2020 by the State of Connecticut acting by its undersigned officers, duly authorized, in connection with the issuance by the Connecticut Green Bank (the “Issuer”) of \$16,065,000\* State Supported Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020 (the “Series 2020 Bonds”). The Series 2020 Bonds are being issued pursuant to an Indenture of Trust, dated as of July 1, 2020 (the “Indenture”), between the Issuer and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”).

**Section 1. Definitions.** For purposes of this Agreement, the following capitalized terms shall have the following meanings:

“Final Official Statement” means Part II of the official statement of the Issuer prepared in connection with the Series 2020 Bonds.

“MSRB” means the Municipal Securities Rulemaking Board established under the Securities Exchange Act of 1934 as amended, or any successor thereto.

“Repository” means the MSRB or any other information repository established pursuant to the Rule as amended from time to time.

“Rule” means Rule 15c2-12 under the Securities Exchange Act of 1934, as of the date of this Agreement.

“SEC” means the Securities and Exchange Commission of the United States, or any successor thereto.

**Section 2. Annual Financial Information.**

(a) The State agrees to provide or cause to be provided to each Repository, in accordance with the provisions of the Rule and of this Agreement, annual financial information and operating data (commencing with information and data for the fiscal year ending June 30, 2020) as follows:

(i) Audited financial statements of the State comprising its basic financial statements, currently consisting of the governmental activities, the business-type activities, the aggregate discretely presented component units, each major fund and the aggregate remaining fund information of the State for the prior fiscal year, which statements shall be prepared in accordance with generally accepted accounting principles or mandated state statutory principles as in effect from time to time. As of the date of this Agreement, the State is required to prepare financial statements of its various funds and accounts on a statutory basis (i.e., following the adopted budget and related statutes as described in Part II to the Final Official Statement, under the caption “FINANCIAL PROCEDURES - Accounting Procedures”). As of the date of this Agreement, the State also prepares its financial statements in accordance with generally accepted accounting principles but is not required to do so.

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\* Preliminary; subject to change.

(ii) To the extent not included in the financial statements described in clause (i) above, the financial information and operating data within the meaning of the Rule described below (with references to the Final Official Statement); provided, however, that references to the Final Official Statement for the Series 2020 Bonds as a means of identifying such financial information and operating data shall not prevent the State from reorganizing such material in subsequent official statements or annual information reports:

1. Until such time as the State's only method of presenting its financial statements is substantially in accordance with generally accepted accounting principles ("GAAP"):
  - a. General Fund - Summary of Operating Results - Statutory Basis (for most recent fiscal year) (See Table 2 and Appendices II-D-6 and II-D-7).
  - b. General Fund - Summary of Operating Results - Statutory Basis vs. GAAP Basis (for most recent fiscal year) (See Table 3).
  - c. General Fund - Unreserved Fund Balance - Statutory Basis (as of the end of the most recent fiscal year) (See Table 4 and Appendices II-D-4 and II-D-5).
  - d. General Fund - Unreserved Fund Balance - Statutory Basis vs. GAAP Basis (as of the end of the most recent fiscal year) (See Table 5).
2. Statutory Debt Limit (as of end of most recent fiscal year or a later date) (See Table 7).
3. Direct General Obligation Indebtedness - Principal Amount Outstanding (as of end of most recent fiscal year or a later date) (See Table 8).
4. Summary of Principal, Mandatory Sinking Fund Payments, and Interest on Long-Term Direct General Obligation Debt (as of end of most recent fiscal year or a later date) (See Table 10).
5. Outstanding Long-Term Direct General Obligation Debt (as of end of most recent fiscal year) (See Table 11).
6. Authorized But Unissued Direct General Obligation Debt (as of end of most recent fiscal year or a later date) (See Table 12).
7. Statutory General Obligation Bond Authorizations and Reductions (for recent fiscal years, if any legislative action) (See Table 13).
8. Special Capital Reserve Fund Debt (as of end of most recent fiscal year or a later date) (See Table 16).
9. Funding status of the State Employees' Retirement Fund and the Teachers' Retirement Fund.

(b) The financial statements and other financial information and operating data described above will be provided on or before the date eight months after the close of the fiscal year for which such information is being provided. The State's fiscal year currently ends on June 30.

(c) Annual financial information and operating data may be provided in whole or in part by cross-reference to other documents available to the public on the MSRB's Internet Web site referenced in the Rule as amended from time to time or filed with the SEC. All or a portion of the financial information and operating data may be provided in the form of a comprehensive annual financial report or an annual information statement of the State.

(d) The State reserves the right (i) to provide financial statements which are not audited if no longer required by law, (ii) to modify from time to time the format of the presentation of such information or data, and (iii) to modify the accounting principles it follows to the extent required by law, by changes in generally accepted accounting



principles, or by changes in mandated state statutory principles as in effect from time to time; provided that the State agrees that the exercise of any such right will be done in a manner consistent with the Rule.

### **Section 3. Material Events.**

The State agrees to provide or cause to be provided, in a timely manner not in excess of ten business days after the occurrence of the event, to each Repository notice of the occurrence of any of the following events:

- (a) incurrence of a financial obligation of the State, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a financial obligation of the State, any of which affect security holders, if material; and
- (b) default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a financial obligation of the State, any of which reflect financial difficulties.

For purposes of events (a) and (b) above, the term “financial obligation” is defined as a (i) debt obligation, (ii) derivative instrument entered into in connection with or pledged as security or a source of payment for an existing or planned debt obligation, or (iii) guarantee of (i) or (ii). The term financial obligation does not include municipal securities for which a final official statement has been filed with the MSRB pursuant to the Rule.

### **Section 4. Notice of Failure to Provide Annual Financial Information.**

The State agrees to provide or cause to be provided, in a timely manner, to each Repository notice of any failure by the State to provide annual financial information as set forth in Section 2(a) hereof on or before the date set forth in Section 2(b) hereof.

### **Section 5. Use of Agents.**

Annual financial information and operating data and notices to be provided pursuant to this Agreement may be provided by the State or by any agents which may be employed by the State for such purpose from time to time.

### **Section 6. Termination.**

The obligations of the State under this Agreement shall terminate upon the earlier of (i) payment or legal defeasance, at maturity or otherwise, of all of the Series 2020 Bonds, or (ii) such time as the State ceases to be an obligated person with respect to the Series 2020 Bonds within the meaning of the Rule.

### **Section 7. Enforcement.**

The State acknowledges that its undertakings set forth in this Agreement are intended to be for the benefit of, and enforceable by, the beneficial owners from time to time of the Series 2020 Bonds. In the event the State shall fail to perform its duties hereunder, the State shall have the option to cure such failure within a reasonable time (but not exceeding 30 days with respect to the undertakings set forth in Section 2 of this Agreement or five business days with respect to the undertakings set forth in Section 4 of this Agreement) from the time the State’s Assistant Treasurer for Debt Management, or a successor, receives written notice from any beneficial owner of the Series 2020 Bonds of such failure. The present address of the Assistant Treasurer for Debt Management is 55 Elm Street, 6th Floor, Hartford, Connecticut 06106.

In the event the State does not cure such failure within the time specified above, the beneficial owner of any Series 2020 Bonds shall be entitled only to the remedy of specific performance. The State expressly acknowledges and the beneficial owners are hereby deemed to expressly agree that no monetary damages shall arise or be payable hereunder nor shall any failure to comply with this Agreement constitute an event of default with respect to the Series 2020 Bonds, including, without limitation, an Event of Default under the Indenture or a breach of any duty or obligation of the Trustee under the Indenture.

**Section 8. Miscellaneous.**

(a) All documents provided by the State to a Repository pursuant to the State's undertakings set forth in Sections 2, 3 and 4 of this Agreement shall be in an electronic format as prescribed by the MSRB from time to time and shall be accompanied by identifying information as prescribed by the MSRB from time to time.

(b) The State shall have no obligation to provide any information, data or notices other than as set forth in this Agreement; provided however, nothing in this Agreement shall be construed as prohibiting the State from providing such additional information, data or notices from time to time as it deems appropriate in connection with the Series 2020 Bonds. If the State elects to provide any such additional information, data or notices, the State shall have no obligation under this Agreement to update or continue to provide further additional information, data or notices of the type so provided.

(c) This Agreement shall be governed by the laws of the State.

(d) Notwithstanding any other provision of this Agreement, the State may amend this Agreement, and any provision of this Agreement may be waived, if (i) such amendment or waiver is made in connection with a change of circumstances that arises from a change in legal requirements, a change in law, or a change in the identity, nature or status of the State, (ii) the provisions of the Agreement as so amended or waived would have complied with the requirements of the Rule, taking into account any amendments or interpretations of the Rule as well as any changes in circumstances, in each case as of the date of such amendment to the Agreement or waiver and (iii) such amendment or waiver is supported by either an opinion of counsel expert in federal securities laws to the effect that such amendment or waiver would not materially adversely affect the beneficial owners of the Series 2020 Bonds or an approving vote by the holders of not less than 51% of the aggregate principal amount of the Series 2020 Bonds then outstanding pursuant to the terms of the Indenture. A copy of any such amendment or waiver will be filed in a timely manner with each Repository. The annual financial information provided on the first date following adoption of any such amendment or waiver will explain, in narrative form, the reasons for the amendment or waiver.

(e) This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but such counterparts shall together constitute but one and the same instrument.

STATE OF CONNECTICUT

By: \_\_\_\_\_  
Shawn T. Wooden, Treasurer

**CLIMATE BOND VERIFIER'S REPORT**

## **FINDINGS OF SELF SUFFICIENCY FOR SOLAR HOME RENEWABLE ENERGY CREDIT (SHREC) TAXABLE MUNICIPAL BOND ISSUANCE BY THE CONNECTICUT GREEN BANK**

June 24, 2020

### **Introduction and Background**

Section 16-245mm of the Connecticut General Statutes (“CGS”) requires, as a condition of the issuance of any bonds by the Connecticut Green Bank (“Green Bank”) for a project backed by a Special Capital Reserve Fund (“SCRF”), that the Board of Directors of the Green Bank determine that the revenues from a project will be sufficient to pay all the costs of the project, including debt service.

Specifically, Section 16-245mm(e) of the CGS provides that no “bonds secured by a SCRF shall be issued to pay project costs unless the Green Bank is of the opinion and determines that the revenues from the project shall be sufficient to:

- (1) pay the principal of and interest on the bonds issued to finance the project,*
- (2) establish, increase and maintain any reserves deemed by the Green Bank to be advisable to secure the payment of the principal of and interest on such bonds,*
- (3) pay the cost of maintaining the project in good repair and keeping it properly insured, and*
- (4) pay such other costs of the project as may be required.”*

Green Bank proposes to issue SCRF-backed taxable municipal bonds in a principal amount projected to be between \$16,000,000 to \$19,000,000 (the “Bonds”), based on a minimum debt service coverage ratio (“DSCR”) of 1.15x<sup>1</sup>, secured by the sale of solar home renewable energy credits (“SHREC Receivables”), created under Connecticut Green Bank’s Solar Home Renewable Energy Credit (“SHREC”) program. Unlike prior financings of the Green Bank which have been backed by a SCRF where a project involved the Green Bank financing the construction of a clean energy facility, such as a hydroelectric facility or solar photovoltaic (“PV”) systems for Connecticut state colleges and universities, in this case the project is the SHREC program which supports the Residential Solar Investment Program (the “RSIP”).

Under the RSIP, the Green Bank confers incentives to Connecticut homeowners who purchase solar PV systems for their home and for so-called third-party owners (“TPOs”) who provide these systems under lease agreements or the energy from these systems under power purchase agreements. In return for these incentives, the Green Bank takes title to all environmental attributes (such as energy credits, like SHRECs) and energy attributes (such as forward capacity benefits). Under the SHREC program, once created, SHRECs are sold by the Green Bank to Connecticut’s two investor-owned utility companies, The Connecticut Light and Power Company, d/b/a Eversource Energy (“Eversource”) and United Illuminating Company (“United Illuminating”, and

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<sup>1</sup> Based on P90 revenue generation estimates

collectively, the “Utilities”) under two Master Purchase Agreements (each, a “Master Purchase Agreement” or “MPA”), as statutorily required by CGS Section 16-245gg (the “SHREC Statute”). Importantly, pursuant to CGS Section 16-245a, the Utilities are required to obtain a specific percentage or amount of energy they generate or sell from renewable sources under Connecticut’s Renewable Portfolio Standard.

As noted, the SHRECs are generated from solar photovoltaic systems participating in the Green Bank’s Residential Solar Investment Program (“RSIP”). The SHRECs are aggregated into annual tranches (each a “Tranche”) and sold to the Utilities at a fixed, predetermined price (the “SHREC Tranche Purchase Price”) over a 15-year period. In April 2019, the Green Bank (through a special purpose entity) issued approximately \$38.6 million in two classes on notes under an asset backed securities structure (the “SHREC Series 2019-1 Notes”). The SHREC Series 2019-1 Notes were supported by Tranche 1 and Tranche 2 of the SHREC program and were rated by Kroll. Kroll assigned an A- rating to the senior notes and BBB+ rating to the junior notes which were issued without the support of the Green Bank or a SCRF (and these ratings were affirmed on April 2, 2020).<sup>2</sup>

The SHRECs supporting this bond issuance (Connecticut Green Bank Solar Home Renewable Energy Credit (SHREC) series 2020-1 Green Liberty Bonds) will be revenues generated from Tranche 3, comprised of 4,818 solar PV systems with a SHREC Tranche Purchase Price of \$48.00 per SHREC. On June 17, 2020, S&P Global Ratings assigned its ‘A’ long-term rating to the bonds with a stable outlook based on the credit support offered by the SCRF (see Exhibit H). The Green Bank intends to issue Bonds in the maximum principal amount consistent with the DSCR of 1.15, with the proceeds used to (i) reimburse the Green Bank for the cost of the incentives associated with the systems comprising Tranche 3, plus the carrying costs of those incentives, (ii) fund the future incentives the Green Bank is obligated to pay with respect to such systems, (iii) recover the administrative expenses of the Green Bank incurred in originating the Tranche 3 SHRECs allocable to Tranche 3 and (iv) other costs associated with the RSIP, to the extent proceeds are available for such other costs..

### **Revenue Generation - SHREC Creation and Sale Process**

On a quarterly basis, the Green Bank downloads the electricity generation data from SHREC-eligible, tranching residential solar PV systems. The Green Bank accesses the data via a web-hosted platform called Locus that receives generation data every 15 minutes from meters located on the platform.

To convert the downloaded electricity generation data to SHRECs, the Green Bank submits the data to the NEPOOL GIS. There is a time lag of one calendar quarter between when the electricity was generated and when the data is submitted to NEPOOL GIS and the SHRECs created:

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<sup>2</sup> <https://www.krollbondratings.com/login?redirect=%2Fdocuments%2Freport%2F32451%2Fabs-shrec-abs-1-llc-series-2019-1-surveillance-report>

Electricity generated (Calendar Quarter)	Green Bank submits electricity generation data to NEPOOL GIS (date)	SHRECs created by NEPOOL GIS (date)	SHRECs Payment by Utilities (date)
1. (Jan 1—Mar 31)	July 10	July 15	August 31
2. (Apr 1—Jun 30)	October 10	October 15	November 31
3. (Jul 1—Sep 30)	January 10	January 15	February 28
4. (Oct 1—Dec 31)	April 10	April 15	May 31

NEPOOL GIS creates SHRECs on a one for one basis, i.e., one SHREC created for one megawatt hour of electricity generated.

On the day they are created, the SHRECs are sold to the Utilities and automatically transferred from the Green Bank’s NEPOOL GIS account to the NEPOOL GIS accounts of the Utilities. Under the terms of the Master Purchase Agreements, there is an 80%/20% split in this automatic transfer, with 80% of the SHRECs being transferred to Eversource’s account and 20% to United Illuminating’s account. Title to the SHRECs passes from the Green Bank to each respective Utility upon this transfer, and the Green Bank is able to invoice the Utilities for the sale. Payment from the Utilities is due on the last business day of the month following the month during which such SHRECs were delivered (see table above for payment dates).

**SHREC Eligibility**

Green Bank staff certify that systems are SHREC eligible through the Green Bank process for reviewing all systems for which an incentive application and subsequent completion paperwork is submitted to the program. Green Bank staff look at every solar PV system incentive application in detail, including the sales or lease/PPA contract, the customer’s electric bill, the solar PV system one-line electrical diagram, shade report, and site plan. After systems are installed, all solar PV systems must pass municipal inspection with local officials (e.g., building and/or electrical officials) and must then receive utility approval to energize (which may include a witness test/inspection in UI territory). Upon receiving approval to energize, contractors submit completion paperwork to the Green Bank (via PowerClerk, the online incentive application and document management system) including a project completion form, equipment packing slip, the utility approval to energize document, and a self-inspection report and photos of the system.

As a result of this process, Green Bank staff are able to verify all key SHREC-eligibility information including the utility approval to energize and Green Bank ownership of the RECs associated with the system.

A utility’s obligation to purchase SHRECs are as follows:

- a. A SHREC system must receive regulatory approval and all necessary corporate approvals. A system must first become certified as a Class I renewable energy source in CT. This is done by the Green Bank submitting an application to the Connecticut Public Utilities Regulatory Authority (“PURA”) to receive Class 1 certification for that facility (done on a batch basis). Systems that have received this certification are eligible to be put in a tranche.

- b. There needs to be an executed Tranche Confirmation. The Green Bank can create a SHREC tranche by executing a Transaction Confirmation Agreement with the utilities that contains a list of facilities that are Class I certified but have not been included in a previous tranche. Once this agreement is executed, facility generation can be input into the NEPOOL GIS system, which then allows for RECs to be created on a quarterly basis. The NEPOOL GIS process to create a REC takes one quarter plus 15 days after generation has occurred (e.g., generation for Q1 2018 would result in Green Bank submitting data on July 10 and REC creation on July 15, 2018).
- c. Each quarter, the Green Bank certifies that quarter’s generation, the Tranche Purchase Price, and that the systems meet the other eligibility criteria (e.g., Class I renewable energy source that has received Green Bank incentive).

These conditions to purchase are specified in the MPA and readily achievable in the ordinary course of business by the Green Bank completing the SHREC minting process. The Green Bank has completed and invoiced on a quarterly basis since the first Tranche in 2017 and the Utilities have paid each invoice without issue.

**Use of Bond Proceeds – SHREC Cost Recovery and Future Expenses**

In addition to recovering the cost of bond issuance, proceeds from bond issuance will enable the Green Bank to recover previous RSIP expenses (including substantial incentive payments) which will allow the Green Bank to invest in future deployment of clean energy throughout the state (see table below). Below is the expected use of funds from the issuance.

<u>Use of Funds / Cost Recovery</u>	
<u>Fund Deposits</u>	
SCRF Reserve Account	1,496,519
<u>RSIP Incentives (Tranche 3)</u>	
Paid	6,070,892
Expected Payment	5,343,908
Total RSIP Incentives	11,414,800
<u>Financing Costs</u>	
Warehouse Interest	130,000
Cost of Issuance	400,000
Underwriters' Discount	223,520
Total Financing Costs	753,520
Administrative	2,400,161
<b>Total Use of Funds</b>	<b>16,065,000</b>

**Bond Structure**

Green Bank has engaged the underwriting services of Ramirez & Co., Inc. (“Ramirez” or the “Underwriter”) as senior manager to structure and price the Bonds. The principal amount issued is projected to be between \$16,000,000 and \$19,000,000, with the final sizing to be determined based on market conditions at pricing. To the extent interest cost is lower (or, conversely, higher) than projected, the issuance amount may be increased (or, conversely, decreased) so long as the DSCR is not less than 1.15x.

In order to maximize advance rate and minimize cost of capital, secure ‘A’ category bond ratings, and achieve the widest possible retail distribution in Connecticut through the use of lower (\$1,000) denomination bonds, the Green Bank proposes a SCRF as a credit enhancement in the municipal structure. Ramirez’s preliminary structure based on a SCRF follows below:<sup>3</sup>

Bond Pricing  
Connecticut Green Bank  
SHREC Green Liberty Bonds, Series 2020A  
Preliminary, market rates as of June 19, 2020

Bond Component	Maturity Date	Amount
Bond Component:		
	11/15/2021	1,048,000
	11/15/2022	1,059,000
	11/15/2023	1,067,000
	11/15/2024	1,073,000
	11/15/2025	1,079,000
	11/15/2026	1,086,000
	11/15/2027	1,092,000
	11/15/2028	1,096,000
	11/15/2029	1,099,000
	11/15/2030	1,102,000
		10,801,000
Term Bond:		
	11/15/2031	1,108,000
	11/15/2032	1,126,000
	11/15/2033	1,146,000
	11/15/2034	1,009,000
	11/15/2035	875,000
		5,264,000
		16,065,000

In addition to the Bond’s financial self-sufficiency as presented below (Finding #1), the Green Bank’s Board of Directors supports the bond issuance because it aligns with the Green Bank’s mandate of fostering the growth, development, and deployment of clean energy sources that serve end-use customers in the State of Connecticut. Moreover, the specific targeting of retail customers with lower denomination bonds enables citizens to participate in Connecticut’s green economy. As explained in more detail in Finding #1, the Bonds are supported by 4,818 residential solar PV systems expected to generate approximately 577,000 megawatt hours of electricity (MWh) over a 15-year period.<sup>4</sup>

As noted in Finding #5, Green Bank funding support for the Project’s obligations will be documented in the Project Support Commitment and Undertaking (attached as Exhibit E).

<sup>3</sup> While SHREC revenues are received over a 15-year period, revenues from Tranche 3 of the SHREC program which will support Series 2020 of the SHREC bonds commenced May 31, 2020, leaving approximately 14-1/4 years remaining once the Series 2020 SHREC bonds are issued.

<sup>4</sup> Based on Clean Power Research projections for the full 15-year period. Expected to generate approximately 533,000 MWh over the life of the bonds.



## Certain risk factors associated with the Bonds

Pursuant to regulations of Securities and Exchange Commission, issuers of bonds and other securities are required to disclose to all potential investors information about certain risk factors that are important in making a decision about investing in the bonds. Such risk factors are set forth in the Preliminary Official Statement attached as Exhibit F (the "POS"). In Exhibit G, Green Bank staff address certain risk factors disclosed in the POS that relate to the self-sufficiency findings.

### Findings of Self-Sufficiency (“Findings”)

**Finding 1.** The Project’s revenues, as confirmed by the report of the independent engineer (“IE”), DNV GL (who has performed the duties of IE for Green Bank for the SHREC Series 2019-1 Notes and for the bonds to be supported by Tranche 3), together with the any initial starting cash reserves will be sufficient to pay all associated costs, expenses and debt service for the Bonds. An internationally recognized IE operating in more than 100 countries, DNV GL has provided technical due diligence services for residential solar PV portfolios since 2012, serving many of the top residential operators in the United States. DNV GL has served as the IE on over 10 securitizations for residential and commercial/industrial solar PV portfolios.

The following table shows the Project’s summary projections over the life of the financing. In addition, an annual projection is included in Exhibit B. Projections show that the Bonds will be self-sufficient from Project revenues with respect to the DSCR, which is projected to be 1.15x, and the other three factors set forth in CGS Section 16-245mm.

Period Ending	SHREC Revenue	Trustee Fee	Net Revenue	Proposed Principal	Proposed Interest	Proposed Debt Service	Debt Serv Coverage
Closing							
11/15/2020	335,515	12,500	323,015	–	132,064	132,064	245%
11/15/2021	1,745,164	7,500	1,737,664	1,048,000	448,519	1,496,519	116%
11/15/2022	1,731,938	7,500	1,724,438	1,059,000	429,267	1,488,267	116%
11/15/2023	1,718,248	7,500	1,710,748	1,067,000	408,755	1,475,755	116%
11/15/2024	1,704,074	7,500	1,696,574	1,073,000	386,689	1,459,689	116%
11/15/2025	1,689,251	7,500	1,681,751	1,079,000	362,804	1,441,804	117%
11/15/2026	1,672,995	7,500	1,665,495	1,086,000	337,167	1,423,167	117%
11/15/2027	1,654,447	7,500	1,646,947	1,092,000	309,670	1,401,670	117%
11/15/2028	1,633,355	7,500	1,625,855	1,096,000	280,928	1,376,928	118%
11/15/2029	1,609,217	7,500	1,601,717	1,099,000	250,777	1,349,777	119%
11/15/2030	1,584,694	7,500	1,577,194	1,102,000	219,445	1,321,445	119%
11/15/2031	1,567,654	7,500	1,560,154	1,108,000	186,925	1,294,925	120%
11/15/2032	1,559,740	7,500	1,552,240	1,126,000	147,580	1,273,580	122%
11/15/2033	1,550,255	7,500	1,542,755	1,146,000	107,595	1,253,595	123%
11/15/2034	1,245,017	7,500	1,237,517	1,009,000	66,901	1,075,901	115%
11/15/2035	–	7,500	–	875,000	31,071	906,071	118%
	23,001,564	125,000		16,065,000	4,106,157	20,171,157	

These projections assume:

- A total of \$16,065,000 financed through taxable municipal bonds;
- Special capital reserve account equal to maximum annual debt service (estimated \$1,496,519) funded at close from bond proceeds.
- A weighted average taxable coupon rate of 3.099% based on interest rates assumed by the Underwriter on June 19, 2020.
- Reasonable energy production projections from an independent engineer retained by the Green Bank (see Finding #4);
  - Generation estimates are typically stated on a “P50” or “P90” basis. These P-measures are a statistical estimate of how often, given variances in weather and system performance, solar projects will exceed that value. P50 means that for each year, 50% of the time generation is expected to be above the generation forecast and 50% of the time generation is expected to be below the generation forecast for such year. P90 means that for each year, 90% of the time generation is expected to be above the generation forecast and 10% of the time generation is expected to be below the generation forecast for such year. Base case generation assumptions use P90 values and “degradation rates”<sup>5</sup> as provided by the independent engineer. Moreover, the bond structure is able to support generation under the more stringent P99 scenario while still retaining a DSCR of more than 100%.
  - Tranche 1 and Tranche 2 SHRECs, which support the SHREC Series 2019-1 Notes have yielded generation and revenues for the first three quarters of that bond series equal to 96% of P50 projections confirmed by the independent engineer using a similar diligence process prior to issuance of that bond series.
- A fixed contract price of \$48.00 per SHREC over 15 years of generation, paid by the Utilities quarterly. This obligation is required under statute, enables full cost recovery by the Utilities and has been approved by PURA.
- Projected administrative costs for the management of the SHREC program following the origination of the three Tranches issued to date.

***As noted above, these projections assume a bond issuance amount sized to a minimum DSCR of 115% given the other assumptions. Market conditions at the time the bonds are priced and other factors (such as the ultimate credit rating from S&P) will dictate the actual issuance amount. There could therefore be some variation in the final bond par amount and structure. Regardless, the final bond issuance amount will be sized so as to result in all cases with a minimum DSCR ratio of 1.15x using projected generation assumptions under the P90 scenario.***

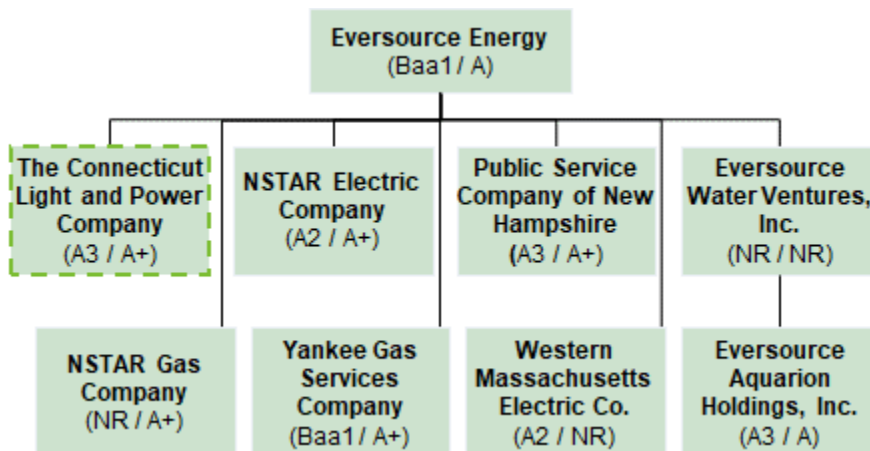
These assumptions are in keeping with established practice in the municipal bond industry for evaluating the economic viability of projects to be financed. The projections support the finding that SHREC revenues from Tranche 3 generation will allow for self-sufficient coverage of all Project expenses and annual Bond principal and interest payments.

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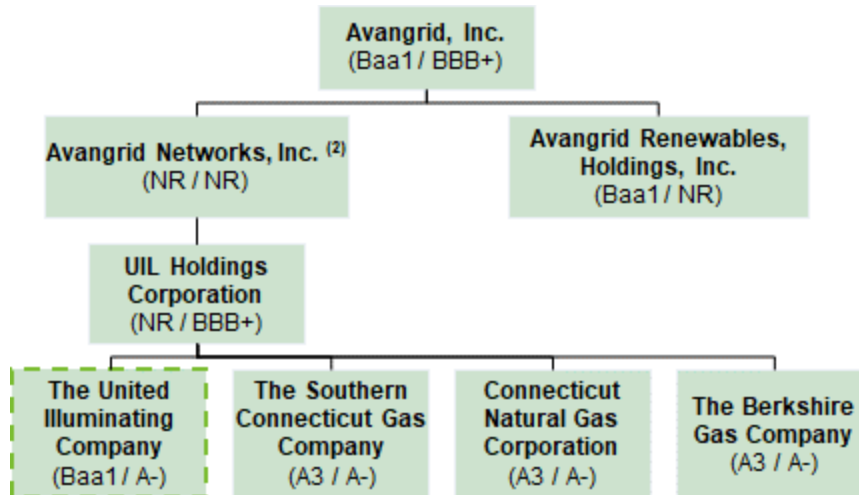
<sup>5</sup> The term “degradation rate” means the rate at which the output of electrical energy from the solar PV system declines over time. Standard solar panel warranties provide for a specified level of degradation over the life of the solar PV panels, typically 25 years.

**Finding 2.** The Utilities, on whose statutory and contractual compliance the financial results of the Bonds depend, are both regulated electricity distribution companies under the supervision of PURA. This oversight relationship is an important consideration in assessing the limited likelihood of counterparty failure. Under the SHREC program, the Utilities are statutorily mandated to enter into 15-year contracts with the Green Bank to purchase the SHREC Tranches generated by solar PV systems receiving the RSIP incentive and the purchase of these SHREC fulfills their statutory requirement under CGS Section 16-245a to obtain a specific percentage or amount of energy they generate or sell from renewable sources under Connecticut’s Renewable Portfolio Standard. The agreement is governed by the MPAs, which were jointly filed with and approved by the Connecticut Public Utilities Regulatory Authority on February 7, 2017, whose approval included approval of the full cost recovery of the SHREC program.

- The Connecticut Light and Power Company d/b/a Eversource Energy is a publicly traded utility company. Headquartered in Hartford, CT, it is a regulated utility that serves residential, commercial, and industrial customers in 149 cities and towns throughout the State of Connecticut. Connecticut Light and Power is rated A3 / A+ by Moody’s and S&P, respectively.



- United Illuminating is a subsidiary of Avangrid, Inc., a publicly traded energy services holding company doing business in the regulated energy distribution industry. Founded in 1899 and headquartered in New Haven, CT, United Illuminating is engaged in the purchase, transmission, distribution and sale of electricity in southwestern Connecticut. United Illuminating is rated Baa1 / A- by Moody’s and S&P, respectively.



**Finding 3.** Production risk from system degradation (as defined in footnote 3) or failure is mitigated through a system of operation and maintenance agreements as well as insurance coverage. The homeowner or TPO is responsible for maintenance and repairs, however the Green Bank has a platform on the Locus Energy system, a solar monitoring and data analytics platform provider for the solar PV market, through which Green Bank staff access production data for the fleet of systems incentivized through RSIP. Locus Energy and the Green Bank also have a contract by which Locus provides a robust active monitoring program for the RSIP fleet which includes daily review of alerts that flag monitoring issues, weekly review of estimated production losses, and quarterly review of fleet production.

If production is lower than expected (for reasons other than variation in weather or solar insolation), the Green Bank has the ability to notify the system owner to resolve the reason for the lower production. It is in the interest of system owners, whether homeowners or TPOs to resolve causes of lower than expected production. Homeowners gain more value with higher production from their solar PV system through higher displacement of their use of grid electricity. TPOs are motivated to sustain production in order to earn the PBI incentive paid quarterly for six years based on system production. Even after the 6<sup>th</sup> year, TPOs are motivated to maintain their brand reputation in the marketplace. TPOs usually have production guarantees built into lease/PPA contracts that require them to compensate homeowners if production is lower than expected.

In addition, as a contractor qualified under the RSIP program rules, all contractors agree to provide at minimum a five-year workmanship warranty that covers all components of the system against breakdown or degradation in electrical output of more than 10% from the original rated output. The warranty must also cover full costs of labor for repair or replacement of any defective solar PV system components. Many contractors provide customers with workmanship warranties longer than five years. If there is an issue related to workmanship after the 5-year (or longer) warranty period, the customer will need to pay the labor costs. Additionally, solar PV panels usually have 20- to 25-year warranties and inverters have 10- to 20-year warranties.

Systems owned by the homeowner are typically insured under the homeowner’s property & casualty (“P&C”) insurance policy. TPOs (approximately 74% of the systems in Tranche 3) can be expected to be required by their financing counterparties to have adequate liability and property

and casualty insurance. In order to receive approval to energize, Eversource and UI require that every homeowner having a solar PV system installed has homeowner's liability insurance coverage. The Green Bank, while not required, also typically obtains a parametric risk policy for the Tranches to cover losses as a result of windstorms or hurricanes (e.g., direct or indirect damage, business interruption). If such an event were to occur, proceeds from this policy would be pledged as revenues to the bonds. The insurance covers "actual losses" from reduced production in the event of such storms. Payout is determined based a sliding scale of exceedance of pre-agreed wind speeds and the incurrence of actual losses. While it is theoretically possible for solar PV systems to *not* be repaired or replaced whether due to malfunction or casualty loss, in the Green Bank's experience, the decommission rate for residential solar systems is very low. Out of 34,870 RSIP projects completed since 2012, all but 64 are still in operation as of March 2020, a loss rate of 0.2% over 8 years.

**Finding 4.** The IE conducted technical due diligence on the tranche (Tranche 3) that will support the Bonds. The IE examined historical performance, conducted an equipment review, and created a production forecast. Based on the IE's findings, their P50 production estimates for the portfolio were above that estimated by the Green Bank (102.3% of Year 1 projections), but with slightly higher degradation rates (DNV 0.68% vs. Green Bank 0.50%). The IE findings were incorporated into the Bond cash flow model.

As a mitigating factor against underproduction in the cash flow analysis, the Underwriters structured the Bonds based on a minimum debt service of 1.15x, using a P90 production scenario (DSCR averages approximately 1.19x over the life of the Bonds). And under the P99 production scenario, there is adequate coverage with a minimum projected DSCR of 1.03x. In both scenarios, there is sufficient cash flow to cover debt service, trustee fees, and Green Bank Tranche 3 administrative expenses.

### P90 Scenario

Period Ending	SHREC Revenue	Trustee Fee	Net Revenue	Proposed Principal	Proposed Interest	Proposed Debt Service	Debt Serv Coverage	Excess Coverage	SCRF Release	Admin Cost	Net Cash After DS, Admin Cost and Trustee Fees	Cumulative Cash
Closing												
11/15/2020	335,515	12,500	323,015	—	132,064	132,064	245%	203,451		120,389	70,562	70,562
11/15/2021	1,745,164	7,500	1,737,664	1,048,000	448,519	1,496,519	116%	248,645		122,797	118,348	188,911
11/15/2022	1,731,938	7,500	1,724,438	1,059,000	429,267	1,488,267	116%	243,670	8,252	125,253	119,169	308,080
11/15/2023	1,718,248	7,500	1,710,748	1,067,000	408,755	1,475,755	116%	242,493	12,513	127,758	119,748	427,828
11/15/2024	1,704,074	7,500	1,696,574	1,073,000	386,689	1,459,689	116%	244,384	16,066	130,313	122,637	550,465
11/15/2025	1,689,251	7,500	1,681,751	1,079,000	362,804	1,441,804	117%	247,447	17,885	132,919	124,912	675,378
11/15/2026	1,672,995	7,500	1,665,495	1,086,000	337,167	1,423,167	117%	249,828	18,637	135,578	125,387	800,765
11/15/2027	1,654,447	7,500	1,646,947	1,092,000	309,670	1,401,670	117%	252,778	21,498	138,289	128,486	929,251
11/15/2028	1,633,355	7,500	1,625,855	1,096,000	280,928	1,376,928	118%	256,427	24,741	141,055	132,613	1,061,865
11/15/2029	1,609,217	7,500	1,601,717	1,099,000	250,777	1,349,777	119%	259,440	27,151	143,876	135,215	1,197,080
11/15/2030	1,584,694	7,500	1,577,194	1,102,000	219,445	1,321,445	119%	263,250	28,333	146,753	137,329	1,334,409
11/15/2031	1,567,654	7,500	1,560,154	1,108,000	186,925	1,294,925	120%	272,729	26,520	149,689	142,061	1,476,469
11/15/2032	1,559,740	7,500	1,552,240	1,126,000	147,580	1,273,580	122%	286,161	21,345	152,682	147,324	1,623,793
11/15/2033	1,550,255	7,500	1,542,755	1,146,000	107,595	1,253,595	123%	296,660	19,984	155,736	153,408	1,777,201
11/15/2034	1,245,017	7,500	1,237,517	1,009,000	66,901	1,075,901	115%	169,116	177,694	158,851	180,460	1,957,661
11/15/2035	—	7,500	—	875,000	31,071	906,071	118%	—	1,075,901	162,028	302	1,957,962
	23,001,564	125,000		16,065,000	4,106,157	20,171,157		3,736,479		2,243,964	1,957,962	

### P99 Scenario

Period Ending	SHREC Revenue	Trustee Fee	Net Revenue	Proposed Principal	Proposed Interest	Proposed Debt Service	Debt Serv Coverage	Coverage from SHREC Revenue	SCRF Release	Admin Cost	Net Cash After DS, Admin Cost and Trustee Fees	Cumulative Cash
Closing												
11/15/2020	312,899	12,500	300,399	—	132,064	132,064	227%	180,835		120,389	47,946	47,946
11/15/2021	1,627,140	7,500	1,619,640	1,048,000	448,519	1,496,519	108%	130,621		122,797	324	48,270
11/15/2022	1,613,464	7,500	1,605,964	1,059,000	429,267	1,488,267	108%	125,197	8,252	125,253	696	48,966
11/15/2023	1,598,795	7,500	1,591,295	1,067,000	408,755	1,475,755	108%	123,040	12,513	127,758	295	49,261
11/15/2024	1,583,124	7,500	1,575,624	1,073,000	386,689	1,459,689	108%	123,435	16,066	130,313	1,688	50,949
11/15/2025	1,566,321	7,500	1,558,821	1,079,000	362,804	1,441,804	108%	124,516	17,885	132,919	1,982	52,932
11/15/2026	1,547,684	7,500	1,540,184	1,086,000	337,167	1,423,167	108%	124,517	18,637	135,578	76	53,008
11/15/2027	1,526,456	7,500	1,518,956	1,092,000	309,670	1,401,670	108%	124,787	21,498	138,289	495	53,503
11/15/2028	1,502,454	7,500	1,494,954	1,096,000	280,928	1,376,928	109%	125,526	24,741	141,055	1,712	55,215
11/15/2029	1,475,272	7,500	1,467,772	1,099,000	250,777	1,349,777	109%	125,495	27,151	143,876	1,270	56,485
11/15/2030	1,447,399	7,500	1,439,899	1,102,000	219,445	1,321,445	109%	125,955	28,333	146,753	34	56,519
11/15/2031	1,426,028	7,500	1,418,528	1,108,000	186,925	1,294,925	110%	131,104	26,520	149,689	435	56,954
11/15/2032	1,412,616	7,500	1,405,116	1,126,000	147,580	1,273,580	110%	139,036	21,345	152,682	199	57,153
11/15/2033	1,397,415	7,500	1,389,915	1,146,000	107,595	1,253,595	111%	143,820	19,984	155,736	568	57,721
11/15/2034	1,117,539	7,500	1,110,039	1,009,000	66,901	1,075,901	103%	41,638	177,694	158,851	52,982	110,703
11/15/2035	—	7,500	—	875,000	31,071	906,071	118%	—	1,075,901	162,028	302	111,005
	21,154,607			16,065,000	4,106,157	20,171,157		1,889,521		2,243,964	111,005	

**Finding 5.** The Bonds contemplated under this transaction will be supported by the Green Bank through a Project Support Commitment and Undertaking (“PSCU” – attached as Exhibit E), which will enable sources external to the economics and cash flows of the Project to provide adequate assurances that funds will be made available by Green Bank so that the likelihood of a draw upon the Special Capital Reserve Fund is remote. In addition to the statutorily mandated MPAs with the utilities for payment to the Green Bank for the SHRECS (which payments have been pledged to bondholders pursuant to the indenture), the following sources of Green Bank funds, while not pledged to bondholders, will support the undertakings by Green Bank pursuant to the PSCU:

- **Systems Benefit Charge:** As its main source of capitalization, the Green Bank through C.G.S. § 16-245n(b) receives a 1 mill surcharge from customers of Eversource Energy and

United Illuminating. The fund has been in existence since Connecticut deregulated its electric industry in the late 1990's. On average, this surcharge generates about \$26 million a year to support the programs and initiatives of the Green Bank.

- **Regional Greenhouse Gas Emission Allowance Proceeds:** As a result of the Regulation of Connecticut State Agencies CGS Section 22a-174-31(f)(6)(B), the Green Bank receives a portion of Connecticut's Regional Greenhouse Gas Initiative (RGGI) funds for renewable energy (approximately \$3 million to \$5 million annually).
- **Proceeds from Loans, Investments and Other Sources:** The Green Bank has a portfolio of loans and investments that produces income. Moreover, the Green Bank obtains revenues from other activities, including, but not limited to, the sale of renewable energy credits. For the fiscal year ended June 30, 2019, such activities resulted in approximately \$5 million of incremental income.

As of June 30, 2019, the Green Bank had a net asset position of \$76.3 million.<sup>6</sup>

#### **DETERMINATION**

The Board of Directors of the Green Bank is of the opinion and determines that, provided the final bond issuance amount is sized so as to result in all cases with a minimum DSCR of 1.15x using projected generation assumptions under the P90 scenario, Project revenues will be sufficient to:

- (1) pay the principal of and interest on the bonds issued to finance the project,*
- (2) establish, increase and maintain any reserves deemed by the Green Bank to be advisable to secure the payment of the principal of and interest on such bonds,*
- (3) pay the cost of maintaining the project in good repair and keeping it properly insured, and*
- (4) pay such other costs of the project as may be required.*

Attached hereto as Exhibit A is a copy of a letter from the Green Bank's financial advisor (Lamont Financial Services Corporation) relating to these Findings (that is, Findings #1 - #5, inclusive, contained herein). Attached as Exhibit B are the Project's projected revenues, expenses, debt service for the Bonds and coverage ratios. Attached as Exhibit C is the report of Green Bank's independent engineer. Attached as Exhibit D is a copy of a structural diagram for the SHRECs. Attached as Exhibit E is the Project Support Commitment and Undertaking. Attached as Exhibit F is a copy of the Preliminary Offering Statement for the Bonds. Attached as Exhibit G is the Green Bank's assessment of certain risk factors associated with the Bonds as set forth in the Preliminary Offering Statement. Attached as Exhibit G is S&P Global Ratings Service Rating Action Report.

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<sup>6</sup> Audited figure Connecticut Green Bank Comprehensive Annual Financial Report (p 5).

**Exhibit A**

LETTER FROM LAMONT FINANCIAL SERVICES CORPORATION

DRAFT



# LAMONT

## Financial Services Corporation

New Jersey • California

June 24, 2020

Mr. Bert Hunter  
EVP and Chief Investment Officer  
Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067

Bert,

Lamont Financial Services is serving as financial advisor to the Connecticut Green Bank ("CGB") and has reviewed the financing documents and financial analysis in connection with the SHREC solar transaction with Eversource and UI. The project will sell SHRECs to the utilities representing over 500 MWh of clean energy generation over the next 14 years. The project is being financed with taxable bonds in the public markets. The taxable bond issue is expected to produce a total of \$15-17 million in proceeds to reimburse the Green Bank for advances made and to fund future incentive obligations and administrative expenses associated with the project. The range in proceeds is market dependent, with lower interest costs leading to a higher bond proceeds yield at the same debt service coverage ratio.

### The Findings

There are five findings made by the Board in connection with seeking approval for SCRF backing:

1. The project is affordable. The bonds are backed by SHREC payments from the utilities, the per MW rate is fixed for the first 15 years and will then revert to a market rate thereafter. CGB is funding the DSRF in full for maximum annual debt service.
2. The Green Bank's counterparties are Eversource and United Illuminating for the SHRECs, both investment grade entities. All the key documentation has been in place already through existing agreements, so there is no expected issue in any of the documentation.
3. The homeowners who are putting rooftop solar on their homes represent a very low default risk. The average credit score in this portfolio is a FICO of 745.
4. The generation assumptions for the SHREC revenues are reviewed by an Independent Engineer. They have reviewed prior SHREC portfolios for the Green Bank, and their projections have been realized within a 1% variance.
5. CGB will provide additional support using the Project Support Commitment & Undertaking (PSCU). All revenues that are free to pledge in the PSCU are available to the Green Bank to provide support if project revenues are insufficient in any period.

Lamont has reviewed the documentation and exercised diligence in several conversations with the CGB and agrees with the findings presented to the Board.

### Rationale for Self-Sufficiency Finding

The security for the bond issue is the sale of SHRECs to the utilities, who have agreed to a fixed price unit rates for each MW of solar generated power. Passive solar sales produce a reliable SHREC revenue stream, even though the power production is seasonal. History shows that over a full year that the expectation for power production has been achieved. Thus, even with occasional issues on SHREC production in isolated cases in the portfolio, the expectation is that the revenue production will be

covered within the expected tolerances that have been designed into the financing. In addition, to the extent that any debt service shortfalls develop, the CGB is providing additional security through its Project Support Commitment & Undertaking (PSCU). The PSCU is supported by all of the CGB revenues from the System Benefit Charge, RGGI funding, loan repayments, investment income, and the sale of investment credits. Further, there will be a Debt Service Reserve Fund established in the SHREC Indenture at Maximum Annual Debt Service, which will be funded at closing and will provide support to the transaction and allow the SCRF mechanism to work if needed.

The bonds are structured around the projected available revenues (which accounts for seasonality as well as the aging of the solar cells over time) and provide in every year a projected debt service coverage ratio of at least 1.15x. The debt service is fixed. The proceeds will be dependent on the taxable market conditions at the time of the sale, with taxable rates at or near all-time low rates. The SHREC revenues are expected to cover all debt service costs, without the need for the PSCU. However, the PSCU will support these SHREC bonds before any demand is made upon the State to refill a SCRF reserve fund. The projections suggest that the CGB will not need to provide additional support as the project is expected to be self-sufficient.

Thus, Lamont believes that the strategic support that will be available through the Project Support Commitment and Undertaking, when combined with all the other remedies that CGB has built into their agreements strongly supports the Finding of Self-Sufficiency as required to use SCRF credit support.

Yours truly,



Robert A. Lamb  
President

**Exhibit B**  
**Cash Flow and Bond P&I Projections**

Sources and Uses of Funds  
Connecticut Green Bank  
SHREC Green Liberty Bonds, Series 2020A  
Preliminary, market rates as of June 19, 2020  
Dated Date 7/29/2020  
Delivery  
Date 7/29/2020

Sources:	
<b>Bond Proceeds:</b>	
Par Amount	16,065,000.00
	<u>16,065,000.00</u>
Uses:	
<b>Project Fund Deposits:</b>	
Project Fund	13,944,960.76
<b>Other Fund Deposits:</b>	
Special Capital Reserve Fund	1,496,519.24
<b>Delivery Date Expenses:</b>	
Cost of Issuance	400,000.00
Underwriter's Discount	223,520.00
	<u>623,520.00</u>
	<u>16,065,000.00</u>

Bond Summary Statistics  
 Connecticut Green Bank  
 SHREC Green Liberty Bonds, Series 2020A  
 Preliminary, market rates as of June 19, 2020

Dated Date	7/29/2020
Delivery Date	7/29/2020
Last Maturity	11/15/2035
Arbitrage Yield	3.073333%
True Interest Cost (TIC)	3.271807%
Net Interest Cost (NIC)	3.268365%
All-In TIC	3.637088%
Average Coupon	3.099635%
Average Life (years)	8.246
Weighted Average Maturity (years)	8.246
Duration of Issue (years)	7.154
Par Amount	16,065,000.00
Bond Proceeds	16,065,000.00
Total Interest	4,106,156.78
Net Interest	4,329,676.78
Total Debt Service	20,171,156.78
Maximum Annual Debt Service	1,496,519.24
Average Annual Debt Service	1,318,855.15
Underwriter's Fees (per \$1000)	
Average Takedown	6.000000
Other Fee	7.913477
	-----
Total Underwriter's Discount	13.913477
Bid Price	98.608652

Bond Component	Par Value	Price	Average Coupon	Average Life	PV of 1 bp change
Bond Component	10,801,000.00	100.000	2.603%	5.840	5,679.57
Term Bond	5,264,000.00	100.000	3.551%	13.184	6,158.88
	16,065,000.00			8.246	11,838.45

Bond Pricing  
Connecticut Green Bank  
SHREC Green Liberty Bonds, Series 2020A  
Preliminary, market rates as of June 19, 2020

Bond Component	Maturity Date	Amount	Rate	Yield	Price	Takedown
Bond Component:						
	11/15/2021	1,048,000	1.837%	1.837%	100.000	6.000
	11/15/2022	1,059,000	1.937%	1.937%	100.000	6.000
	11/15/2023	1,067,000	2.068%	2.068%	100.000	6.000
	11/15/2024	1,073,000	2.226%	2.226%	100.000	6.000
	11/15/2025	1,079,000	2.376%	2.376%	100.000	6.000
	11/15/2026	1,086,000	2.532%	2.532%	100.000	6.000
	11/15/2027	1,092,000	2.632%	2.632%	100.000	6.000
	11/15/2028	1,096,000	2.751%	2.751%	100.000	6.000
	11/15/2029	1,099,000	2.851%	2.851%	100.000	6.000
	11/15/2030	1,102,000	2.951%	2.951%	100.000	6.000
		10,801,000				
Term Bond:						
	11/15/2031	1,108,000	3.551%	3.551%	100.000	6.000
	11/15/2032	1,126,000	3.551%	3.551%	100.000	6.000
	11/15/2033	1,146,000	3.551%	3.551%	100.000	6.000
	11/15/2034	1,009,000	3.551%	3.551%	100.000	6.000
	11/15/2035	875,000	3.551%	3.551%	100.000	6.000
		5,264,000				
		16,065,000				

Bond Maturity Table

Connecticut Green Bank

SHREC Green Liberty Bonds, Series 2020A

Preliminary, market rates as of June 19, 2020

Maturity Date	Bond Component	Term Bond	Total
11/15/2021	1,048,000	-	1,048,000
11/15/2022	1,059,000	-	1,059,000
11/15/2023	1,067,000	-	1,067,000
11/15/2024	1,073,000	-	1,073,000
11/15/2025	1,079,000	-	1,079,000
11/15/2026	1,086,000	-	1,086,000
11/15/2027	1,092,000	-	1,092,000
11/15/2028	1,096,000	-	1,096,000
11/15/2029	1,099,000	-	1,099,000
11/15/2030	1,102,000	-	1,102,000
11/15/2031	-	1,108,000	1,108,000
11/15/2032	-	1,126,000	1,126,000
11/15/2033	-	1,146,000	1,146,000
11/15/2034	-	1,009,000	1,009,000
11/15/2035	-	875,000	875,000
	10,801,000	5,264,000	16,065,000

Connecticut Green Bank  
 SHREC Green Liberty Bonds, Series 2020A  
 Preliminary, market rates as of June 19, 2020

Period Ending	Principal	Coupon	Interest	Debt Service
11/15/2020	-	-	132,064.00	132,064.00
11/15/2021	1,048,000	1.837%	448,519.24	1,496,519.24
11/15/2022	1,059,000	1.937%	429,267.48	1,488,267.48
11/15/2023	1,067,000	2.068%	408,754.66	1,475,754.66
11/15/2024	1,073,000	2.226%	386,689.10	1,459,689.10
11/15/2025	1,079,000	2.376%	362,804.12	1,441,804.12
11/15/2026	1,086,000	2.532%	337,167.08	1,423,167.08
11/15/2027	1,092,000	2.632%	309,669.56	1,401,669.56
11/15/2028	1,096,000	2.751%	280,928.12	1,376,928.12
11/15/2029	1,099,000	2.851%	250,777.16	1,349,777.16
11/15/2030	1,102,000	2.951%	219,444.66	1,321,444.66
11/15/2031	1,108,000	3.551%	186,924.64	1,294,924.64
11/15/2032	1,126,000	3.551%	147,579.56	1,273,579.56
11/15/2033	1,146,000	3.551%	107,595.30	1,253,595.30
11/15/2034	1,009,000	3.551%	66,900.84	1,075,900.84
11/15/2035	875,000	3.551%	31,071.26	906,071.26
	16,065,000		4,106,156.78	20,171,156.78

**Exhibit C**  
**Independent Engineer Report Snapshot**

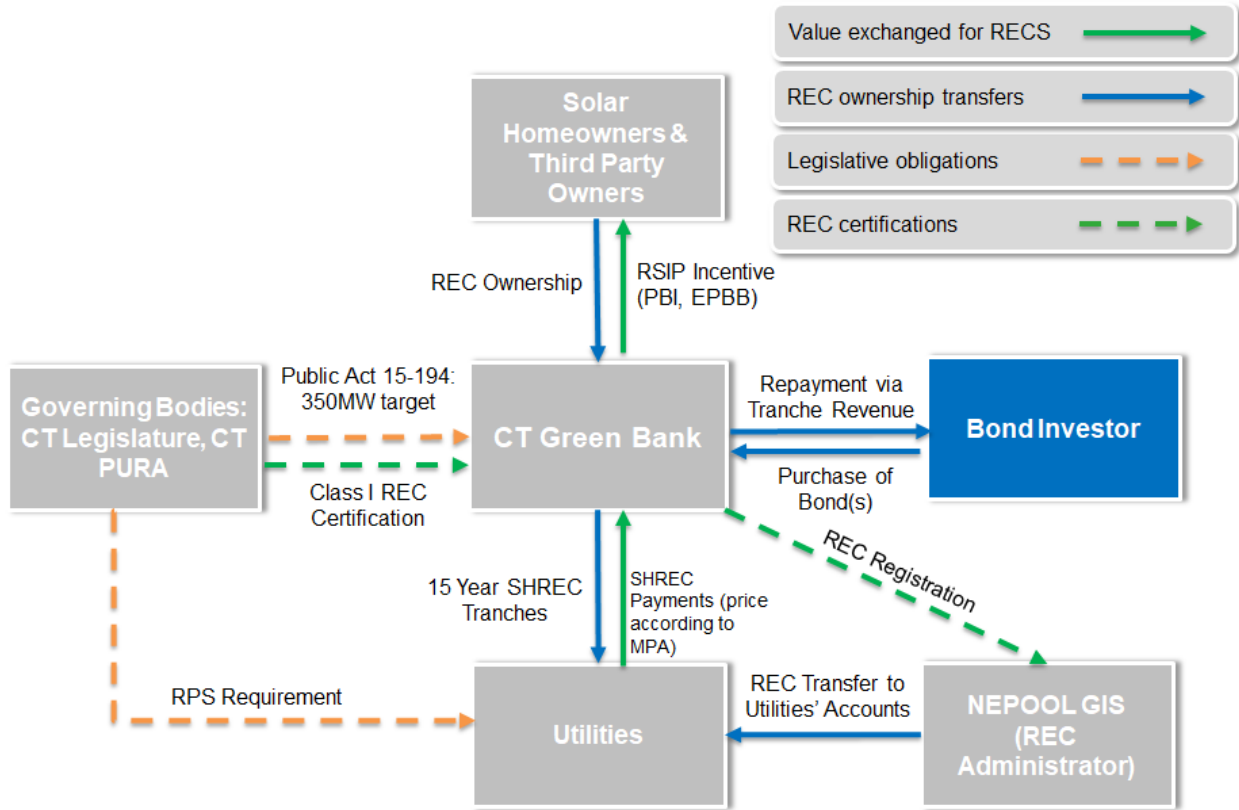
TO BE PROVIDED



**Exhibit D**

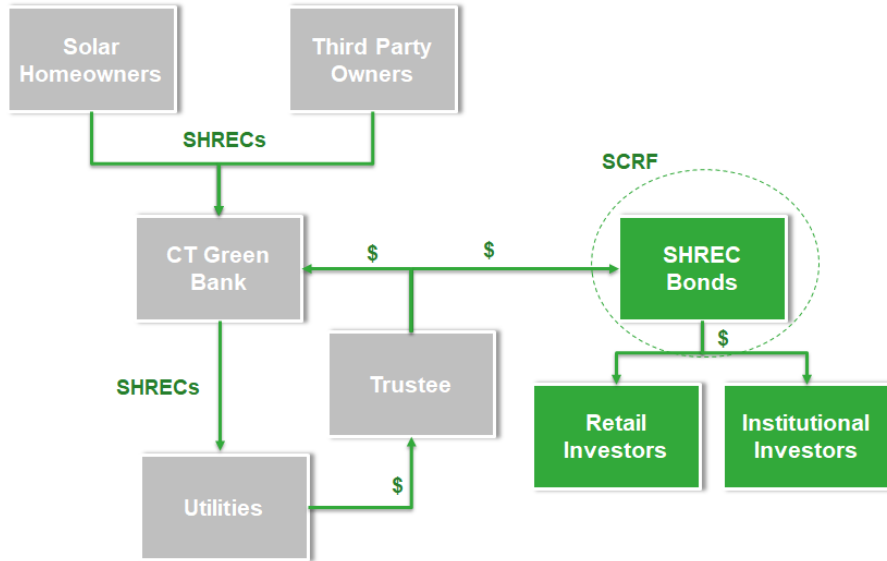
Structural diagram for the SHRECs

# SHREC Creation Process



# SHREC 2020

## Transaction Diagram



**Exhibit E**  
**Project Support Commitment and Undertaking**

Attached separately

**Exhibit F**  
**Preliminary Offering Statement for the Bonds**

Attached seperately

## **Exhibit G**

### **Green Bank's assessment of certain risk factors associated with the Bonds as set forth in the Preliminary Offering Statement<sup>7</sup>**

Pursuant to regulations of Securities and Exchange Commission, issuers of bonds and other securities are required to disclose to all potential investors information about certain risk factors that are important in making a decision about investing in the bonds. The following represents the investment considerations disclosed in the Preliminary Offering Statement for the Bonds. Following each identified risk factor, Green Bank staff provides additional context for the risk factors.

#### **INVESTMENT CONSIDERATIONS**

(as extracted from the Preliminary Offering Statement of the Bonds)

*The following investment considerations describe certain risk factors of an investment in the Series 2020 Bonds. Additional investment considerations relating to an investment in the Series 2020 Bonds are described throughout this Official Statement, whether or not specifically designated as investment considerations. Investors should consider such investment considerations in deciding whether to purchase any of the Series 2020 Bonds. There can be no assurance that other investment considerations will not become material in the future. In the event of a shortfall of Revenues, material delays in payments of principal or interest, or losses, on the Series 2020 Bonds could result and could materially reduce the value of the Series 2020 Bonds. These and other factors could result in a loss of marketability, or of market value, of the Series 2020 Bonds even if no such payment delay or loss occurs.*

#### **The Capacities of the SHREC Systems in the Portfolio are Estimates and Averages Only, Based on Assumptions, and Production May Not Meet These Estimates**

The Green Bank has relied upon certain assumptions of the average capacity across the SHREC Tranche 3 portfolio, in estimating what the SHREC Systems can be expected to generate in MWh of electricity. The Green Bank has also relied upon estimates and assumptions concerning the annual rate of degradation over the 15-year term of SHREC Tranche 3. These assumptions and estimates may not accurately predict the actual MWh of electricity the SHREC Systems actually produce and that the Utilities are required to purchase under the Master Purchase Agreements. Under the Master Purchase Agreements, the Utilities are required to pay for only the SHRECs that are delivered by the Green Bank in the preceding month to the respective Utility's NEPOOL GIS account. Any decrease in the anticipated amount of such SHRECs generated by the SHREC Systems within SHREC Tranche 3 would result in reduced cash flow from the Utilities to the Green Bank. This would impair the Green Bank's ability to pay the principal and interest on the Series 2020 Bonds. These estimates of potential SHREC System capacity are estimates of production only, and no guarantee of ultimate performance is offered, granted, suggested or implied.

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<sup>7</sup> Green Bank staff has addressed these risk factors in an appendix for ease of tracking comments. If preferred by OTT once the findings have been finalized, staff can bring the final version of risk factors into the body of the memo.

**Green Bank context:** Estimates of production of electricity for the SHREC Systems used to determine the projected debt service coverage ratios (DSCRs) in the finding have been confirmed by the Green Bank's independent engineer that has extensive experience with the performance of solar PV systems as well as performing as an independent engineer for several capital markets securitizations. While it is true that assumptions and estimates may not accurately predict the output of electricity the SHREC Systems will actually produce, the assumed generation estimates for the "base case" (or "P50 case") assumes that the actual generation is equally likely to be above and below the estimate. This forecast results in a DSCR of 115%. In addition, the independent engineer for the "stress case" (or "P90 case") assumes generation estimates will be exceeded by actual generation 90% of the time, yet only a 10% chance of being below the estimate. This forecast results in a DSCR of >100% (but below 115%). In a similar manner, the independent engineer confirmed similar estimate for the Tranche 1 and Tranche 2 SHRECs, which support the SHREC Series 2019-1 Notes. The Tranche 1 and Tranche 2 portfolios have yielded generation and revenues for the first three quarters of that bond series equal to 97.6% of P50 estimates. Accordingly, the Green Bank is of the view that the estimates confirmed by the independent engineer offer a sound basis for Finding 1.

### **The Transfer of the SHRECs From the Green Bank to the Utilities Relies Upon the NEPOOL GIS**

Under the Master Purchase Agreements, the SHRECs are created and transferred on a virtual system, the New England Power Pool Generation Information System or any successor thereto, which includes a generation information database and certificate system, operated by the New England Power Pool ("NEPOOL"), its designee or successor entity, which accounts for the generation attributes of electricity generated within New England. The SHREC transfer contemplated by the Master Purchase Agreements is wholly dependent upon the continued functioning of the NEPOOL GIS (generation information system) without disruption. Should any temporary or permanent disruption of the NEPOOL GIS occur, delays in the calculation and payments due from the Utilities to the Green Bank may occur. This would impair the Green Bank's ability to pay the principal and interest on the Series 2020 Bonds.

**Green Bank context:** The NEPOOL generation information system (GIS) is the means for tracking and trading renewable energy certificates (RECs) needed in New England to demonstrate compliance with state mandates for generation attributes. The GIS creates and tracks one REC for every MWh of energy produced and identifies the fuel source, emissions and other attributes of each MWh consumed in New England. Those MWh include energy that is settled in the ISO-NE market settlement system or produced by certain behind-the-meter generation resources and generators importing power into New England. The RECs also track performance of conservation resources in the region. As RECs (such as the SHRECs) are needed in New England to demonstrate compliance with state mandates for generation attributes (such as for residential solar PV – as with the SHRECs), there must exist a tracking mechanism for this process – and NEPOOL GIS is the designated platform. Should NEPOOL GIS for whatever reason cease to operate, in the context of a system being needed to demonstrate compliance with state mandates for generation attributes, it is reasonable to assume that there would need to be established a successor platform and that the chances for the lack of a platform, given such mandates, is remote.

### **Reliance on Metering**

SHRECs to be created are measured by mechanical and electronic metering devices that may break down or fail, and not all of such breakdowns or failures are promptly recognized by homeowners, the Green Bank or the Utilities. The occurrence of mechanical or equipment breakdown or other mishaps or events would prevent potential SHRECs from entering the NEPOOL GIS and being accounted for and recognized and billed for under the Master Purchase Agreements. This would potentially reduce the payments due to the Green Bank under the Master Purchase Agreements and would impair the Green Bank's ability to pay the principal and interest on the Series 2020 Bonds.

***Green Bank context:** The Green Bank has more than a decade of experience with solar PV generation metering systems and tracking platforms. The actual incidence of non-reporting is, at any one time, less than 1% based on information collected by the Green Bank's Residential Solar Investment Program. And as with estimates of production of electricity for the SHREC Systems, overall "System Availability" for Tranche 3 has been analyzed by the independent engineer and factored into the cash flows.*

### **Manufacturer Warranties**

Manufacturer warranties for inverters generally range from 10 to 20 years, and manufacturer warranties for workmanship of solar photovoltaic panels generally are 10 years. Manufacturer linear performance warranties for solar photovoltaic panel production generally are 25 years. Some manufacturer warranties may therefore expire before the final Stated Maturity Date of the Series 2020 Bonds. In addition, during the term of these warranties, the third-party manufacturers could cease operations and no longer honor these warranties, which could negatively affect the performance of the PV system.

***Green Bank context:** The Green Bank has no experience with solar PV systems that fail 100%. More typically, the problem will be a failed panel or a portion of the wiring of the system. All systems are energized to the grid under the supervision of a representative from one of the two utilities. If a certain manufacturer goes out of business, there are sufficient alternative suppliers of panel to enable a suitable replacement to be sourced for the needed repair.*

### **Impact of Tariffs on Solar Panels and Cells**

Solar panels and solar modules were included among the imports on which the United States imposed substantial tariffs in 2018. As of the date of this Official Statement, the tariff is 20% in 2020 and is scheduled to decline to 15% in 2021. The tariff does not apply to the first 2.5 gigawatts of imported solar cells. The tariff covers both imported solar cells, a key input to manufacturing solar panels, and solar modules, otherwise known as solar panels. A prohibitively high cost of replacement solar panels would make it less likely that homeowners or third party lessors of home solar systems would repair a system that fails because of faulty or nonfunctional solar panels before the final Stated Maturity Date of the Series 2020 Bonds. This reduction in functioning systems would potentially reduce the payments due to the Green Bank under the Master Purchase Agreements and would impair the Green Bank's ability to pay the principal and interest on the Series 2020 Bonds.

**Green Bank context:** Solar PV panels represent a small portion of the cost of a solar PV system. Panels are rated by kw output and will typically range from 250-300kw. Pricing is represented in “cents per watt” and generally ranges – inclusive of the tariff – of between 45 and 50 cents. As such, repairing a panel should it fail, represents a small investment (~\$125-\$150 plus labor to swap the bad panel(s) for the replacements) and in the Green Bank’s experience, repairs are easy to manage. As such, the Green Bank does not consider this a material risk in practice.

### **Impact of Natural Disasters, Weather Events, Man-Made Disasters**

The occurrence of natural disasters, including hurricanes, floods, earthquakes, tornadoes, fires, explosions, pandemic disease and man-made disasters, including acts of terrorism and military actions, could adversely affect the functioning of any one or more of the SHREC Systems, the NEPOOL GIS, the Utilities’ ability to make the requisite payments under the Master Purchase Agreements, and the Green Bank’s ability to pay the principal and interest on the Series 2020 Bonds.

**Green Bank context:** As noted, the Green Bank has more than a decade of experience with solar PV generation systems being responsible for the Residential Solar Investment Program. During this span of time, there have been considerable natural disasters, including hurricanes as powerful as Superstorm Sandy, ice storms, etc. There has yet to be an event that has resulted in any material or sustained loss of solar PV generation from the systems in the program. As for NEPOOL GIS, APX Inc. is the administrative operator of the GIS platform and under the contractual agreement with NEPOOL has service level agreements for data security, data redundancy disaster recovery and business continuity which gives assurance for the functioning of the GIS platform.

### **The Expected Source of the Repayment is the Potential Stream of Payments Made Under the Master Purchase Agreements**

The periodic payments of principal and interest due on the Series 2020 Bonds rely primarily on the payments made under the Master Purchase Agreements by the Utilities to the Green Bank in respect of SHRECs transferred to the Utilities from the Green Bank via the NEPOOL GIS.

Under the Master Purchase Agreements, the Utilities are required to deliver payment for the SHRECs with respect to any SHREC Tranches exclusively to the Green Bank, and promise that the Utilities shall not sell, divert, grant, transfer or assign any such payment for SHRECs to any person other than the Green Bank during and following the relevant SHREC Tranche Delivery Term. The transfer of SHRECs occurs via the NEPOOL GIS from the Green Bank’s NEPOOL GIS account to the Utilities’ NEPOOL GIS accounts. The Green Bank invoices the Utilities for the value of the SHRECs transferred via the NEPOOL GIS. The payment of the amounts due on the Series 2020 Bonds is therefore reliant upon the Utilities’ ability to pay the amounts due under the Master Purchase Agreements for the SHRECs transferred to the Utilities via NEPOOL GIS.

If an event of default occurs under the Master Purchase Agreements, the Utilities have the right to withhold payments thereunder up to the amount of its damages, terminate the Master Purchase Agreements, or suspend performance with respect to the transfer of SHRECs thereunder until such event of default is cured. Events of default under the Master Purchase Agreements include uncured breaches of representations and warranties, representations and warranties proving false,



or the bankruptcy of any party thereto (meaning that the non-defaulting party has the right to suspend payments or terminate the contract as a remedy against the defaulting party (including the bankruptcy of the defaulting party). See the caption “THE TRUST ESTATE—The Master Purchase Agreements—*Events of Default and Remedies Under the Master Purchase Agreements*” herein. Upon an event of default under the Master Purchase Agreements one or both of the Utilities could suspend performance or terminate the related Master Purchase Agreement, in which case funds would not be made available to the Green Bank for deposit into the Revenue Fund. Such an event would adversely affect the yield of the Series 2020 Bonds.

The Green Bank is statutorily required to sell SHRECs to the Utilities at the Tranche Purchase Prices determined pursuant to the Master Purchase Agreements, as described in this Official Statement under the caption “THE TRUST ESTATE—The Master Purchase Agreements—*SHREC Tranche Purchase Price*” herein. Therefore, even if the Green Bank could obtain a better price from a third-party purchaser, the Green Bank is required to sell SHRECs to the Utilities at the applicable SHREC Tranche Purchase Price. This will limit the amount of payments available to make payments on the Series 2020 Bonds.

***Green Bank context:** The Green Bank considers these risks to be remote. The Green Bank has operating procedures in place to ensure that the data registered via the metering systems associated with the SHREC systems is properly submitted to the Connecticut Public Utilities Regulatory Authority (PURA) for approval and NEPOOL for entry into the GIS platform. These have operated without fail since the SHREC program was instituted January 1, 2015. The Green Bank is able to perform all of its obligations under the Master Purchase Agreements with the Utilities and expects to be able to continue to perform these obligations for the balance of the SHREC program. If for any reason the Green Bank were to be dissolved, the State of Connecticut would need to ensure staff or outsourced resources performed the duties now performed by the Green Bank. There exist several parties able to perform the duties of the Green Bank as the processes and procedures are straightforward. Finally, while it is true that the agreed fixed price for the Tranche limits the amount of payments available to make payments on the Bonds, revenue for repayment at the established price is sufficient for the repayment of the Bonds.*

### **The Utilities are Vulnerable to any Changes in Demand for Electricity and Gas that May Occur, and to Increases in the Levels of Doubtful Receivables, as a Result of Poor Economic Conditions**

The Utilities may be subject to working capital risks due to delays or defaults in payment by their customers, which may restrict their ability make payments when due. Any defaults or delays by the Utilities’ customers in meeting their payment obligations to the Utilities may have a material adverse effect on the Utilities’ financial condition and results of operations and ability to meet their payment obligations.

The Utilities are public utilities providing electricity generation, gas supply and electricity and gas transmission services primarily to New England customers. As a result, the Utilities’ results of operations are substantially affected by regional economic conditions, which in turn can be affected by developments including, but not limited to:

- macroeconomic events, including external economic shocks;
- a decline in Connecticut’s and the New England region’s gross domestic product;

- the imposition of new or additional tariffs or sanctions involving trading partners;
- a decrease in investment in the New England region;
- increasing levels of unemployment;
- governmental budget deficits or other fiscal difficulties; and
- adverse demographic changes.

No assurance can be given that the Utilities' business, financial condition, cash flows, results of operations or prospects will not be affected by such events, now or in the future.

**Green Bank context:** *While it is true that no assurance can be given that the Utilities' business, financial condition, cash flows, results of operations or prospects will not be affected by the enumerated events, the Utilities are (a) both investment grade enterprises and (b) utilities that have been assigned a designated service area by PURA and entitled to earn a regulated rate of return and, for the SHREC program and other programs operated by the utilities for the benefit of ratepayers, full cost recovery. Accordingly, the Green Bank considers these risks as they might impact repayment of the Bonds to be remote.*

### **Risks Related to Green Bank's financing of SHRECs not within SHREC Tranche 3**

SHREC Tranche 1, SHREC Tranche 2 and the revenues derived therefrom are pledged to the repayment of the Series 2019-1 Bonds. In addition, additional SHRECs not included within SHREC Tranche 1, SHREC Tranche 2 or SHREC Tranche 3 have been, and will be, financed through, and will secure, secured credit facilities or future securitizations. The Series 2019-1 Notes and any such secured credit facilities or securitizations may be secured by, among other things, (i) SHREC receivables generated by SHRECs other than the SHRECs within SHREC Tranche 3 pursuant to the Master Purchase Agreements, (ii) the Green Bank's rights under the Master Purchase Agreements with respect to SHRECs other than the SHRECs within SHREC Tranche 3, and (iii) all proceeds of the foregoing. Although all rights of Green Bank under the Master Purchase Agreements relating to the SHRECs within SHREC Tranche 3 are being pledged by the Green Bank to the Trustee, a secured lender with respect to a different SHREC Tranche may try to assert certain claims in respect of such rights, in which case payments on the Series 2020 Bonds could be delayed.

**Green Bank context:** *While there can be no assurance that a secured lender with respect to a different SHREC Tranche may try to assert certain claims in respect of the rights of the holders of the Bonds, the Green Bank would maintain its obligation to ensure that the Special Capital Reserve Fund is fully funded and that no deficiency of payment is experienced by the holders of the Bonds during the pendency of legal action necessary to restore the flow of cash proceeds from the Utilities to the accounts pledged under the bond structure.*

### **The Potential Effects of Litigation on the Transaction Parties**

If the Green Bank is subject to litigation, arbitration, or other disputes, this may adversely affect its ability to perform its obligations under the transaction documents, even if such litigation is not related to the Trust Estate or the SHRECs. This could result in a delay or reduction of payments on the Series 2020 Bonds. We cannot assure you as to the effect any such litigation may have on payments in respect of the Trust Estate or the Series 2020 Bonds. Any adverse determination in such matters may adversely affect the Green Bank's financial condition and, in turn, the Green Bank's ability to remove any Ineligible SHRECs or to manage the SHRECs. Finally, in the event that any employees of the transaction parties are, or become subject to, litigation, arbitration or other disputes, this could distract such employees and may adversely affect their ability to perform their professional obligations.

***Green Bank context:** While there can be no assurance that there wouldn't be such litigation or risks, etc., the Green Bank has adequate insurance and adequate financial resources to manage such risks and is not and has not been the subject of any lawsuit where the outcome of such lawsuit, if determined against the Green Bank, would impair the Green Bank's ability to service the Bonds.*

### **Exemption from Connecticut Personal Property Taxes May Not Be Available to Third Party System Owners**

Section 12-81(57)(A) of the Connecticut General Statutes provides that the SHREC Systems constitute personal property that shall be exempt from Connecticut's personal property tax. Certain municipalities in Connecticut have denied the exemption from personal property tax for SHREC Systems that are owned by third parties ("TPOs") and leased to the homeowners. The TPOs and the Green Bank have appealed this denial to the Superior Court in Connecticut and are currently seeking a legislative clarification of the applicability of the property tax exemption to both TPOs and homeowners that own SHREC Systems. If the exemption is not upheld for both TPOs and homeowners, the economics of the underlying leases and the power purchase agreements between the homeowners and the TPOs would be negatively impacted. In addition, as one of the TPOs is an indirect subsidiary of the Green Bank, an adverse determination in any of the pending cases may adversely affect the Green Bank's financial condition and, in turn, the Green Bank's ability to pay for and release any Ineligible SHRECs or the Green Bank's ability to manage the SHRECs or both.

***Green Bank context:** Although the matter cited could have an adverse effect on power purchase agreement economics, it is far from certain that the impact would materially impact the value proposition with the host customers. The Green Bank is optimistic that the TPOs and the Green bank will achieve the desired legislative clarification and the parties will reach a fair settlement concerning previous taxes paid to the subject municipalities.*

**Exhibit H**

**S&P Global**  
Ratings

**RatingsDirect®**

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**Summary:**

**Connecticut Green Bank; General  
Obligation Equivalent Security**

**Primary Credit Analyst:**

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**Secondary Contact:**

David G Hitchcock, New York (1) 212-438-2022; david.hitchcock@spglobal.com

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Stable Outlook

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## Summary:

# Connecticut Green Bank; General Obligation Equivalent Security

### Credit Profile

US\$15.435 mil solar home renewable energy credit green liberty bnds (Climate Bond Certified) ser 2020 due 11/15/2030

Long Term Rating

A/Stable

New

## Rating Action

S&P Global Ratings assigned its 'A' long-term rating to the Connecticut Green Bank's Solar Home Renewable Energy Credit (SHREC) series 2020-1 Green Liberty bonds. The outlook is stable.

The Green Bank is issuing approximately \$15.4 million of bonds to refinance expenditures of the bank to its Residential Solar Incentive Program (RSIP) and fund a special capital reserve fund (SCRF). The bonds are secured by revenues received under the indenture, including SHREC receivables, funds on deposit in the SCRF.

We base the rating on the security provided by the SCRF and application of our "Issue Credit Ratings Linked To U.S. Public Finance Obligors' Creditworthiness" criteria (published Jan. 22, 2018, on RatingsDirect). We consider this a general operating pledge and in accordance with our criteria, generally rate these obligations on par with our view of the obligor's general creditworthiness, in this case, the state of Connecticut.

The reserve fund is the ultimate layer of security and will only be accessed if the revenues received under the indenture are insufficient to meet debt service requirements. This reserve fund, which is required to equal maximum annual debt service (MADS), is funded from bond proceeds. According to the terms of the indenture, the reserve fund is held by the trustee. If the reserve fund is depleted to pay debt service, funding from the state is "deemed to be appropriated" to restore the reserve to MADS. Appropriation and payment of these funds are not subject to further legislative approval, according to bond counsel. As a result, S&P Global Ratings has historically rated SCRF-enhanced issues on par with its GO rating on Connecticut. The Green Bank's obligation to fund debt service is absolute and unconditional.

The Green Bank is a quasi-public organization created in 2011 as a successor to the Connecticut Clean Energy Fund with a focus on financing clean energy initiatives, including renewable energy, energy efficiency, energy storage, alternative fuel vehicles, and infrastructure. It is not a department, institution or agency of the state, but the state treasurer serves as an ex-officio board member.

### Credit overview

Through the RSIP, the Green Bank offers incentives to homeowners and third-party owners to install solar panels. In exchange for its incentives, the Green Bank receives all rights and title to SHRECs generated and sells the SHRECs generated to the state's two investor-owned utilities (Eversource and United Illuminating) under a master purchase

agreement at a predetermined price over a 15-year tranche lifetime. Eversource must purchase 80% of SHRECs and United Illuminating 20% within each tranche. The utilities' obligation to purchase future tranches ends no later than the earlier of the Green Bank's deployment of 350 megawatts of qualifying residential solar photovoltaic installations (in which case the Green Bank must notify the utilities that goal has been met) or Dec. 31, 2022 (maximum of six tranche delivery terms).

The SHRECs supporting this bond issuance (Tranche 3) will be generated from 4,818 systems with a SHREC purchase price of \$48 per SHREC with projected revenues of approximately \$25.6 million over the life of bonds.

While the Green Bank is not dissolvable through bankruptcy, SHREC payments are made by the utilities, and not customers or third-party owners. While the utilities have a greater likelihood to make SHREC payments to the Green Bank, there can be no assurance that one or both of the utilities will not become insolvent as neither utility is bankruptcy remote. Additional risk exists if customer defaults on payments to the utilities increase, affecting the financial performance of the utilities, or performance of residential systems generating the SHRECs and consequently expected revenues are worse than projected. The Green Bank also relies on public sources of funding to maintain operations and may be affected by a variety of political and economic factors.

If underlying risks of the transaction were to mount, and the Green Bank received insufficient payments to meet debt service requirements from the transaction or its public sources of funding, we expect the state's SCRF backing will be sufficient to remedy any deficiencies. Pursuant to Connecticut General Statutes (16-245mm), the aggregate amount of Green Bank bonds secured by SCRF may not exceed \$100 million and, in our opinion, limit the state's contingent liability exposure from the Green Bank. As of Feb. 1, 2020, Connecticut had \$5.1 billion of SCRF-secured debt outstanding, \$4.5 billion of which was issued by the Connecticut Housing Finance Authority. In our opinion, the state has not exhibited any political or administrative risks to suggest it would not support SCRF-backed obligations if needed.

#### **Environmental, social, and governance factors**

S&P Global Ratings considers health and safety a social risk under our view of environmental, social, and governance (ESG) factors. Absent the social risks of COVID-19, we consider Connecticut to have elevated social risks compared to the sector given its older population and higher cost of living. These demographic trends could present long-term credit risks to the state's economic and budgetary performance. However, we believe Connecticut's historically strong management and policy framework will help manage this risk. Environmental risks are considered above those of other states due to its 618 miles of coastline along Long Island Sound. Its shoreline roads and communities are at risk from rising sea levels. However, we recognize the state's commitment to renewable energy installation and energy efficiency, as evidenced by the creation of the Green Bank and this transaction. We view the state's governance risks as being in line with the sector and it has historically maintained a strong management and policy framework to respond to developing risks.

### **Stable Outlook**

The outlook on the bonds reflects that of the state of Connecticut. Generally, our rating outlook timeframe is up to two years. Given the current uncertainty around the pandemic, our view of the credit risks to Connecticut and its

obligations centers on the more immediate budget effects in 2020 and is subject to change.

#### **Downside scenario**

Should a significant structural gap emerge and the state no longer continues making required pension contributions, uses significant one-time budgetary maneuvers (including deficit bonds), or sees its reserves deteriorate to low levels as they were before bond covenants were imposed, we may lower the rating. We also note that the state's three-year average pension funding ratio is close to our threshold of 40%, and may result in further downward rating action if pension funding levels deteriorate. We recognize that state governments across the nation will face unprecedented challenges in the near term. The duration and severity of recent events affecting the state's fiscal profile may result in faster deterioration of its credit quality as economic conditions change.

#### **Upside scenario**

If the state is able to weather the economic recession, maintaining good reserve balances and demonstrating a moderating debt burden, we may consider a higher rating. We currently estimate that the majority of our debt ratios will remain at least one-third higher than the threshold triggering our one-notch lower rating over our outlook horizon. This threshold was first triggered at the end of fiscal 2017.

### **Credit Opinion**

Connecticut released updated consensus revenue forecasts at the end of April, projecting a \$934.0 million deficit (4.8% of expenditures) in the general fund for fiscal 2020. To balance the budget this year, the state will use all of its expected volatility cap transfer to the reserve fund (\$318.3 million) and a draw from its rainy day fund (\$615.7 million). Prior to the COVID-19 pandemic, it was on track to increase reserve levels to over 15% during the biennium. The strong position of the state entering into fiscal 2020 is likely to weaken, with reserve balances at 12.9% of appropriations expected to decline to 9.4% following the drawdown for this year's deficit.

The projections also forecast a \$2.2 billion deficit (10.7% of expenditures) for fiscal 2021 that the state will need to address through some combination of expenditure and revenue changes or continued use of reserves. The level of reserves at the end of fiscal 2020 is expected to be \$1.9 billion and is insufficient to make up all of the projected deficit for fiscal 2021. The state has begun considering how to address the fiscal 2021 shortfall with revenue changes and other expenditure adjustments. However, the significance of the shortfall will likely result in some reserve use. During the last recession, the state issued nine-year deficit bonds to close its shortfall.

Despite these challenges, Connecticut enters the current recession in a significantly better position than in the past, with reserves at historically high levels. Bond covenants allow reserve drawdowns on a supermajority legislative vote, which the majority party holds at present. Previously, Connecticut had a history of carrying low reserves and ended fiscal 2017 with a reserve balance of only 1.1% of expenditures.

Further pressuring the state's finances during the recession are its extremely high fixed costs. An estimated 50% of fiscal 2020 budgeted expenditures constitute debt service, required pension and retiree health care benefit contributions, the state share of Medicaid costs, and other entitlements. The state also enacted an annual GO bond allocation cap of \$2 billion and an issuance cap of \$1.9 billion (with certain exclusions such as UConn 2000 bonds), but

*Summary: Connecticut Green Bank; General Obligation Equivalent Security*

the state has self-imposed a GO issuance limit of \$1.6 billion in fiscal years 2020 and 2021. Bond allocations are determined by the state's Bond Commission, whose agenda is controlled by the governor. During calendar year 2019, GO bond allocations by the Bond Commission totaled \$1.2 billion, well below the 2011 through 2018 bond allocation average of \$1.975 billion. Connecticut remains the only state with a high enough debt load to trigger a one-notch downward override rating adjustment under our state rating methodology. The bond bill authorizations are in line with prior years and we do not expect the debt profile to significantly moderate in the near term.

Based on the analytic factors we evaluate for states, on a scale of '1.0' (strongest) to '4.0' (weakest), we have assigned a composite score of '2.2' to Connecticut, an anchor of the 'AA-' rating. However, we also calculate that a majority of Connecticut's debt ratios in our state scoring criteria may lie more than one-third above the level necessary to score a '4', which triggers a one-notch rating override under our state scoring criteria. We are further using our discretionary ability to rate one notch below the anchor rating and overriding factors to maintain our 'A' rating due to our view of the state's high fixed-cost burden and lagging economic growth compared to peers

For more information on the state's general creditworthiness, see our full analysis on Connecticut, published May 15, 2020 on RatingsDirect.

## Related Research

- Through The ESG Lens 2.0: A Deeper Dive Into U.S. Public Finance Credit Factors, April 28, 2020

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at [www.standardandpoors.com](http://www.standardandpoors.com) for further information. Complete ratings information is available to subscribers of RatingsDirect at [www.capitaliq.com](http://www.capitaliq.com). All ratings affected by this rating action can be found on S&P Global Ratings' public website at [www.standardandpoors.com](http://www.standardandpoors.com). Use the Ratings search box located in the left column.



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CONNECTICUT  
**GREEN BANK**<sup>SM</sup>

# Connecticut Green Bank

## Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020

# Contents

- Introduction to Connecticut Green Bank
- Residential Solar Investment Program & Solar Home Renewable Energy Credits
- Green Liberty Bonds, Series 2020 Overview
- Self Sufficiency Findings

# Connecticut Green Bank

# Connecticut Green Bank

## Mission Statement and Goals



Confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.

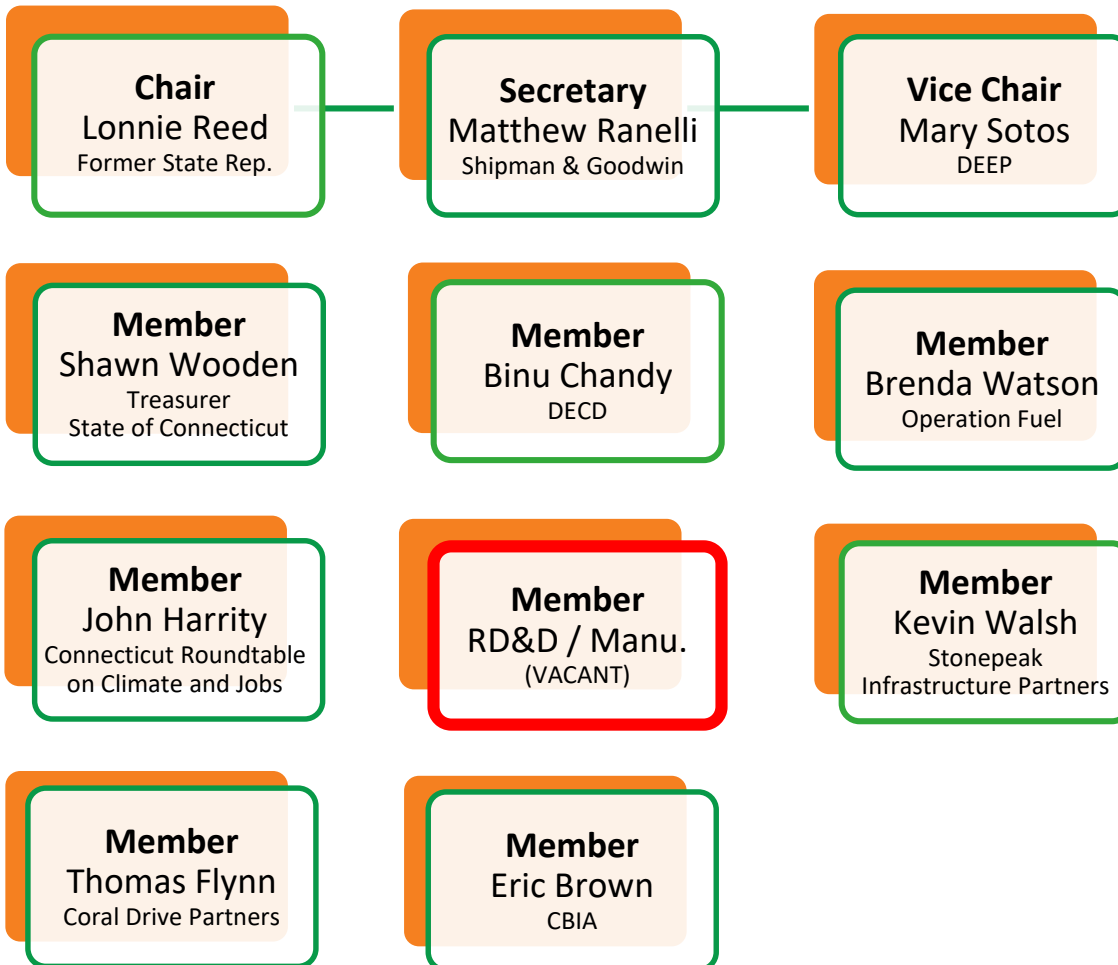
- Leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.
- Strengthen Connecticut's communities by making the benefits of the green economy inclusive and accessible to all individuals, families, and business.
- Pursue investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability.

# Connecticut Green Bank

## Board of Directors



### Board of Directors



### Committees



**Deployment**  
 Mary Sotos  
 DEEP



**BO&C**  
 John Harrity  
 Connecticut Roundtable  
 on Climate and Jobs



**AC&G**  
 Matthew Ranelli  
 Shipman & Goodwin



**Joint CEEF-CGB**  
 Eric Brown  
 CBIA

#### REFERENCES

Established Board of Directors in September of 2011 – bylaws, operating procedures, employee handbook, etc.

# Public-Private Partnerships



## >\$750 Million<sup>1</sup> in Private Capital Raised (5 Years)

**\$80 MM**

CLOSED  
15:1



Grid-Tied

**\$60 MM**

CLOSED  
4:1



Residential Solar &  
Energy Efficiency

**\$105 MM**

CLOSED  
7.5:1



Residential Solar  
Commercial Solar

**\$30 MM**

CLOSED  
4:1



C-PACE

**\$60 MM**

OPEN  
17:1<sup>2</sup>



Residential Energy

**\$100 MM**

OPEN  
5:1



Residential Solar

**\$50-100 MM**

CLOSED  
9:1



C-PACE

**\$8 MM**

OPEN / PRI  
100%



Multifamily Energy

**\$60+ MM**

CLOSED  
6:1<sup>3</sup>



Commercial Solar

**\$77 MM**

PROJECT FINANCE  
8:1



**\$40 MM**

CLOSED  
100%<sup>4</sup>



CT Green Bank  
REC Securitization

**\$67 MM**

Open  
10:1



Small Business  
Energy Advantage

### REFERENCES

1. Several transactions such as small hydro, wind, microgrid, CHP and anaerobic digestors not represented on slide
2. LLR of \$3.3 MM yields high leverage – and it is 2<sup>nd</sup> loss and thus with no to low defaults (i.e., 10 loans out of 3,447 have defaulted as of 12/31/18 with \$22K in LLR). IRB's using ARRA-SEP not considered in the leverage ratio.
3. Securitization of Solar Home Renewable Energy Credits – approx. \$75mm in gross receivables securitized

# Residential Solar Investment Program & Solar Home Renewable Energy Credits



# Residential Solar PV in CT

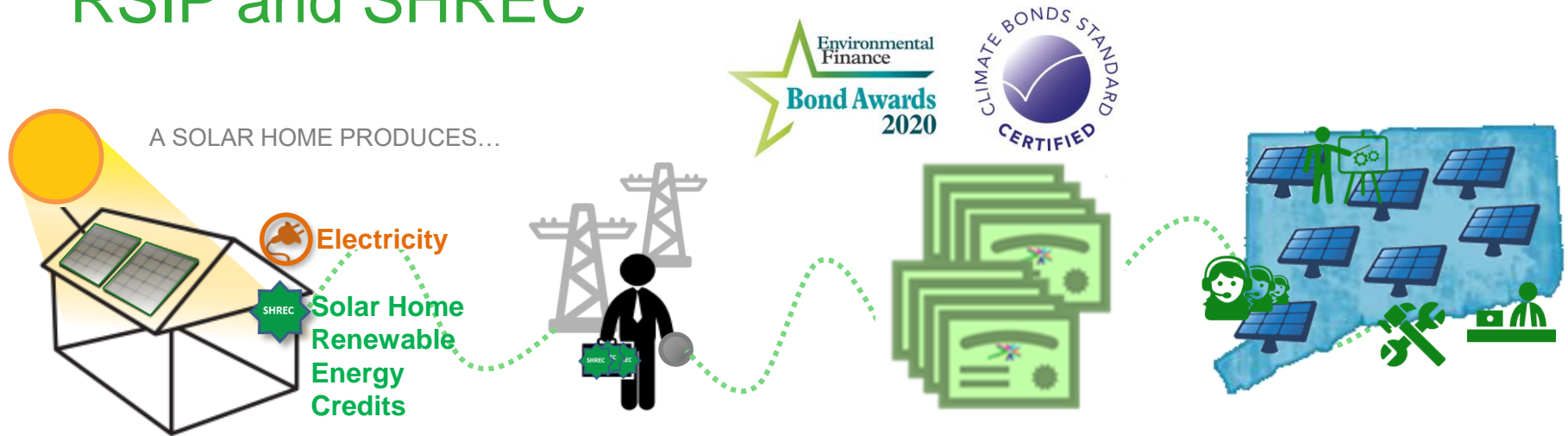
## Public Policy



- **Section 106 of Public Act 11-80** – policy passed in **July of 2011** that creates the **Residential Solar Investment Program**, a declining incentive program (e.g., EPBB and PBI) administered by the CGB to deliver **no less than 30 MW** of new residential solar PV by the **end of 2022**.
- **Public Act 15-194** – policy passed in **July of 2015** that builds on the Residential Solar Investment Program by requiring the **EDC's** to purchase **SHRECs** through **15-year MPA** at a **price set by the CGB** to deliver **no more than 300 MW** of new residential solar PV by the **end of 2022**.
- **Public Act 19-35** – expanded RSIP by 50 MW to 350 MW

# Incentive Business

## RSIP and SHREC



When panels produce electricity for a home, they also produce **Solar Home Renewable Energy Credits (SHRECs)**. The Green Bank provides upfront incentives through RSIP and collects all the SHRECs produced per statute (i.e., PA 15-194).

Utilities required to enter into **15-year Master Purchase Agreement (MPA) with the Green Bank to purchase the stream of SHRECs produced**. This helps utilities comply with their clean energy goals (i.e., Class I RPS).

**Green bonds are created** from the SHREC revenues received through the MPA and **sold to institutional** (i.e., pension funds, insurance companies, etc.) and **retail investors** (i.e., friends and family) to **receive proceeds upfront**.

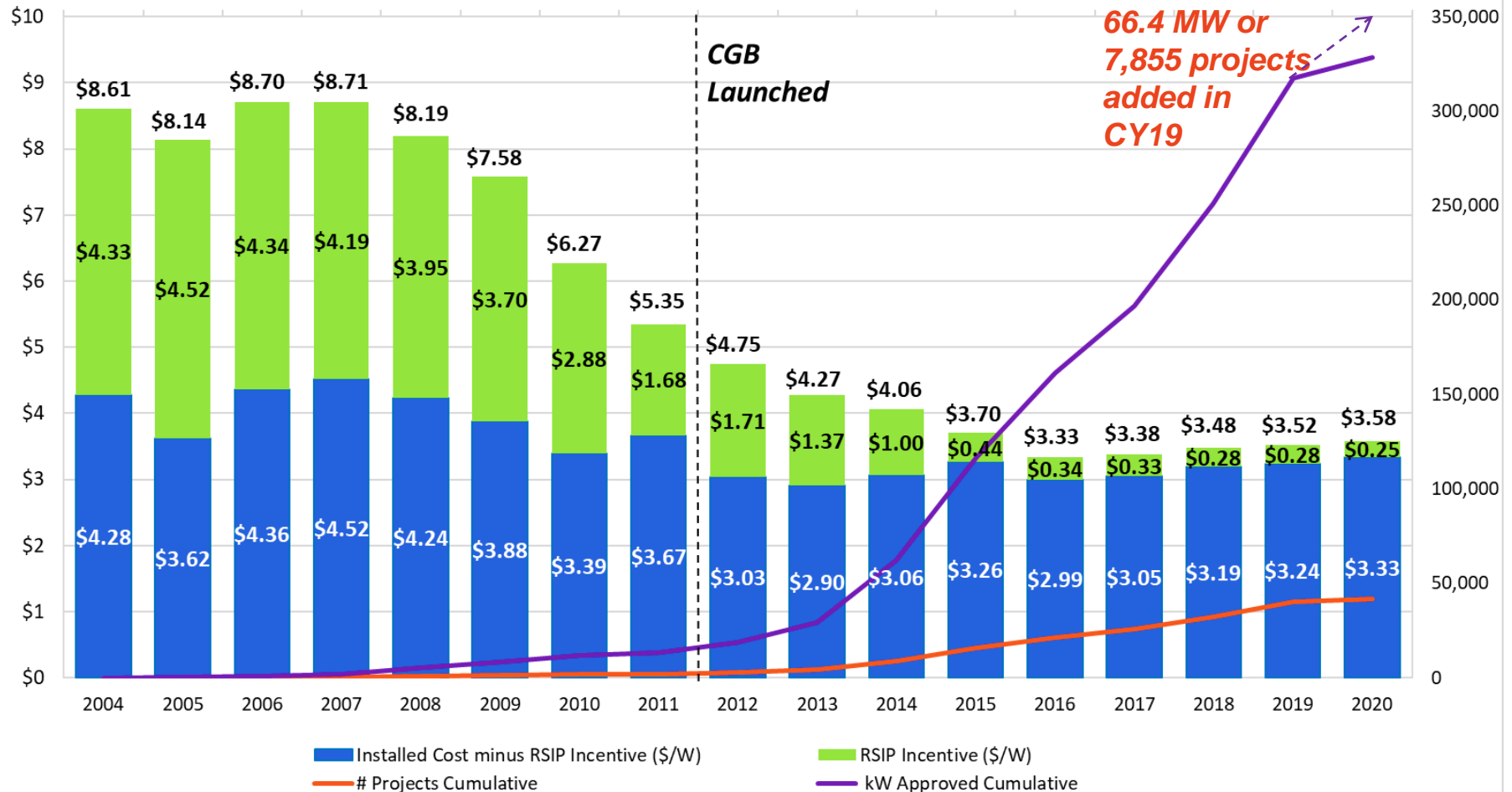
The Green Bank uses the SHREC revenues and green bond proceeds to **support the RSIP incentives** (i.e., PBI and EPBB), **cover admin costs**, and **financing costs** to achieve **350 MW of solar PV deployment and development of local solar PV industry**

# RSIP Status

315 MW approved out of 350 MW target as of 3/3/2020



Connecticut Residential Solar PV Deployment and Costs\*, CY 2004-2020



\* Total System Cost per Watt figures include all reported installed costs without including those projects where financing costs for some third party ownership installers are included as part of the total system cost.

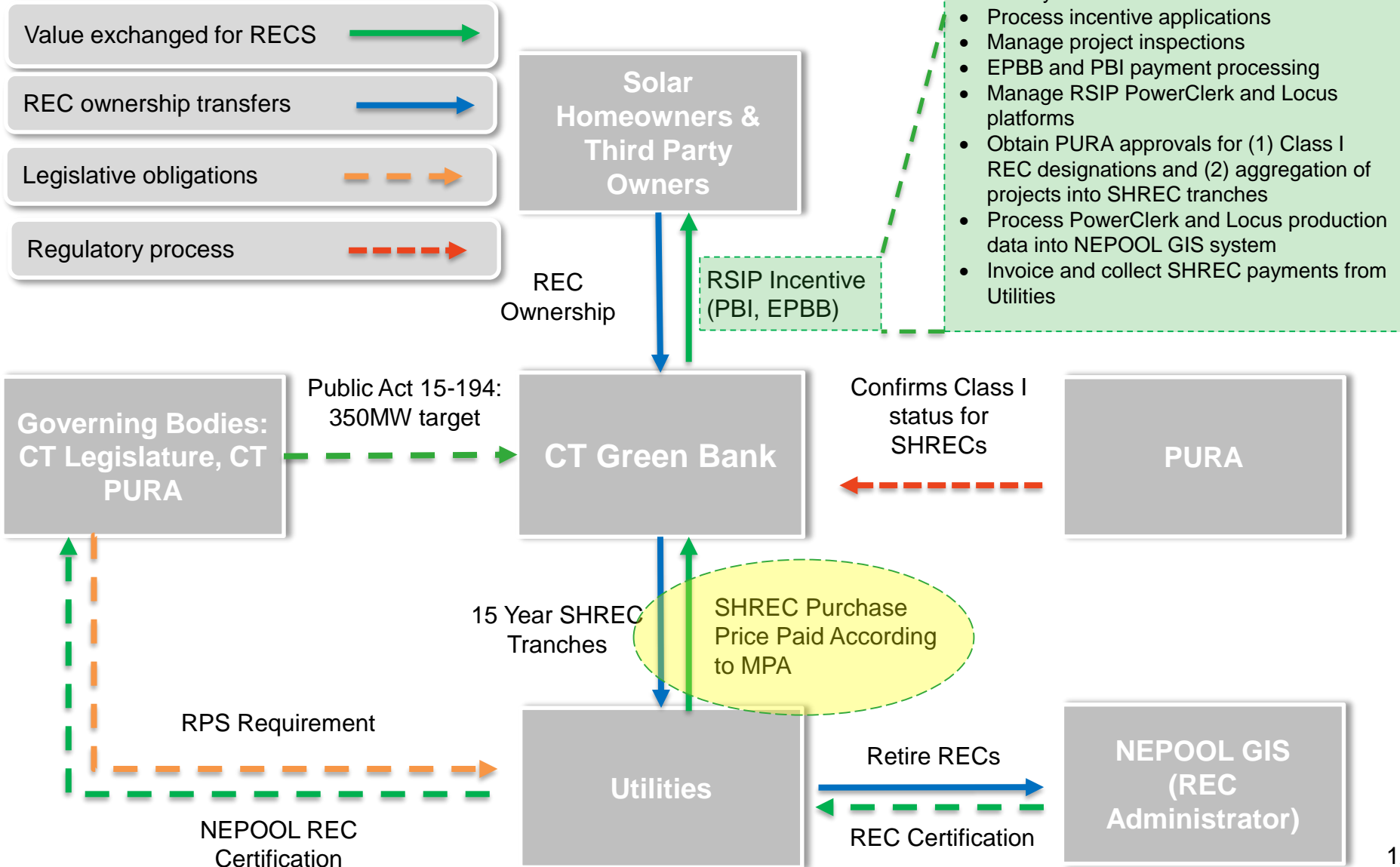
# RSIP

## Portfolio Composition



Type	# Projects	Installed Capacity (MW)	SHREC Price (\$/MWh)	Estimated RSIP Incentives (\$)	Cost Recovery Treatment
Pre-SHREC	5,575	45	Spot Market	\$50,240,379	Forward Contracts
Tranche 1	6,796	49	\$50	\$19,153,265	ABS1
Tranche 2	7,257	60	\$49	\$20,541,641	ABS1
Tranche 3	4,818	39	\$48	\$11,414,800	Green Liberty Bond
Follow-on SHRECs	19,173	157	TBD	\$42,890,598	TBD
<b>Total</b>	<b>43,619</b>	<b>350</b>		<b>\$144,240,683</b>	

# SHREC / RSIP Process



**Key RSIP Responsibilities:**

- Qualify contractors
- Process incentive applications
- Manage project inspections
- EPBB and PBI payment processing
- Manage RSIP PowerClerk and Locus platforms
- Obtain PURA approvals for (1) Class I REC designations and (2) aggregation of projects into SHREC tranches
- Process PowerClerk and Locus production data into NEPOOL GIS system
- Invoice and collect SHREC payments from Utilities

# Master Purchase Agreements

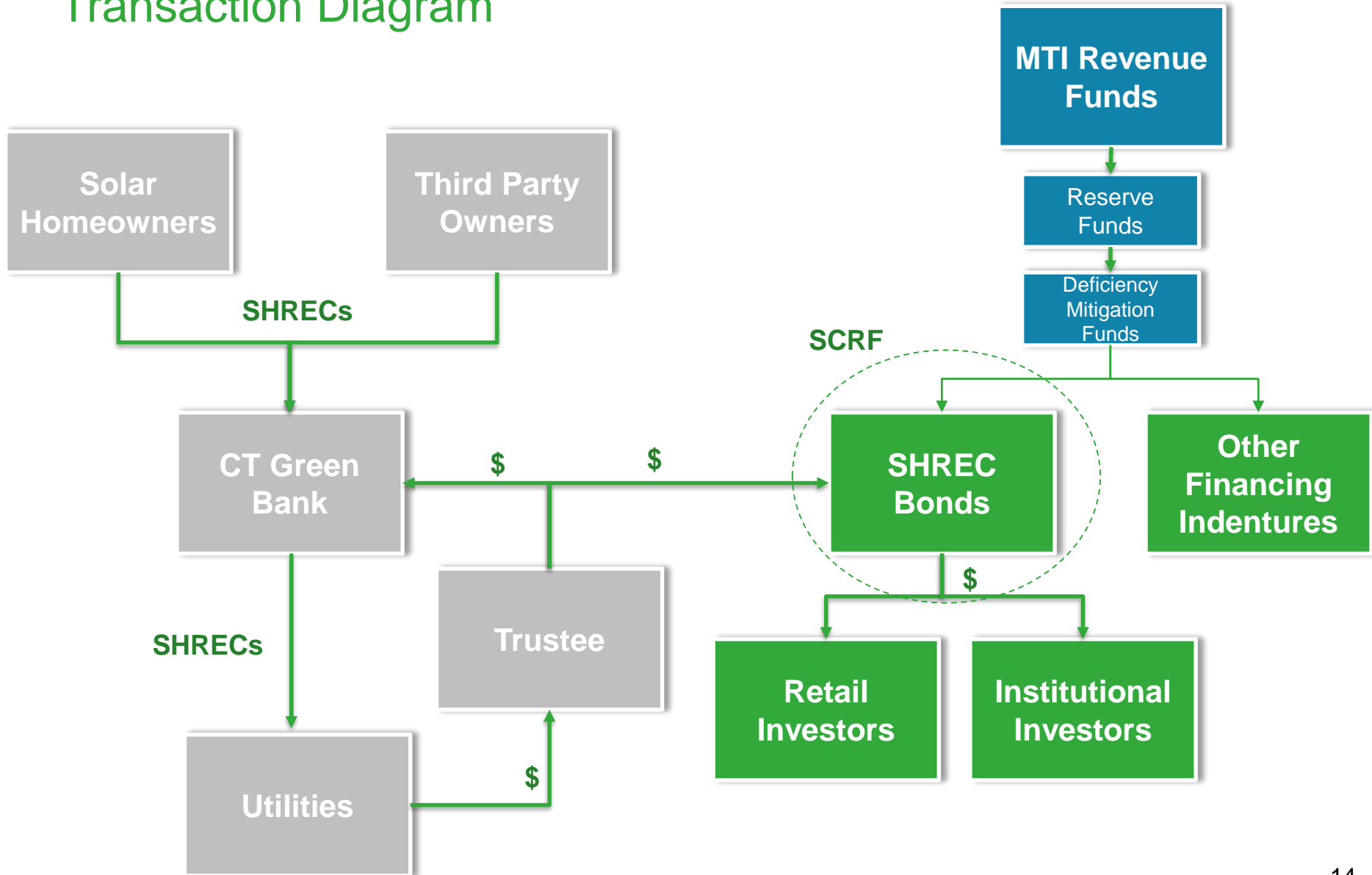


## Overview

- Pursuant to Master Purchase Agreements (“MPA”), Connecticut’s two Investor-Owned Utilities (Eversource and United Illuminating, collectively the “Utilities”) must purchase annually 15-year tranches of SHRECs produced by qualifying residential solar photovoltaic systems (“Qualifying Systems”) from the Connecticut Green Bank.
  - MPA was approved by CT Public Utilities Regulatory Authority and includes full cost recovery by the utilities of all SHREC costs.
  - Eversource must purchase 80% of SHRECS and United Illuminating must purchase 20% within each tranche.
  - The Utilities’ obligation to purchase SHRECs commences on each tranche delivery term start date and continues for a period of fifteen years.
  - Payment is due on the last business day of the month following the month the SHRECs were delivered
    - The Green Bank must provide a payment invoice by the 15th day following the end of each SHREC creation month
    - SHRECs are to be delivered quarterly
  
- Utilities’ obligation to purchase future tranches ends no later than the earlier of (a) the Green Banks deployment of 350 MW of qualifying residential solar photovoltaic installations (in which case the Green Bank must notify the Utilities that goal has been met) or (b) December 31, 2022 (maximum of six tranche delivery terms).

# SHREC 2020

## Transaction Diagram



# Green Liberty Bonds Series 2020 Overview



# Green Liberty Bonds

## Transaction Overview



- The Green Bank offers incentives to homeowners and third-party owners to install solar PV systems.
  - In exchange for its incentives, the Green Bank receives all rights and title to the Class I RECs generated from the systems (**S**olar **H**ome **R**enewable **E**nergy **C**redits = SHRECs).
- Under the MPAs between the Green Bank and the Utilities, the Green Bank aggregates SHRECs generated from solar PV systems participating in its Residential Solar Incentive Program (“RSIP”) into tranches, and sells those SHREC tranches to the Utilities at a predetermined price over a 15 year tranche lifetime.
- The SHRECs supporting this bond issuance (Tranche 3) will be generated from 4,818 PV Systems with a SHREC Purchase Price of \$48 per SHREC (remaining projected revenues ~\$25.6m over life of bonds)
- Green Bond verified (Certified Climate Bonds per Climate Bonds Initiative Standard)
- Green Bank requests a Special Capital Reserve Fund (SCRF) funded at MADS to support the bonds
  - “Deemed Appropriated” replenishment by the State of Connecticut if necessary, requiring no legislative approval

# Green Liberty Bonds



## SHREC Generation and Revenue Timing

- Quarterly basis, Green Bank submits the data from web-hosted Locus platform to NEPOOL GIS.
  - One calendar quarter lag between electricity generation and when the data is submitted to NEPOOL GIS
  - On the day they are created, SHRECs automatically transferred from the Green Bank's NEPOOL GIS account to the NEPOOL GIS accounts of the Utilities.
  - Revenue received by the end of the month following creation.

<b>Electricity generated (Calendar Quarter)</b>	<b>Green Bank submits electricity generation data to NEPOOL GIS (date)</b>	<b>SHRECs created by NEPOOL GIS (date)</b>	<b>SHRECs Payment by Utilities (date)</b>
1. (Jan 1—Mar 31)	July 10	July 15	August 31
2. (Apr 1—Jun 30)	October 10	October 15	November 31
3. (Jul 1—Sep 30)	January 10	January 15	February 28
4. (Oct 1—Dec 31)	April 10	April 15	May 31

# Green Liberty Bonds

## Financing Detail\*



- Approximate par amount of \$15.44 million
  - Fixed rate structure
- Dates and Redemption
  - Principal due: November 15
  - Interest payable: May 15 and November 15
  - Redemption:
    - Par Call on November 15, 2030
- Denominations: \$1,000
- Tax Status: Federally Taxable
  - Exempt from personal income taxes of Connecticut
- Certified Climate Bonds

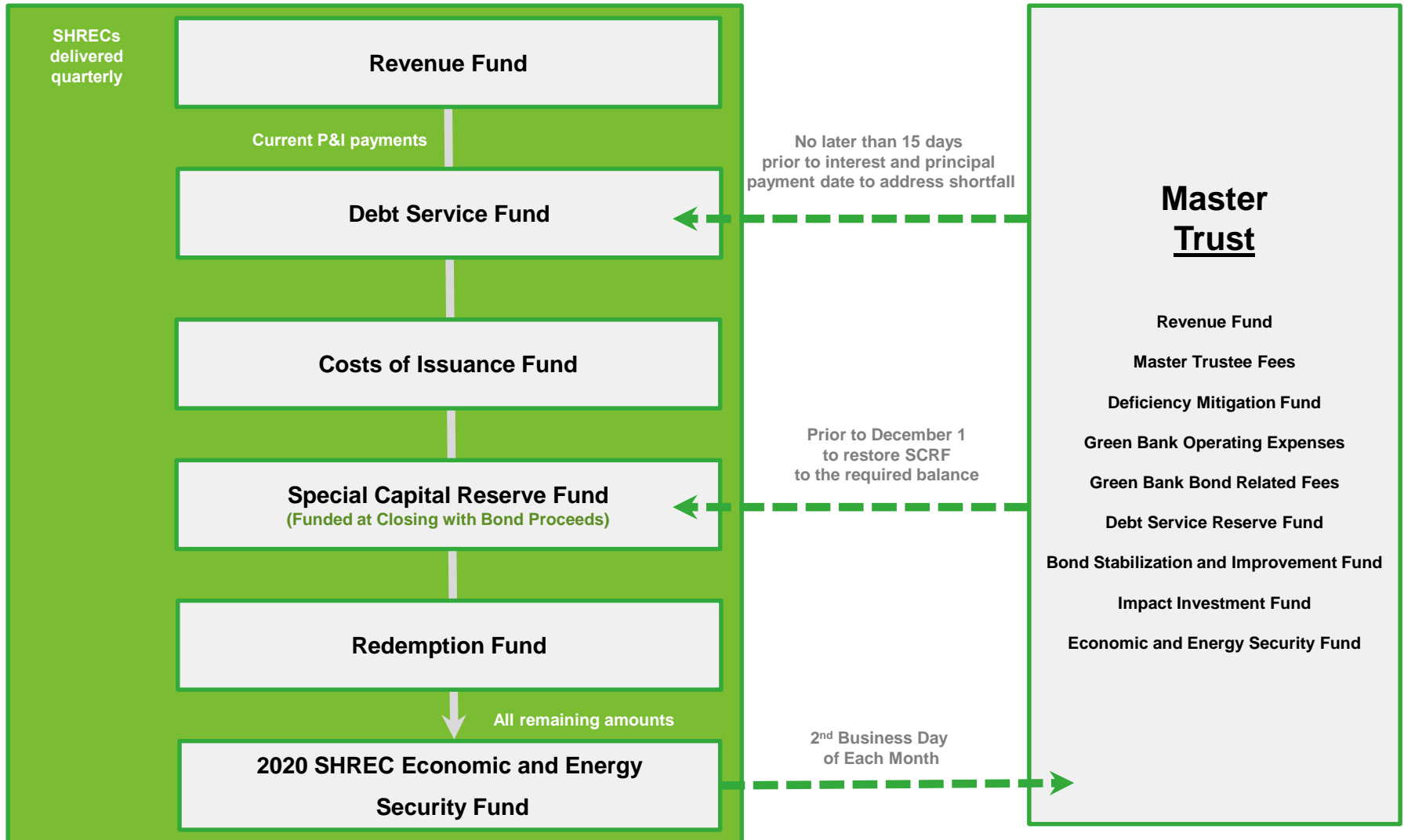
Period Ending	Proposed Principal
Closing	
Serial	
11/15/2020	–
11/15/2021	966,000
11/15/2022	983,000
11/15/2023	996,000
11/15/2024	1,008,000
11/15/2025	1,020,000
11/15/2026	1,032,000
11/15/2027	1,044,000
11/15/2028	1,055,000
11/15/2029	1,063,000
11/15/2030	1,071,000
Term	
11/15/2031	1,083,000
11/15/2032	1,105,000
11/15/2033	1,130,000
11/15/2034	1,006,000
11/15/2035	877,000
	15,439,000

\*Preliminary, subject to change

# Green Liberty Bonds

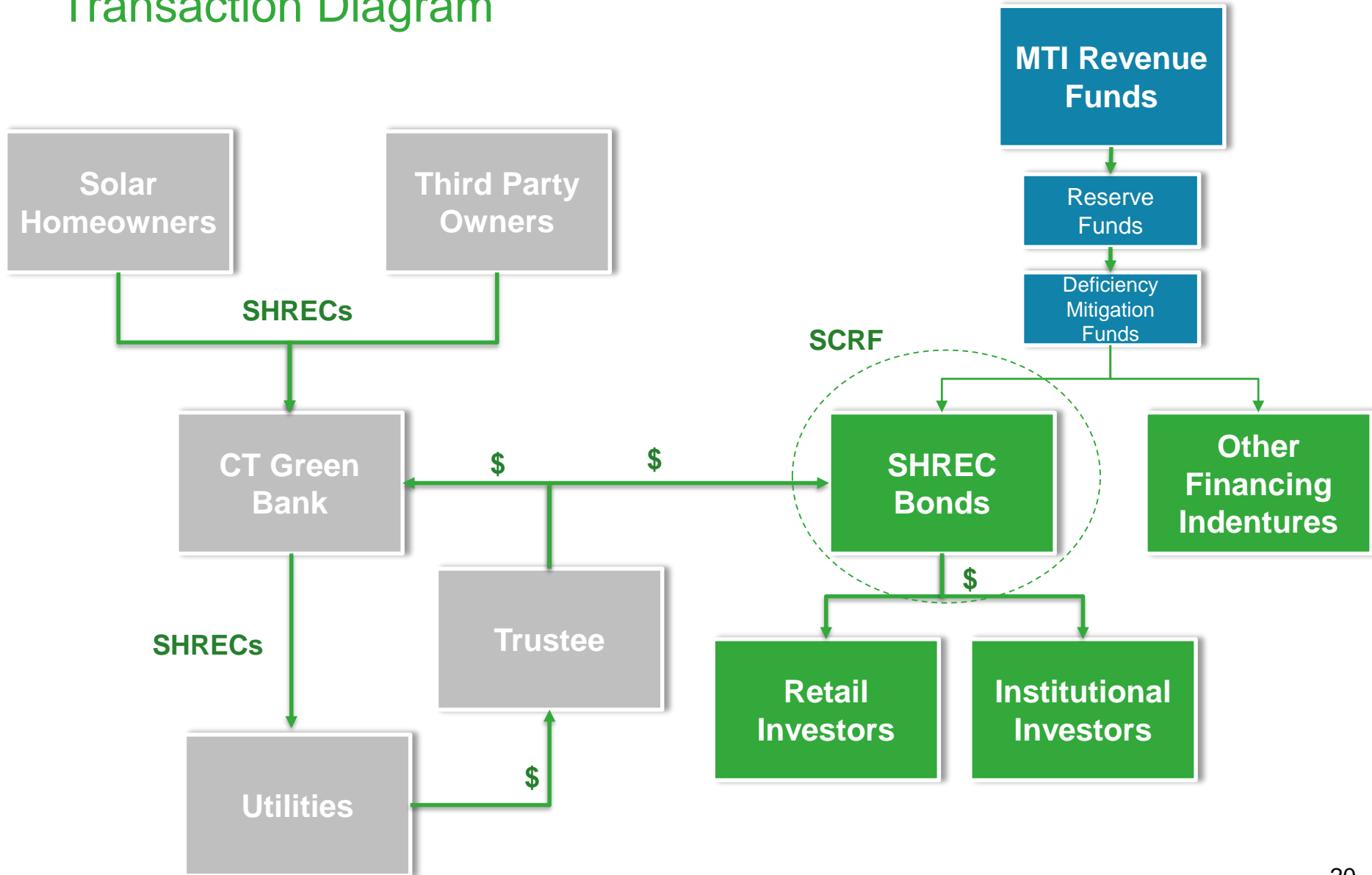
## Flow of Funds

### Series 2020 Trust



# SHREC 2020

## Transaction Diagram



# Connecticut Green Bank

## Environmental Finance Bond Awards



- The Green Bank won two Environmental Finance Bond awards in 2020
- The awards were judged by an independent panel comprising 30 of the world's largest green, social and sustainability bond investors
- Winners are recognized by the market for their thought-leadership, best practice or innovation.



# Connecticut Green Bank

## Green Certification



- The Green Bank is working with Kestrel Verifiers to ensure that this bond meets the Climate Bonds Initiative (CBI)'s standard for Solar
- The Green Bank is implementing a programmatic certification for its bonding
- The previous SHREC issuance was labeled as CBI certified and verified by Kestrel
- The Green Bank and Kestrel will report annual on the impact of the projects that are associated with this bond



# Green Liberty Bonds

## Transaction Parties



<b>Issuing Entity:</b>	Connecticut Green Bank
<b>Municipal Advisor:</b>	Lamont Financial Services
<b>Bond Counsel</b>	Shipman & Goodwin LLP
<b>Senior Manager:</b>	Ramirez & Co.
<b>Co-Manager:</b>	Stifel
<b>Underwriter's Counsel:</b>	Kutak Rock LLP
<b>Trustee:</b>	Bank of New York Mellon
<b>Independent Engineer:</b>	DNV GL
<b>Climate Bond Verifiers:</b>	Kestrel Verifiers



# Self Sufficiency Findings

# Self-Sufficiency



## Revenues sufficient to...

- ☑ “pay the principal of and interest on the bonds issued to finance the project,
- ☑ establish, increase and maintain any reserves deemed by the Green Bank to be advisable to secure the payment of the principal of and interest on such bonds,
- ☑ pay the cost of maintaining the project in good repair and keeping it properly insured, and
- ☑ pay such other costs of the project as may be required.”

# SHREC Bond Structure



- **\$15.44 million issuance** – sized based on self sufficiency based on P99\* projections
  - Buildup of cash reserves every year to cover any underperforming years
  - P99 DSCR is > 1.0x under this structure (average 1.11)
- **2/3 of issuance to be serial bonds** – retail friendly mini-bonds

Period Ending	SHREC Revenue	Proposed Principal	Proposed Interest	Proposed Debt Service	Debt Serv Coverage	Excess Coverage from SHREC Revenue	SCRIF Release	Admin Cost	Trustee Fee	Net Cash After DS, Admin Cost and Trustee Fees	Cumulative Cash
Closing											
Serial											
11/15/2020	551,698	–	226,712	226,712	243%	324,986		120,389	12,500	192,097	192,097
11/15/2021	1,627,140	966,000	529,976	1,495,976	109%	131,164		122,797	7,500	867	192,964
11/15/2022	1,613,464	983,000	504,831	1,487,831	108%	125,633	8,145	125,253	7,500	1,025	193,990
11/15/2023	1,598,795	996,000	478,752	1,474,752	108%	124,042	13,079	127,758	7,500	1,863	195,853
11/15/2024	1,583,124	1,008,000	450,924	1,458,924	109%	124,200	15,828	130,313	7,500	2,216	198,069
11/15/2025	1,566,321	1,020,000	421,390	1,441,390	109%	124,931	17,534	132,919	7,500	2,046	200,115
11/15/2026	1,547,684	1,032,000	389,974	1,421,974	109%	125,710	19,416	135,578	7,500	2,048	202,163
11/15/2027	1,526,456	1,044,000	356,754	1,400,754	109%	125,703	21,220	138,289	7,500	1,134	203,297
11/15/2028	1,502,454	1,055,000	322,103	1,377,103	109%	125,351	23,650	141,055	7,500	446	203,743
11/15/2029	1,475,272	1,063,000	286,581	1,349,581	109%	125,690	27,522	143,876	7,500	1,836	205,579
11/15/2030	1,447,399	1,071,000	249,727	1,320,727	110%	126,672	28,854	146,753	7,500	1,273	206,852
Term											
11/15/2031	1,426,028	1,083,000	211,525	1,294,525	110%	131,504	26,203	149,689	7,500	518	207,370
11/15/2032	1,412,616	1,105,000	167,479	1,272,479	111%	140,137	22,046	152,682	7,500	2,000	209,370
11/15/2033	1,397,415	1,130,000	122,539	1,252,539	112%	144,877	19,940	155,736	7,500	1,581	210,951
11/15/2034	1,117,539	1,006,000	76,582	1,082,582	103%	34,957	169,957	158,851	7,500	38,563	249,514
11/15/2035		877,000	35,668	912,668			1,082,582	162,028	7,500	386	249,901
	21,393,406	15,439,000	4,831,517	20,270,517		2,035,556		2,243,964	125,000	249,901	

\*Expected SHREC receivables based on P99 production. P-measures are a statistical estimate of how often, given variances in weather and system performance, solar projects will exceed that value. P99 means that for each year, 99% of the time generation is expected to be above the generation forecast and 1% of the time generation is expected to be below the generation forecast for such year

# SHREC Bond

## Use of Funds



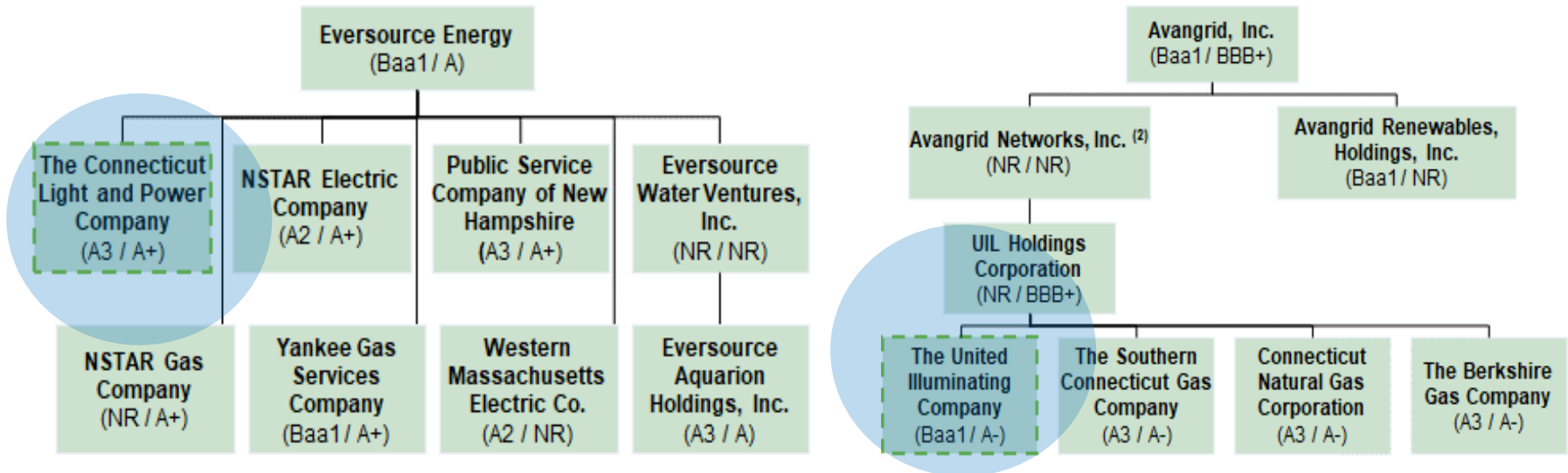
- Enable recovery of previous expenses, including RSIP incentives paid, financing costs, and administrative costs
- Enable recovery of future expenses, including RSIP incentives expected payments
- Fund required reserve account
  - SCRF Reserve Account

<u>Use of Funds / Cost Recovery</u>	
<u>Fund Deposits</u>	
SCRF Reserve Account	1,496,718
<u>RSIP Incentives (Tranche 3)</u>	
Paid	6,070,892
Expected Payment	5,343,908
<b>Total RSIP Incentives</b>	<b>11,414,800</b>
<u>Financing Costs</u>	
Warehouse Interest	130,000
Cost of Issuance	400,000
Underwriters' Discount	214,616
<b>Total Financing Costs</b>	<b>744,616</b>
Administrative	1,782,866
<b>Total Use of Funds</b>	<b>15,439,000</b>

# SHREC Offtakers



- SHREC revenue from regulated, investment grade Utilities
  - Eversource is rated A+/A3 (S&P/Moody's)
  - United Illuminating is rated A-/Baa1 (S&P/Moody's)
- Revenue 80% Connecticut Light and Power (Eversource), 20% United Illuminating
  - Statutory obligation to satisfy the Class I RPS requirement



# O&M and Insurance

## Energy Production Protection

- System owner primarily responsible for maintenance and repairs
  - Economic incentive for higher production
  - TPOs often have production guarantees built into lease/PPA, would have to compensate for lower than expected performance
  - Green Bank PBIs tied to production
- Green Bank monitors through Locus Energy platform, ability to notify the system owner to resolve the reason for the lower production.
- All contractors must provide 5-year workmanship warranties under RSIP rules.
  - Inverters 10-20 year warranties
  - Panels 20-25 year warranties
- Covered by property & casualty insurance (homeowner) or liability, property, casualty insurance (TPO)
- Green Bank expects to obtain parametric insurance coverage
  - Protects against storms, triggered by windspeeds
- Out of 34,870 RSIP projects completed since 2012, all but 64 are still in operation as of March 2020, a loss rate of 0.2% over 8 years.

# Independent Engineer Projection Validation



- Internationally recognized firm, DNV GL, conducted technical due diligence on the tranche
  - Systems have overperformed **P50** estimates by 4.0% on average
  - Calculated a Year 1 portfolio-level P50 correction factor of 102.3%
- Electrical design audit for a sample of 20 systems within the portfolio
  - Found standard electrical design quality, consistent with typical practices in the residential market.
- 10 sample systems were selected for an on-site inspection
  - Low risk issues found (labeling, flashing)

Year	p(50)	p(75)	p(90)	p(95)	p(99)
1	102.3%	98.6%	95.2%	93.3%	89.5%
2	101.6%	97.9%	94.5%	92.5%	88.8%
3	100.9%	97.2%	93.8%	91.8%	88.0%
4	100.2%	96.4%	93.0%	91.0%	87.2%
5	99.5%	95.7%	92.3%	90.2%	86.3%
6	98.8%	94.9%	91.4%	89.3%	85.3%
7	97.9%	94.0%	90.4%	88.2%	84.2%
8	97.0%	93.0%	89.3%	87.1%	82.9%
9	95.8%	91.8%	88.1%	85.7%	81.4%
10	94.6%	90.5%	86.6%	84.3%	79.8%
11	93.6%	89.4%	85.4%	83.0%	78.4%
12	93.4%	89.1%	85.0%	82.5%	77.7%
13	93.2%	88.8%	84.5%	81.9%	76.9%
14	92.9%	88.3%	83.9%	81.1%	75.9%
15	92.5%	87.7%	83.2%	80.3%	74.9%

# Independent Engineer

## P99 Scenario



- Expect to exceed revenue projection in 99 out of 100 years.
- DSCR > 1.0x throughout term of the bonds, averaging 1.11x.
- Cash inflows exceed outflows every year.

Period Ending	SHREC Revenue	Proposed Principal	Proposed Interest	Proposed Debt Service	Debt Serv Coverage	Excess Coverage from SHREC Revenue	SCRF Release	Admin Cost	Trustee Fee	Net Cash After DS, Admin Cost and Trustee Fees	Cumulative Cash
Closing											
Serial											
11/15/2020	551,698	—	226,712	226,712	243%	324,986		120,389	12,500	192,097	192,097
11/15/2021	1,627,140	966,000	529,976	1,495,976	109%	131,164		122,797	7,500	867	192,964
11/15/2022	1,613,464	983,000	504,831	1,487,831	108%	125,633	8,145	125,253	7,500	1,025	193,990
11/15/2023	1,598,795	996,000	478,752	1,474,752	108%	124,042	13,079	127,758	7,500	1,863	195,853
11/15/2024	1,583,124	1,008,000	450,924	1,458,924	109%	124,200	15,828	130,313	7,500	2,216	198,069
11/15/2025	1,566,321	1,020,000	421,390	1,441,390	109%	124,931	17,534	132,919	7,500	2,046	200,115
11/15/2026	1,547,684	1,032,000	389,974	1,421,974	109%	125,710	19,416	135,578	7,500	2,048	202,163
11/15/2027	1,526,456	1,044,000	356,754	1,400,754	109%	125,703	21,220	138,289	7,500	1,134	203,297
11/15/2028	1,502,454	1,055,000	322,103	1,377,103	109%	125,351	23,650	141,055	7,500	446	203,743
11/15/2029	1,475,272	1,063,000	286,581	1,349,581	109%	125,690	27,522	143,876	7,500	1,836	205,579
11/15/2030	1,447,399	1,071,000	249,727	1,320,727	110%	126,672	28,854	146,753	7,500	1,273	206,852
Term											
11/15/2031	1,426,028	1,083,000	211,525	1,294,525	110%	131,504	26,203	149,689	7,500	518	207,370
11/15/2032	1,412,616	1,105,000	167,479	1,272,479	111%	140,137	22,046	152,682	7,500	2,000	209,370
11/15/2033	1,397,415	1,130,000	122,539	1,252,539	112%	144,877	19,940	155,736	7,500	1,581	210,951
11/15/2034	1,117,539	1,006,000	76,582	1,082,582	103%	34,957	169,957	158,851	7,500	38,563	249,514
11/15/2035		877,000	35,668	912,668			1,082,582	162,028	7,500	386	249,901
	21,393,406	15,439,000	4,831,517	20,270,517		2,035,556		2,243,964	125,000	249,901	



# Master Trust Indenture

## Goals



### **Increase Investment** –

expand deployment of clean energy project finance and infrastructure development to achieve greater societal benefits, deploy funding beyond SBC and existing revenue sources, and citizen engagement as retail purchasers

### **Lower the Cost of Capital**

– raise lower cost capital from institutional investors and “everyday citizens” through “green bonds” for clean energy investments to assist end-use customers in reducing energy burden

### **Protect revenues** –

protection of project revenues and other revenue sources (e.g., CEF, RGGI, etc.) through master indenture, use SCRF as necessary, and citizen engagement as retail purchasers

# Master Trust Indenture and Related Financing Indentures



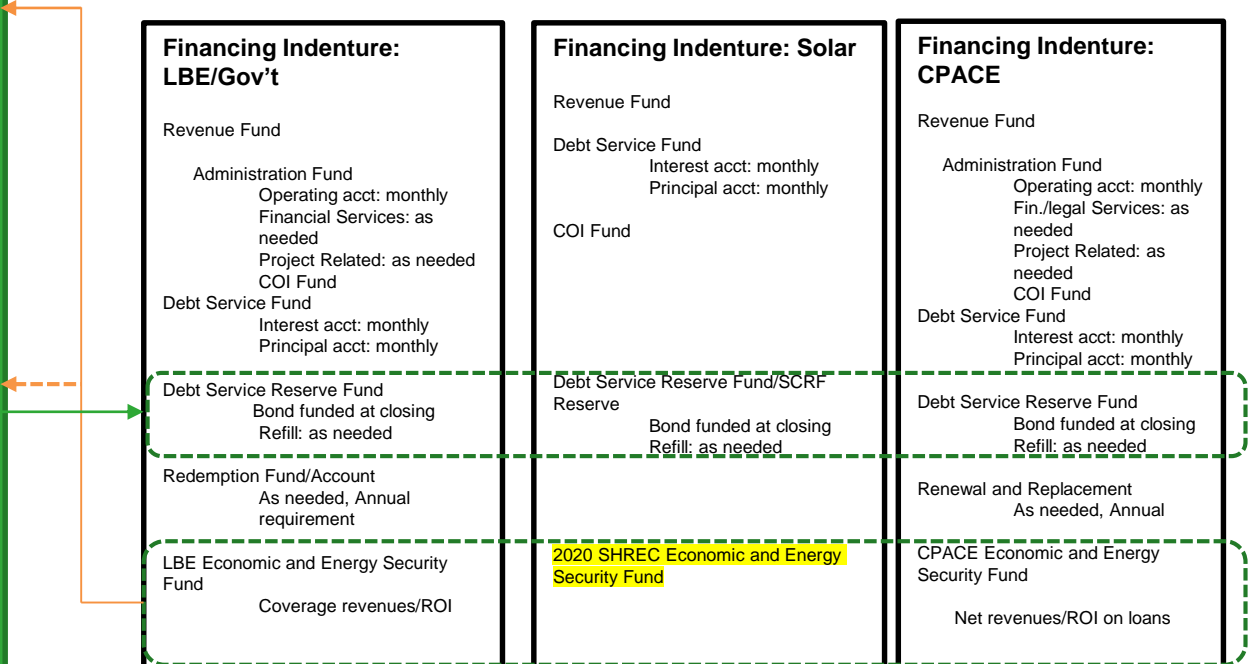
## Green Bank to use all sources of Revenue to meet any SCRF deficiencies

<p>Master Trust Indenture Flow of Funds</p> <p>Revenue Fund  <i>CEF Deposits</i>  <i>Net Investment Income &amp; Return of capital</i>  <i>Other Funds, recycling from indentures</i>                      Deposit to Operating Account for bond related administrative expenses</p> <p>Master Trustee Fees</p> <p>Deficiency Mitigation Fund  <i>Funded as needed if d/s funding problems in a related indenture</i></p> <p>Green Bank Operating Expenses</p> <p>Green Bank Bond Related Expenses</p> <p>Debt Service Reserve Fund (if direct debt issued under the MTI)</p> <p>Bond Stabilization and Improvement Fund</p> <p>Impact Investment Fund</p> <p>Economic and Energy Security Fund                      Program Account                      SHREC Program Subaccount</p>
--

<p><b>Financing Indenture: LBE/Gov't</b></p> <p>Revenue Fund</p> <p>Administration Fund                      Operating acct: monthly                      Financial Services: as needed                      Project Related: as needed                      COI Fund</p> <p>Debt Service Fund                      Interest acct: monthly                      Principal acct: monthly</p> <p>Debt Service Reserve Fund                      Bond funded at closing                      Refill: as needed</p> <p>Redemption Fund/Account                      As needed, Annual requirement</p> <p>LBE Economic and Energy Security Fund                      Coverage revenues/ROI</p> <p>Key Covenants                      1x operating, 1.1x DS</p>
---

<p><b>Financing Indenture: Solar</b></p> <p>Revenue Fund</p> <p>Debt Service Fund                      Interest acct: monthly                      Principal acct: monthly</p> <p>COI Fund</p> <p>Debt Service Reserve Fund/SCRF Reserve                      Bond funded at closing                      Refill: as needed</p> <p><b>2020 SHREC Economic and Energy Security Fund</b></p> <p>Key Covenants                      1.15x DS</p>
---

<p><b>Financing Indenture: CPACE</b></p> <p>Revenue Fund</p> <p>Administration Fund                      Operating acct: monthly                      Fin./legal Services: as needed                      Project Related: as needed                      COI Fund</p> <p>Debt Service Fund                      Interest acct: monthly                      Principal acct: monthly</p> <p>Debt Service Reserve Fund                      Bond funded at closing                      Refill: as needed</p> <p>Renewal and Replacement                      As needed, Annual</p> <p>CPACE Economic and Energy Security Fund                      Net revenues/ROI on loans</p> <p>Key Covenants                      1.15x DS</p>
---



# SHREC

## Next Steps

### ▪ OPM / OTT

- Wrap up SCRF process
  - Address any remaining diligence questions
  - OPM/OTT certify self-sufficiency letter
  - Approve use of SCRF
- Connecticut State disclosure update

### ▪ Deal execution

- April/May – S&P ratings process
- June – potential marketing
- June/July – execution



Technical Due Diligence

# Connecticut Green Bank SHREC Securitization

Connecticut Green Bank

**Report No.:** 10169376-OAL-R-01

**Issue:** D, **Status:** Draft

**Date:** 22 May 2020



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A	22 November 2019	Initial Release	D. Chatterjee	D. Schoborg	F. Ray
B	24 March 2020	Report updates, including site inspection updates	D. Chatterjee	D. Schoborg	F. Ray
C	29 April 2020	Client feedback and updates	D. Chatterjee	D. Schoborg	F. Ray
D	22 May 2020	Client feedback updates	D. Chatterjee	D. Schoborg	F. Ray



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## List of abbreviations

<b>Abbreviation</b>	<b>Meaning</b>
AC	Alternating Current
AHJ	Authority Having Jurisdiction (local permitting authority)
ANSI	American National Standards Institute
AVL	Approved Vendor's List
BOM	Bill of Materials
BPE	Buyer's Percentage Entitlement
CEC	California Energy Commission
COD	Commercial Operation Date
CPR	Clean Power Research
DC	Direct Current
EL	Electroluminescence
EPBB	Expected performance based buy-down incentives
EPC	Engineering, Procurement, and Construction
FIT	Feed-in-Tariff
GHI	Global Horizontal Irradiation
GOES	Geostationary Operational Environmental Satellite
HALT	Highly Accelerated Life Testing
IAV	Interannual Variability
IBC	Interdigitated Back-Contact
IBTS	Institute for Building Technology and Safety
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IFC	International Fire Code
IG	Integrated Ground
IRC	International Residential Code
kW <sub>PTC</sub>	PVUSA Test Conditions defined as 1000 W/m <sup>2</sup> POA irradiance, 20 deg C ambient temp, and 1 m/s wind speed.
MPA	Master Purchase Agreement
MPPT	Maximum Power Point Tracking
MSA	Maintenance Services Agreement
NABCEP	North American Board of Certified Practitioners

<b>Abbreviation</b>	<b>Meaning</b>
NEC	National Electrical Code
NOAA	National Oceanic and Atmospheric Association
NREL	National Renewable Energy Laboratory
NSRDB	National Solar Radiation Data Base
O&M	Operations and Maintenance
OCPD	Overcurrent Protection Devices
PBI	Performance based incentives
PERC	Passive emitter rear contact
PI	Performance Index
PID	Potential-induced degradation
PPA	Power Purchase Agreement
PTO	Permission to Operate
PV	Photovoltaic
QA/QC	Quality Assurance / Quality Control
REC	Renewable Energy Credit
RFQ	Request for qualifications
RMA	Returned Merchandise Authorizations
RSIP	Residential Solar Investment Program
SHREC	Solar Home Renewable Energy Credit
SOP	Standard Operating Procedure
STC	Standard Test Conditions
TMY3	Typical Meteorological Year 3
UI	The United Illuminating Company
UL	Underwriters Laboratory
PBI	Performance Based Incentive
EDC	Electric Distribution Companies

# EXECUTIVE SUMMARY

## Introduction

At the request of Connecticut Green Bank (“the Green Bank” or “Sponsor”) DNV GL has performed a technical due diligence review of the residential photovoltaic (PV) systems in the Sponsor’s Solar Home Renewable Energy Credit (SHREC) portfolio, Tranche 3 (the “Portfolio”), representing 4,811 residential-scale solar PV systems.

The purpose of this Report is to summarize Portfolio performance, create a production forecast, and perform an equipment review. Specifically, DNV GL’s scope of work includes review of the following:

- Engineering process review
- Major equipment review
- SHREC production forecasting procedures
- Production analysis of operational PV systems
- Major agreements
- Operating system review
- Financial model technical input review.

## Engineering process review

DNV GL has reviewed the Request for Qualifications and Program Guidelines for Eligible Contractors and Third-party PV System Owners to participate in the Residential Solar Investment Program (RSIP) document provided by the Sponsor, dated 1 November 2016.

The RSIP document provides the requirements necessary for a PV system to be eligible for CT Green Bank incentives, including requirements for contractors and PV system owners to qualify as approved RSIP-eligible PV system installers.

A summary of the primary findings and/or risks identified is provided in the following table.

Section	Primary Findings
2.1	<b>Summary:</b> The Sponsor has issued a request for qualifications (RFQ), which explains the process and requirements PV system installers must follow to qualify as an eligible Installer and later receive incentives through the RSIP. The program requires that PV system installers pass incentives onto the homeowners as a cost reduction during contracting (i.e. system purchase, lease, or power purchase agreement). The PV system installers do not receive the incentives until they have passed the Sponsor’s completion requirements, which includes review of a self-inspection report following installation and a potential audit of the installed PV system.

Section	Primary Findings
2.1.1	<b>PV system eligibility requirements:</b> Notably, the RSIP document requires the PV system to be in The United Illuminating Company (UI) or Eversource Energy service territories, to be grid-tied, and PV equipment must be new and listed by the California Energy Commission (CEC).
2.1.2	<b>Installers eligibility requirements:</b> Installers must first complete an application process to become eligible to participate in the RSIP. The application process requires the installer to demonstrate experience and licensing/certification, as well as provide subcontractor and homeowner contracts and terms, including a five-year workmanship warranty on all components. The Sponsor will review the installer annually or as-needed to ensure compliance with RSIP standards.
2.1.3	<b>Installer responsibilities:</b> Once approved, Installers have responsibilities such as completing accurate pre-construction assessment and calculations, completing RSIP applications, receiving approvals for the PV system from authorities, complying with inspection reports and completion documents, and passing required inspections.
2.1.3.1	<b>Installer completion documents:</b> Upon completing the PV system installation, Installers are required to submit a project completion certificate, utility approval-to-energize documentation, self-inspection report (including all required photos), energy efficiency audit documents, and performance data provider information (e.g. approved revenue-grade meter ID).
2.1.4	<b>Sponsor rights:</b> Under the RSIP rules, the Sponsor is the owner and receives all renewable energy credits (RECs). The Sponsor reviews completion documents, specifically the self-inspection report submission and will follow-up with the Installer as needed. The Sponsor has the right to perform an audit of the system to confirm completion documentation submitted is accurate. The Sponsor reserves the right to withhold or adjust incentives based on inspection reports or other information.

## Major equipment review

A summary of the primary findings and/or risks identified is provided in the following table.

Section	Primary Findings
3.1	<b>PV Modules:</b> The module manufacturers in the Portfolio, except for Silfab, are large established manufacturers with some extended-duration test data. These manufacturers are considered to be capable of manufacturing modules without atypical reliability or quality risk as compared to the broader industry. Silfab, with 13% of the modules in the Portfolio, is a smaller and less experienced manufacturer which might present an atypical risk relative to more established suppliers available in the market.
3.2	<b>PV Inverters:</b> Over 99% of the Portfolio is represented by SolarEdge, ABB/Power-One, Enphase, SMA, SunPower, and Delta Electronics inverters. Based on past detailed technology reviews of SolarEdge, ABB/Power-One, Enphase, SMA, and SunPower inverters, DNV GL considers these manufacturers to be acceptable suppliers of inverters to the Portfolio. DNV GL has not performed a detailed technology review of Delta Electronics inverters; however, DNV GL considers Delta Electronics to be an acceptable supplier based on DNV GL's limited experiences with the manufacturer and Delta Electronics' reputation in the industry.

Section	Primary Findings
3.3	<b>Racking:</b> DNV GL has not reviewed racking used by individual installers in this Portfolio. DNV GL considers residential roof racking commonly installed to be a low risk item.
3.4	<b>Meter:</b> The eligible Sponsor approved revenue grade meters include Locus L Gate 101 and 120, Solar Data Systems – Solar-Log 350, 360, 370 and GE I-210+, Enphase Energy – Envoy-S Metered and IQ Envoy, SolarEdge – RWND-3D-240-MB with 100A CT Cellular meter. All the meters provide adequate accuracy. Meter reliability was not evaluated, though the technology used in the meters should provide adequate reliability.

## SHREC production forecasting procedure review

DNV GL has reviewed the procedures by which the Sponsor generates energy production forecasts for residential systems with the purpose of evaluating the long-term accuracy of these forecasts and their usefulness for predicting the Portfolio’s SHRECs from energy production.

Section	Primary Findings
4.2	<b>Energy simulation:</b> Since 2006, PowerClerk has acted as the proposal and system reporting portal for all Sponsor systems, as well as supporting the Sponsor’s incentive program. The Sponsor’s process requires system information be initially entered in PowerClerk; however, for SHREC forecasting purposes, the Sponsor relies on a parallel calculation in Clean Power Research’s (CPR) SolarAnywhere Fleetview.
4.3.1	<b>Meteorological data:</b> The Sponsor uses CPR SolarAnywhere data at the site location as the irradiation data input to the energy estimate simulation. The data satellite imagery collected from geosynchronous satellite networks and is applied to 10 x 10 km mesh grids. The data spans 1998 – 2017.
4.3.3	<b>Loss factors:</b> The Sponsor applies a 10% loss factor in SolarAnywhere Fleetview to account for all component loss factors except for shading and inverter efficiency. DNV GL finds the 10% loss factor reasonable for this specific Portfolio of systems based on regional weather.
4.3.5	Validating Sponsor energy estimates: DNV GL performed validations of the 20 systems reviewed, DNV GL independently validated 20 of the 20 systems to within $\pm 1\%$ .

## Production analysis

DNV GL has analysed a production dataset from the Sponsor’s Portfolio (the “Portfolio Data” or the “Portfolio”) of deployed systems to confirm the accuracy of the Sponsor’s energy production estimates and to set expectations for future production of these systems.

DNV GL has also estimated and presented the uncertainty in its production forecast.



A summary of the primary findings and/or risks identified is provided in the following table.

Section	Primary Findings
5.1	<b>Production data set:</b> The Sponsor provided production data and system details for 4,811 systems comprising Tranche 3. DNV GL has used the production history of the Portfolio to forecast future production of the Portfolio.
5.3	<b>Production Sample results:</b> The Production Sample systems have overperformed their estimates by 4.0% on average. DNV GL compared the performance of the Production Sample by Installer, PTO date, module manufacturer, and inverter manufacturer.
5.5	<b>Portfolio forecasting and uncertainty:</b> DNV GL has calculated a Year 1 portfolio-level P50 correction factor of 102.3% of the Sponsor's first-year energy estimate. DNV GL has calculated a Year 1 P90 correction factor of 95.2% of the Sponsor's first-year P50 energy estimate.

## Major agreement review

SHRECs sales to The Connecticut Light and Power Company (dba "Eversource Energy") and UI are provided for using a Master Purchase Agreement (MPA). DNV GL has reviewed the following executed agreements (collectively, "MPAs"), all dated 7 February 2017 with Eversource Energy and UI.

The MPAs provide for the Sponsor to sell SHRECs at firm pricing (\$50 per MWh for tranche one, \$49/MWh for tranche two, and \$48/MWh for tranche three) for 15 years. The Buyer, either Eversource Energy or UI, is obligated to purchase those SHRECs in a tranche associated with the energy generated by the projects assuming the pre-requisites have been met and continue to be met through the term. The main difference between the MPAs provided is the Buyer's Percentage Entitlement ("BPE"); Eversource Energy having a BPE of 80% and UI having a BPE of 20%. DNV GL has not identified other meaningful differences between the individual MPAs.

While the buyer is obligated to purchase all SHRECs from a qualifying tranche, there is not a SHREC guaranty or other performance-based terms that require a minimum amount of electricity be produced from a tranche.

A summary of the primary findings and/or risks identified is provided in the following table.

Section	Primary Findings
	<b>Parties and contract status:</b>
6.1.1	<p>Buyer of SHRECs:</p> <p>Eversource Energy (80%)            UI (20%)</p> <p>Contract status: Executed 7 February 2017</p>
6.1.2	<p><b>Term:</b> The tranche delivery term starts on 1 January of a tranche year and continues for 15 years. The Buyer's obligation to purchase tranche SHRECs will end no later than the earlier of when Sponsor achieves deployment of 305.4 MWdc of qualifying residential solar PV installations or 31 December 2022, meaning the final tranche start date would begin 1 January 2022.</p>
6.1.3	<p><b>Sale of SHRECs:</b> The purchase price of each SHREC is \$50.00 in the MPAs for Tranche 1, \$49/MWh for Tranche 2, and \$48/MWh for Tranche 3. The Sponsor establishes the price of each tranche in accordance with Connecticut General Statutes. A SHREC is equal to one megawatt hour (MWh) of electricity generated from a qualifying residential solar PV system. The Buyer is obligated to purchase all SHRECs generated by SHREC projects in a tranche. SHRECs are invoiced quarterly.</p>
6.1.4	<p><b>Obligations of Sponsor:</b> The Sponsor is responsible for ensuring energy generation has begun prior to tranche delivery start date, providing the tranche purchase price and project details, ensuring the SHREC projects qualify as residential solar PV system, executed the tranche confirmation (Exhibit B), and completing delivery of SHRECs to Buyer.</p>
6.1.5	<p><b>Obligations of Buyer:</b> The Buyer is responsible for ensuring it has received regulatory and corporate approval and has received tranche detail and executed the confirmation.</p>
6.1.6	<p><b>Energy generation and metering:</b> SHREC projects must be located behind a qualifying utility revenue meter and must have a separate meter dedicated to measurement of SHREC project's energy output. The meter shall be installed, operated, maintained, and tested to meet applicable requirements and standards of the utility and electric system operator.</p>

## Operating system review

DNV GL has completed an electrical design audit for a sample of 20 systems within the Sponsor's Portfolio for the purpose of both confirming consistency with the Sponsor's agreed processes and for identifying any specific issues or risks. In addition, 10 sample systems were selected for an on-site inspection.

A summary of the primary findings identified is provided in the following table.

Section	Primary findings
7.1.1	<p><b>Electrical audit:</b> DNV GL considers the sampled systems to exhibit standard electrical design quality, which is consistent with typical practices in the residential market. DNV GL does not expect that the PV systems in the Portfolio are at above-normal risk of electrical issues.</p>

Section	Primary findings
7.1.2	<p><b>Structural audit:</b> The Sponsor does not require installers to submit structural design drawings as part of project completion. As such, DNV GL was not able to select a sample of structural designs for audit. Site visit inspection results will be later summarized in Section 7.2 in lieu of a structural design audit sample review.</p>
7.2	<p><b>Site inspection review summary:</b> Ten PV systems in Tranche 3 were inspected in February 2020. The systems which were visited represented the top installers in the Portfolio by project volume, and the average Performance Index (PI) for the installers ranged between 0.98 and 1.07.</p> <p>Structural:</p> <p>For the structural issues noted, most of the items observed do not represent a high criticality. The most prevalent issue found in the inspection reports relates to flashing, which represents a low criticality which may lead to long term roof damage if the flashing issues are not resolved and roof leaks develop, leading to increased O&amp;M costs due to roof leak warranty claims. The Sponsor has indicated that they will add the following line on the inspection checklist in the future to remind installers to confirm adequate flashing: "Any roof penetrations are properly flashed and sealed". The two systems where improper clearance for fire access was noted represent a high criticality in the case of a fire, as the clearances are intended to provide access paths for firefighting operations. It is possible that the IFC requirements for these clearances had not yet been adopted in Connecticut at the time of installation. The Sponsor confirmed that the two projects in question were permitted before the new fire code came into play in CT which was Oct.1, 2018.</p> <p>Electrical:</p> <p>DNV GL notes that the issues identified do not impact the immediate performance of the system. However, DNV GL's opinion is that there is low to moderate risk that the issues noted could result in reliability concerns, future downtime, increased O&amp;M costs, reduced project life and safety events. Common issues are typically limited to inadequate wire-management and incorrect labeling. Tracking inspection results could identify reoccurring issues and quality checks to mitigate these issues. Wire management and labeling are on the Sponsor's inspection checklist, though the Sponsor has indicated that it will increase correspondence with installers to reduce these occurrences.</p>

## Financial model technical input review

A summary of the primary findings and/or risks identified is provided in the following table.

Section	Primary Findings
8.1	<b>Revenue:</b> DNV GL has calculated a Year 1 portfolio-level P50 correction factor of 102.3% of the Sponsor's first-year energy estimate. The Portfolio is forecast to degrade at -0.68% per year at a P50 confidence level. DNV GL expects well-designed, properly installed, and well-maintained PV systems to perform in line with expectations for 25–30 years.
8.2	<b>O&amp;M:</b> DNV GL understands that the Sponsor does not have direct responsibility for O&M costs for the Portfolio, as the Sponsor's role is as an asset program administrator. As such, DNV GL has not reviewed either projected Performance Guarantee payout liabilities or inverter replacement cost projections.
8.3	<b>Stress cases:</b> DNV GL has provided production stress cases as well as consideration for installer bankruptcy / market exit. The Sponsor has contracted with Locus Energy, an AlsoEnergy Company for Portfolio monitoring, and the Sponsor has contracted with SunSystem Technology as a third-party US residential O&M provider. DNV GL views this as an appropriate risk mitigation step.

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## 1. INTRODUCTION

At the request of Connecticut Green Bank (“the Green Bank” or “Sponsor”) DNV GL has performed a technical due diligence review of the residential photovoltaic (PV) systems in the Sponsor’s Solar Home Renewable Energy Credit (SHREC) portfolio, Tranche 3 (the “Portfolio”), representing 4,811 residential-scale solar PV systems.

### 1.1 Objective and scope of review

The scope of work for the review was defined in the agreement resulting from the DNV GL Work Order [1] (the “Agreement”). This Report is provided per the terms and conditions of the Agreement, and disclosure of the Report to other potential investors and/or lenders is subject to provisions of the referenced terms and conditions and the disclaimer at the front of this Report.

The purpose of this Report is to summarize Portfolio performance, create a production forecast, and perform an equipment review. Specifically, DNV GL’s scope of work includes review of the following:

- Engineering process review
- Major equipment review
- SHREC production forecasting procedures
- Production analysis of operational PV systems
- Major agreements
- Operating system review
- Financial model technical input review.

Items requiring further clarification or action and identified risks are noted in ***bold italics*** within this Report.

### 1.2 Assumptions

Some of the information relied upon for this Report is not within the control of DNV GL. DNV GL assumes that the information provided by others is true and correct and reasonable for the purposes of this Report. DNV GL has not been requested to make an independent analysis or verification of the validity of such information. DNV GL does not guarantee the accuracy of the data, information or opinions provided by others.

In preparing this Report and the opinions presented herein, DNV GL has made certain assumptions with respect to conditions that may exist, or events that may occur in the future. DNV GL believes that these assumptions are reasonable for purposes of this Report but actual events or conditions may cause results to differ materially from forward-looking statements.

### 1.3 Connecticut Green Bank overview

Per the Connecticut Green Bank, “[T]he Green Bank was established by Governor Malloy and Connecticut’s General Assembly on July 1, 2011 through Public Act 11-80 as a quasi-public agency that supersedes the former Connecticut Clean Energy Fund. As the nation’s first state green bank, the Green Bank leverages public and private funds to drive investment and scale-up clean energy deployment in Connecticut.

The Green Bank’s vision is to lead the green bank movement by accelerating private investment in clean energy deployment for Connecticut in order to achieve economic prosperity, create jobs, promote energy security, and address climate change in a world empowered by the renewable energy community. The Green Bank’s mission is to support the Governor’s and Legislature’s energy strategy to achieve cleaner, cheaper, and more reliable sources of energy while creating jobs and supporting local economic development. The Green Bank’s mission is to confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.” [2]

## 1.4 Description of the Portfolio

The Portfolio is composed of 4,811 residential PV systems located in Connecticut as illustrated below in Table 1-1. The total capacity of the Portfolio is approximately 34 MWac<sup>1</sup>. The top 10 installers by system count represent 90.1% of the installed capacity in the Portfolio [3]. The Sponsor has indicated the Tranche 3 portfolio is 74% third-party owned and 26% homeowner owned.

The Green Bank manages the state incentive plan which enables the generation of SHRECs. SHREC production is directly correlated (on a 1:1 basis) with MWh produced by PV systems in the Portfolio. Further details on the SHREC production process are described in Section 2.

**Table 1-1 Installed PV capacity of Portfolio, by installer**

Installer	Total MWac	Total systems	% MWac per installer
Trinity Solar	13.3	2047	39%
Vivint Solar	4.0	573	12%
PosiGen	2.9	523	9%
Sunrun	2.7	348	8%
SunPower Capital	2.0	245	6%
Ross Solar	1.5	148	4%
C-TEC Solar	1.4	169	4%
Earthlight Technologies	1.3	155	4%
SolarCity	0.8	113	2%
Sunlight Solar Energy	0.7	84	2%
Remaining installers	3.4	406	10%
<b>Total</b>	<b>34</b>	<b>4,811</b>	<b>100%</b>

<sup>1</sup> Based upon the Project Size as listed in EDC approval to Energize.

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## 2. ENGINEERING PROCESS REVIEW

DNV GL has reviewed the Request for Qualifications and Program Guidelines for Eligible Contractors and Third-party PV System Owners to participate in the Residential Solar Investment Program (RSIP) document provided by the Sponsor [4], dated 1 November 2016.

The RSIP document provides the requirements necessary for a PV system to be eligible for CT Green Bank incentives, including requirements for contractors and PV system owners to qualify as approved RSIP-eligible PV system installers. While the document provides information on expected performance-based buy-down incentives (EPBB) and performance-based incentives (PBI), DNV GL review of the RSIP document has focused on PV system installer requirements in ensuring quality PV systems installations.

The RSIP document describes the application and obligations that either contractors or PV system owners, collectively (“Installers”), must meet and maintain to be eligible to receive incentives from the RSIP. The Installers receive EPBB upon successful completion of a PV system purchased by the homeowner or become eligible for PBI payments upon successful completion of a PV system with a lease contract or power purchase agreement (PPA).

### 2.1 Residential Solar Investment Program

#### 2.1.1 PV system eligibility

Below is a list of PV system requirements to receive incentives under the RSIP:

- The PV system must be installed on a one to four family primary residence so long as the homeowner owns the land on which the home is affixed to a foundation (i.e. mobile homes and some manufactured homes are ineligible)
- The home must be in UI or Eversource Energy service territory (not Connecticut Municipal Electrical Energy Cooperative)
- The home must have an energy efficiency audit completed unless the home is new construction or under rehabilitation, has been ENERGY STAR certified since 2005, or the home has a Home Energy Rating of 85 or lower
- PV equipment must be new and listed by the CEC
- PV system is grid tied
- The equipment and installation must comply with all federal, state, and local laws, codes, and regulations, including Connecticut Building Code and the National Electric Code (NEC).

It should also be noted that for EPBB eligible PV systems, there is a 20 kW<sub>PTC</sub> limit, limited by homeowner electricity usage, and the system must have a design factor<sup>2</sup> of 75% or greater to receive the full incentive. For PBI systems the design factor must be 60% or greater to receive incentives.

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<sup>2</sup> Defined as the ratio of the summer output of the proposed system to the summer output of a reference optimal system

## 2.1.2 Installer eligibility requirements

Approved Installers must be used for all RSIP PV systems. The Sponsor approves each Installer through a request for qualifications (RFQ) process. The Installer submits to the Sponsor an application with supporting documentation, including but not limited to<sup>3</sup>:

- Resumes of key staff
- Connecticut E-1, PV-1 or Home Improvement Contractor (HIC) licenses
- North American Board of Certified Energy Practitioners (NABCEP) certification from at least one person
- Subcontractor agreements
- Sales contract and terms
- Bank reference letter
- General liability insurance
- PPA contract and terms (if applicable) including details of any performance guarantee
- References

Workmanship warranty of 5 years (or more) to cover all components against degradation of more than 10% from the original rated electrical output, and full costs of labor for repair or replacement of any defective PV system components. The Sponsor will evaluate the application and documentation for completeness and, if deemed to have met the requirements, will invite the Installer to attend a one-hour training session with a RSIP representative. Upon completion of the training session, the Installer will be added to the "Eligible Contractor" list with either full status or provisional status depending on experience and number of PV installations or equivalent training. Provisional status will be lifted after enough PV installations have been completed and passing Sponsor required PV system inspections.

The Sponsor will review annually or as needed to ensure continued compliance with the RSIP document standards. An Installer may be placed on probation, suspension, or terminated for program violations such as:

- Poor quality or service or false or inaccurate claims, billing, system capabilities or benefits
- Failure to ensure all applicable employees and subcontractors are licensed
- Failure to comply with state and local laws and ordinances
- Improper incentive activity
- Consistent inspection failures
- Failure to respond to requests for information
- Falsifying documents
- Illegal actions

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<sup>3</sup> Third Party System Owner requirements were:

- Resumes of key staff
- Bank reference letter
- Agreements with installers
- Lease or PPA contract and terms



## 2.1.3 Installer responsibilities

To maintain their approval, Installers have primary responsibilities that must be met. Key responsibilities are summarized below:

- Conduct accurate site evaluations, including shading assessments
- Follow RSIP rules to determine eligibility, size, cost and estimated incentive
- Complete accurate RSIP applications on behalf of the homeowner
- Comply with requirements for inspection reports and completion documents
- Obtain appropriate permits and approvals
- Maintain all required insurance, licenses, and certifications
- Comply with all national, state, and local codes and standards, rules, and regulations
- Coordinate installation of the PV system through direct employees or subcontractors – note Installers are held directly accountable for work performed by all their staff as well as subcontractors
- Complete interconnection process and receive approval to energize
- Collaborate with the Sponsor's third-party inspectors
- Pass required inspections
- Honor five-year workmanship warranty

RSIP applications are not approved until all required documents have been submitted to the Sponsor's satisfaction. In the event of project cancellation, or if cost, component, or system design specifications have changed from the original approved application, a change order or cancellation request shall be sent to the Sponsor within five business days.

### 2.1.3.1 Installer completion documents

To receive the Expected Performance Based buy-down incentives (EPBB) or Performance Based Incentive (PBI), the Installer must pass inspections and completion documentation must be submitted:

- Project completion certificate
- Utility approval-to-energize documentation
- Self-inspection report (including all required photos)
- Documentation of energy efficiency audit, if not already provided
- Performance data provider information (e.g., approved revenue-grade meter ID)

Representative self-inspection reports have been shared and DNV GL's review is part of Section 7 Operating System Review. The self-inspection reports include pass/fail criteria for the installed system covering:

- Verifying system orientation (tilt and azimuth) and shading
- Verify module and inverter model installed
- Verify system capacity
- PV array, conduits, and cables secured with no visible damage
- Fuses and circuit breakers (dc and ac)
- Disconnects (dc and ac)
- Inverter and interconnection
- Installation consistent with manufacturer specifications
- As-built diagrams and owner's manuals have been supplied
- Monitoring and metering equipment installed correctly

- Methodology for calculating values for labels

DNV GL recommends including more details regarding inspection of the mounting structure in the self-inspection template, for example an inspection of the existing roof framing, verification of positive attachment of lag screws to rafters, inspection of flashing, and verification that the racking, standoffs, and module clips are installed according to the plans and manufacturer's requirements. DNV GL finds the self-inspection report template is lacking in mounting system structural checks, only including one check to ensure the PV modules are secured to the mounting system.

### 2.1.4 Sponsor rights

RSIP customers and third-party owners (under leases and PPAs) forfeit any ownership of renewable energy credits (RECs) generated by their solar PV systems to the Sponsor. The Sponsor reviews completion documents, specifically the self-inspection report submission and will follow-up with the Installer as needed. The Sponsor may audit the system to confirm documentation. Upon the second instance of a re-inspection at one or more sites, the Installer will be required to pay the cost of the follow-up inspection.

The Sponsor reserves the right to adjust incentive calculations based on inspection reports or other submitted documentation. If the PV system is not installed properly or in accordance with the proposed system specifications, the Sponsor may withhold or recalculate incentives based on actual installed equipment and actual site conditions.

## 2.2 Monitoring and maintenance activities

The Sponsor has informed DNV GL that it utilizes the production monitoring platform and services of Locus Energy, an AlsoEnergy Company, to monitor Portfolio performance.

As indicated by the Sponsor, the Sponsor utilizes SunSystem Technology (SST) to provide O&M services for systems owned by the Sponsor (none in Tranche 3 but present in the overall program) and is planning to use SST to provide O&M services for other projects where needed. The remaining systems rely on the installer partner and/or third party owners to provide O&M services resulting from warranty claims or other needed system fixes.

## 2.3 Portfolio installers

Under the RSIP, installation contractors both originate and install systems. Table 2-1 summarizes the installation contractors engaged on system origination within the Portfolio and their respective contribution on a capacity basis. Overall, 46 installation contractors are represented in the Portfolio. The Tranche 3 portfolio is 74% third-party owned and 26% homeowner owned.

**Table 2-1 Portfolio composition by installation contractor**

Install Partner	System Count	% of Total
Trinity Solar	2,047	43%
Vivint Solar	573	12%
PosiGen	523	11%
Sunrun	348	7%
SunPower Capital	245	5%
Ross Solar	148	3%
C-TEC Solar	169	4%
Earthlight Technologies	155	3%
SolarCity	113	2%
Sunlight Solar Energy	84	2%
Others (36)	406	8%
<b>Total</b>	<b>4,811</b>	<b>100.0%</b>

Trinity Solar has originated 43% of the Portfolio on a system basis. Vivint Solar, PosiGen, Sunrun, and SunPower Capital have contributed 12%, 11%, 7%, and 5%, respectively. Another 41 contractors have also contributed to the Portfolio.

Brief reviews of Trinity Solar, Vivint Solar, Sunrun Inc, PosiGen, and SunPower Capital are included here.

### 2.3.1 Trinity Solar

Trinity Solar, based in New Jersey, began installing solar systems in 2004, and the organization now employs over 1,000 personnel serving over 20,000 systems and installing over 218 MW of solar, primarily on the East Coast [5]. Trinity Solar’s service areas include New Jersey, New York, Connecticut, Massachusetts, Maryland, and Rhode Island. Though DNV GL’s direct experience with Trinity Solar is limited, DNV GL acknowledges the company’s strong standing as a national installer and considers them a suitable provider to the Portfolio.

### 2.3.2 Vivint Solar

Vivint Solar, based in Lehi, UT, began installing solar systems in 2011 and currently employees about 4,000 people operating in 22 states, primarily in the northeastern and southwestern U.S. [6]. As of 31 December 2019, Vivint Solar had installed 1,294 MW of solar PV systems for with 188,291 cumulative installations [7]. Vivint Solar generates sales primarily through direct-to-home model offering homeowners power purchase agreements, leases, or ownership. Vivint Solar offers its customers a 10-year material defect warranty for 10 years. [7].

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Though DNV GL's direct experience with Vivint Solar is limited, DNV GL acknowledges the company's strong standing as a national installer and considers them a suitable provider to the Portfolio.

### 2.3.3 PosiGen

Headquartered in New Orleans, LA, PosiGen was founded in 2011. Now they have offices in New Orleans, Connecticut, and New Jersey [8]. To date, the company has over 14,000 customers in Louisiana, Connecticut, New York, New Jersey and Florida. PosiGen is a residential solar, energy efficiency and energy education provider for low-to-moderate income families. The Sponsor has disclosed to DNV GL that, pursuant to a request for proposal and subsequent strategic partnership agreements dating to 2015, the Green Bank, as of May 2020, has extended credit facilities to PosiGen totaling \$19 million [9].

PosiGen has over 220 direct employees and supports more than 120 employees through its contractors in Louisiana, Connecticut, New Jersey, New York, and Florida [10]. DNV GL views PosiGen as a suitable provider to the Portfolio.

### 2.3.4 Sunrun Inc.

Sunrun Inc., based in San Francisco, CA, began installing solar systems in 2007, and as of 31 December 2017, operated the second largest fleet of residential solar energy systems, with approximately 180,000 customers in 22 states [11]. In February 2014, Sunrun acquired the residential division of REC Solar, including AEE Solar and mounting company SnapNrack, while the commercial and utility divisions remained under REC Solar.

In 2019, Sunrun had total deployments of 413 MW an increase of 11% year-over-year [12]. DNV GL views Sunrun as a top solar installer indicating good quality and strong installation practice. In light of these considerations, DNV GL views Sunrun, Inc. favorably and as a suitable provider to the Portfolio.

### 2.3.5 SunPower Capital


SunPower Capital's global headquarters is based in San Jose, CA since 1985. SunPower has a global portfolio in residential, commercial and utility solar energy markets. SunPower is a PV module manufacturer as well [13].

SunPower has a team of about 6,600 employees in Africa, Asia, Australia, Europe, North and South America. SunPower is publicly listed in NASDAQ: SPWR. The company has two separate business units: SunPower Technologies (SPT) for manufacturing and global DG sales, and SunPower Energy Services (SPES) for North America residential and commercial. The company's recent P-series module was a Top Performer in the DNV GL 2017 Module Reliability Scorecard. SunPower is a leading North American residential solar panel supplier, seeing 15% growth and 278 MW's installed in 2018 [14].

### 2.3.6 Installation performance

#### 2.3.6.1 Inspection scoring

The Sponsor does not maintain a database of pass/fail inspection results with inspection criteria fields for all RSIP projects but does retain all inspection reports in the PowerClerk system. The program's self-inspection process, required for all systems, is to provide a completed checklist and a list of required photographs of



the system and key components to ensure installation quality and safety. The purpose of the checklist is to provide contractors with quality control guidance and documentation to the Green Bank that systems meet program criteria. The Sponsor notes that it has yet to have an installer fail a “self-inspection” report [9].

Similarly, the Sponsor provided some anecdotal details of installer performance and disciplinary actions:

- If installer fails more than twice on same project (i.e., two times out for inspector to same site), then installer would need to pay equivalent for 3<sup>rd</sup> inspection.
  - The Sponsor can only recall this happening once with installer, Today Electronics, which only installed one project, and is no longer an eligible contractor. The Sponsor took the cost of inspection from final rebate payment.
- Installers that have been removed from the program, all related to contracting issues: BeFree, Catchin Rays, and Sunergy. Additionally, 1<sup>st</sup> Light Energy was suspended from the program due to alleged violations related to improper incentive activity. [15].
- The installer Skyline was previously suspended from the program but this suspension has been lifted at the recommendation of the Connecticut Department of Consumer Protection, having reached a settlement on customer issues. [15].
- Installers with no prior experience installing PV systems will become eligible contractors once three PV installations pass Sponsor inspections. There have been several installers with ongoing QA/QC concerns that needed to be inspected well beyond the requisite three inspections.
- Inspectors: The Sponsor has always and continues to encourage inspectors to work with installers on issue(s) found in the field; the goal is for the homeowner to ultimately be satisfied. The Sponsor has worked with installers to adjust practices and help them better understand electrical aspects to ensure system longevity.

### 3. MAJOR EQUIPMENT REVIEW

This section includes a review of the major equipment manufacturers used in the Tranche 3 Portfolio.

#### 3.1 Modules

Based upon review of the Tranche 3 Composition [3] data provided by CT Green Bank, the following manufacturers represent over 95% of the PV modules deployed in the Portfolio: Hanwha Q-cells, Silfab, LG Electronics Solar Cell division, Jinko Solar, SunPower, Trina Solar, REC Solar, and SolarCity/Panasonic. As noted in Section 5.1, the dataset consists of 4,811 systems with Approval to Energize dates between 3 February 2015 and 17 January 2019. As such DNV GL's has focused the manufacturer level review on 2015 – 2018 manufacturer capabilities and quality.

**Table 3-1 Portfolio composition by module manufacturer**

Module manufacturer	System count	% of total
Hanwha Q-Cells	1762	37%
Silfab	624	13%
LG Electronics Solar Cell Division	561	12%
Jinko Solar	545	11%
SunPower	497	10%
Trina Solar	348	7%
REC Solar	170	4%
SolarCity/Panasonic	47	1%
Remaining (17)	257	5%
<b>Total</b>	<b>4,811</b>	<b>100.0%</b>

DNV GL's review was conducted primarily at the manufacturer level, rather than the product level. These manufacturer-level reviews are based on publicly available documents to assess the capability of the manufacturer to supply modules that do not pose atypical risks. DNV GL notes that these reviews do not include an evaluation of the performance or reliability of any specific products or technologies.

Product level reviews were not performed within this scope due to lack of available data for the Portfolio. Specifically, warranties and extended reliability test data were not reviewed for systems in the Portfolio. Manufacturer-level results from the DNV GL PV Module Reliability Scorecard [16] are referenced, where pertinent.

### 3.1.1 Hanwha Q-Cells

Hanwha Q CELLS is a global PV manufacturer and part of the South Korean Hanwha Group. Hanwha Group is a diversified company with several major divisions: Aerospace & Mechatronics, Chemicals & Materials, Construction, Financial Services, Leisure & Lifestyle, and Solar Energy. The Solar Energy division is Hanwha Q CELLS. Hanwha Q CELLS is the result of first the acquisition of Q CELLS in 2012, and then the merger of Hanwha Q CELLS and Hanwha SolarOne (formerly Solarfun) in 2015. The combined company is listed on NASDAQ under the trading symbol of HQCL. It is headquartered in Seoul, South Korea, (Global Executive Headquarters) and Thalheim, Germany (Technology & Innovation Headquarters). The company is one of the world's leading PV cell producers and was the 6th largest module supplier in 2019.

Q CELLS was founded in Berlin, Germany in 1999 and entered the PV market in 2000 as a supplier of crystalline silicon PV cells. Module production began in 2010. Hanwha acquired Q-Cells in 2012, rebranding the company Hanwha Q-Cells. The company currently has manufacturing sites in Korea, China, and Malaysia.

Hanwha SolarOne, formerly known as Solarfun Power Holdings, was founded in 2004 and commenced production in 2005. Solarfun joined the Hanwha group in 2010.

Hanwha Q-Cells modules have received the VDE Quality Tested certificate. The program requires mandatory quarterly testing of Q-Cells production modules as well as mandatory quality controls in production, such as 100% EL imaging, and wet leakage current testing for 1% of all modules produced. The quarterly testing program requires 400 thermal cycles, 2 x the IEC 61215 standard, and 1,500 hours' damp heat, which is 1.5 times the IEC 61215 standard. Also of note is that the testing includes a dynamic mechanical load test, which is not required for IEC 61215 testing but does test the physical construction of the module for field use. DNV GL views this certificate favorably. The test programs are stringent, and mandatory testing on a quarterly basis provides confidence in the consistency of the manufacturing.

Hanwha Q-Cells offers modules containing mono or multicrystalline cells, PERC cell, or half-cell technology.

Hanwha Q-Cells' website indicates that the Hanwha Q-Cells factories have the ISO 9001 Quality Management System certification.

Hanwha Q CELLS has a long history in the PV business. DNV GL views Hanwha Q CELLS to be capable of supplying PV modules that do not pose atypical risks compared to generally available modules in the market. A summary of selected details as well as DNV GL's view are presented in the table below.

**Table 3-2 Hanwha Q CELLS module manufacturing summary**

<b>Years in manufacturing</b>	Q-Cells began in 2000, and SolarOne in 2005	Company website
<b>Manufacturing</b>	9 GW cells & modules	Company website
<b>Manufacturing locations</b>	Korea, Malaysia, China, USA	Company website
<b>Market standing</b>	Fourth largest manufacturer	PVtech.org
<b>Technologies offered</b>	Mono, multi, black module, PERC, half-cell	Company website
<b>Factory certifications</b>	ISO 9001 Quality Management System	Company website
<b>Extended durability tests</b>	Top performer, in-house testing >2x IEC	DNV GL PV Module Reliability Scorecard, Company website
<b>DNV GL view</b>	Capable of supplying PV modules that do not pose atypical risks	

### 3.1.2 Silfab

Silfab Solar was founded in 2011 in Mississauga, Canada, and manufactures monocrystalline modules. Silfab Solar also serves as a contract manufacturer and assembler to companies looking to have operations in Ontario, in order to comply with the Ontario Power Authority’s FIT domestic content requirements. Silfab Ontario has a 110,000-square foot, ISO 9001-2008 quality certified, production facility. In Toronto, Silfab says it has a manufacturing capacity of 700 MW/year. SilFab additionally has a 150MW/year manufacturing site in Bellingham, Washington, after its recent investment in ITEK Solar.

Silfab claims its module manufacturing line is among the most automated in the world. DNV GL notes that automation generally improves repeatability of the module build.

Silfab offers modules with monocrystalline cells and has recently begun offering modules with n-type cells as well as bifacial modules. Additionally, Silfab has partnered with DSM to develop high efficiency modules based on back contact cells and has developed supply agreements with multiple companies for residential systems including roofing companies GAF and PetersonDean, and Titan Solar Power.

While Silfab is not a large manufacturer, Silfab has been making modules for more than 7 years and claims to have a fully automated production line. DNV GL views Silfab to be capable of supplying PV modules that do not pose atypical risks compared to generally available modules in the market. Silfab is developing and commercializing new and innovative PV technologies, some of which may have a short or unproven field history. DNV GL recommends selecting products with a proven history of successful field deployments. A summary of selected details as well as DNV GL’s view are presented in the table below.



**Table 3-3 Silfab PV module manufacturing summary**

<b>Years in manufacturing</b>	Since 2011	Company website
<b>Manufacturing</b>	~350MW	Press release
<b>Manufacturing locations</b>	Toronto Canada	Company website
<b>Market standing</b>	Not in the top 10	PVtech.org
<b>Technologies offered</b>	Mono, black module, bifacial, n-type	Company website
<b>Factory certifications</b>	Unable to verify	
<b>Extended durability tests</b>	Silfab was not a top performer except on the PID test	DNV GL Module Reliability Scorecard
<b>DNV GL view</b>	Less manufacturing experience than leading PV manufacturers may pose atypical risks	

### 3.1.3 LG Electronics

Founded in 1958, LG Electronics Inc., based in South Korea, is a large multinational producer of consumer electronics, mobile communications devices, and home appliances. It is part of LG group which employs 75,000 people and had 2016 sales of USD ~50 billion. While being involved with PV as far back as 1985, the company entered the PV module industry in earnest in 2009. In that year, LG Electronics constructed PV cell and module factories in Gumi, Korea. A Solar Test Lab was certified by TÜV and UL, and LG began initial mass production of solar panels in 2010. In January 2016, LG began a fabrication expansion increasing its capacity from 1 GW to 1.8 GW by 2018 and plans to expand to 3 GW by 2020.

LG is a vertically integrated manufacturer producing their own solar cells and assembling their own modules. LG only offers modules with monocrystalline cells. Additionally, LG offers new and innovative PV technologies including n-type cells, back-contact cells, and multi-wire cell interconnections.

The firm states that it performs electroluminescence (EL) tests on 100% of modules coming off their manufacturing line, which DNV GL considers to represent industry best practice. LG maintains their own PV module test laboratory certified by Underwriters Laboratories (UL) in the U.S. and TÜV Rhineland in Germany to carry out a suite of customary UL and International Electrotechnical Commission (IEC) tests applied to solar modules. Presently, the firm produces PV modules with module efficiencies exceeding 21%, which is above industry averages for crystalline silicon (except SunPower and Panasonic).

LG's website indicates that the LG factories have the ISO 9001 Quality Management System certification, the ISO 14001 Environmental Management System certification, and the OHSAS 18001 Occupational Health and Safety certification.

DNV GL views LG to be capable of supplying PV modules that do not pose atypical risks compared to generally available modules in the market. A summary of selected details as well as DNV GL's view are presented in the table below.

**Table 3-4 LG PV module manufacturing summary**

<b>Years in manufacturing</b>	Since 2010	Company website
<b>Manufacturing</b>	1.8 GW 2018 (est)	Company website
<b>Manufacturing locations</b>	Korea	Company website
<b>Market standing</b>	Not in the top ten.	PVtech.org
<b>Technologies offered</b>	Mono, PERC, black modules, multi-wire, n-type cells, back-contact, bifacial	Company website
<b>Factory certifications</b>	ISO 9001 Quality Management System, ISO 14001 Environmental Management System OHSAS 18001 Occupational Health and Safety	Company website
<b>Extended durability tests</b>	No public reports available	
<b>DNV GL view</b>	Capable of supplying PV modules that do not pose atypical risks	

### 3.1.4 Jinko Solar

Jinko Solar started operations in 2006 with first modules sold in 2009. It is a vertically integrated manufacturer producing silicon ingots, wafers, PV cells, modules and mounting systems. Jinko states it has a global customer base for its utility, commercial, and residential solutions and services spanning China, the United States, Japan, Germany, the United Kingdom, Chile, South Africa, India, Mexico, Brazil, the United Arab Emirates, Italy, Spain, France, Belgium, and other countries.

Jinko Solar has five manufacturing facilities in Jiangxi and Zhejiang Provinces in China where the majority of the production capacity is concentrated, and other minor production lines in Malaysia, Portugal, and South Africa. In February 2019, Jinko officially opened its new state-of-the-art 400MW/year solar panel manufacturing facility in Jacksonville, FL, USA.

The manufacturer reported an integrated annual capacity of 14.5 GW for silicon wafers, 9.2 GW for solar cells, and 15 GW for solar modules (late 2019). Jinko Solar is ranked 1st according to shipments in a worldwide list of module suppliers in 2019. Jinko Solar has over 15,000 employees worldwide.

Jinko Solar has a long history in the PV business. DNV GL views Jinko Solar to be capable of supplying PV modules that do not pose atypical risks compared to generally available modules in the market. A summary of selected details as well as DNV GL's view are presented in the table below.

**Table 3-5 Jinko Solar PV module manufacturing summary**

<b>Years in manufacturing</b>	Since 2006	Company website
<b>Manufacturing</b>	15 GW/year capacity 2018, over 29GW deployed	Company website
<b>Manufacturing locations</b>	primarily Jiangxi and Zhejiang Provinces in China	Company website
<b>Market standing</b>	1 <sup>st</sup> by shipments	PV-Magazine.com
<b>Technologies offered</b>	Mono, multi, black module, PERC	Company website
<b>Factory certifications</b>	ISO 9001 Quality Management System ISO 14001 Environmental Management System OHSAS 18001 Occupational Health and Safety	Company website
<b>Extended durability tests</b>	Top Performer DNV GL Module Reliability Scorecard	DNV GL PV Module Scorecard
<b>DNV GL view</b>	Capable of supplying PV modules that do not pose atypical risks	

### 3.1.5 SunPower

U.S.-based SunPower (NASDAQ: SPWR) was founded in 1985. In the early 1990s, SunPower developed and patented the Interdigitated Back-Contact (IBC) cell which has been used to construct the industry’s most efficient modules based on silicon. The IBC cell features numerous efficiency-enhancing features including all rear side metallization, eliminating front metal-contact shadowing effects and resulting in higher efficiencies. SunPower calls the highest performing of these cells “Maxeon” cells with efficiencies exceeding 25%, which enable modules that operate above 22% efficiency.

In 2011, the French oil giant Total purchased a controlling interest in SunPower. As of 2018, SunPower’s annual production capacity was approximately 1.2 GW. In April 2018, SunPower purchased the SolarWorld Portland, Oregon, facility and is ramping 200MW/year of P-Series production which is a p-type PERC shingled cell module.

SunPower was a vertically integrated manufacturer covering cell manufacturing, module manufacturing, systems design and integration as well as installation, with offices and facilities located worldwide. However, in November 2019, SunPower spun off its IBC-based module manufacturing into a new company, Maxeon Solar, that will be based in Singapore with factories in France, Malaysia, Mexico and the Philippines. SunPower will continue to manufacture its shingled cell modules in the Portland facility, but will focus on installing residential and commercial rooftop solar projects.

SunPower/Maxeon has nearly two decades’ experience in manufacturing IBC modules, and have published field data demonstrating very low degradation rates. The company’s recent P-series module was a Top Performer in the DNV GL 2017 Module Reliability Scorecard.

**Table 3-6 SunPower PV module manufacturing summary**

<b>Years in manufacturing</b>	Since 1985	Company website
<b>Manufacturing</b>	~1.9 GW	2017 Annual Report
<b>Manufacturing locations</b>	Philippines and Malaysia	2017 Annual Report
<b>Market standing</b>	Not in the top 10	PVtech.org
<b>Technologies offered</b>	IBC, shingled, black module	Company website
<b>Factory certifications</b>	ISO 9001 Quality Management System ISO 14001 Environmental Management System	Company website
<b>Extended durability tests</b>	Top Performer 2017	DNV GL PV Module Reliability Scorecard
<b>DNV GL view</b>	Capable of supplying PV modules that do not pose atypical risks	

### 3.1.6 Trina Solar

Trina Solar, founded in 1997, produces silicon wafers, cells, and modules and includes a system integration group. The company's corporate headquarters and main factory are located in Changzhou, China. They have over 15,000 employees in 20 offices worldwide. Trina's production capacity is estimated at greater than 9 GW/year and has produced a cumulative 40 GW. Trina Solar offers modules with mono and multicrystalline cells, PERC cells, and half-cut cells, as well as dual-glass modules. In addition, Trina's downstream businesses includes solar PV project development, financing, design, construction, and operations & management.

Trina had entered the listings on the New York Stock Exchange (NYSE) under TSL in 2006, but went private in an acquisition by Fortune Solar Holdings Ltd in 2016 and delisted from NYSE. According to the company's website, Trina's State Key Laboratory of PV Science and Technology has broken 18 world records on solar cell efficiency and module power. Additionally, Trina's average p-type mono-PERC cell efficiency is 22.6%.

Trina claims to use 36 in-house quality tests to ensure product reliability throughout the manufacturing chain from incoming silicon and wafer quality, through cell and module assembly.

Trina has been a Top Performer in all four DNV GL Module Reliability Scorecard Reports.

Trina Solar has a long history in the PV business. DNV GL views Trina Solar to be capable of supplying PV modules that do not pose atypical risks compared to generally available modules in the market. A summary of selected details as well as DNV GL's view are presented in the table below.

**Table 3-7 Trina Solar PV module manufacturing summary**

<b>Years in manufacturing</b>	Approximately 20 years	Company website
<b>Manufacturing</b>	>9 GW, > 32 GW produced in total	PV-Magazine.com and Company website
<b>Manufacturing locations</b>	China	Company website
<b>Market standing</b>	Third largest manufacturer 2019	Solarquotes.com
<b>Technologies offered</b>	Mono & multicrystalline, dual glass, half-cell, PERC	Company website
<b>Factory certifications</b>	ISO 9001 Quality Management System ISO 14001 Environmental Management System OHSAS 18001 Occupational Health and Safety	Company website
<b>Extended durability tests</b>	Several modules are top performers in all reports	DNV GL PV Module Scorecard
<b>DNV GL view</b>	Capable of supplying PV modules that do not pose atypical risks	

### 3.1.7 REC Solar

REC (Renewable Energy Corporation) was originally founded in 1994 in Norway as a silicon wafer manufacturer, ScanWafer. The company changed its name to REC in 1999. The former Renewable Energy Corporation ASA had two divisions: REC Silicon and REC Solar. In October 2013, these were split into two entirely separate entities, each focusing on its own core business. For REC Silicon, this was polysilicon and silane gas for the solar and electronics industries with manufacturing facilities in Moses Lake, Washington and Butte, Montana, USA. REC Solar has been sold to Elkem, a large Norwegian conglomerate and continues as "REC" to manufacture wafers, solar cells, and solar panels at its fully automated integrated manufacturing facility in Singapore, plus EPC services and solutions in select markets. REC is a Bluestar Elkem company with headquarters in Norway and operational headquarters in Singapore.

REC employs more than 2,000 people worldwide, producing 1.4 GW/year of solar panels with an estimated cumulative production of 8 GW. REC offers a variety of module technologies including modules with mono and multicrystalline standard and PERC cells. REC is now also offering modules with n-type cells for higher efficiencies.

REC’s website indicates that the REC factories have the ISO 9001 Quality Management System certification, the ISO 14001 Environmental Management System certification, and the OHSAS 18001 Occupational Health and Safety certification.

REC has a long history in the PV business. DNV GL views REC Solar to be capable of supplying PV modules that do not pose atypical risks compared to generally available modules in the market. A summary of selected details as well as DNV GL’s view are presented in the table below.

**Table 3-8 REC PV module manufacturing summary**

<b>Years in manufacturing</b>	Over 20 years	Company website
<b>Manufacturing</b>	1.4 GW 2018 (est.) and >8GW produced in total	Company website
<b>Manufacturing locations</b>	Singapore	Company website
<b>Market standing</b>	While over 1 GW of production, REC is not in top 10	PVtech.org
<b>Technologies offered</b>	Mono & multicrystalline, half-cell, PERC, black modules, n-type cells	Company website
<b>Factory certifications</b>	ISO 9001 Quality Management System ISO 14001 Environmental Management System OHSAS 18001 Occupational Health and Safety	Company website
<b>Extended durability tests</b>	REC Twin Peak module is a top performer	DNV GL PV Module Reliability Scorecard
<b>DNV GL view</b>	Capable of supplying PV modules that do not pose atypical risks	

### 3.1.8 SolarCity/Panasonic

The modules branded as SolarCity SC315B2 AND SC310B2 are manufactured by Panasonic to SolarCity’s specifications. Thus, Panasonic is reviewed.

SANYO started the development of the Heterojunction with Intrinsic Thin-layer (HIT) silicon solar cells in 1990. SANYO became a full subsidiary of the Panasonic Group in 2011 and adopted the Panasonic brand name in 2012. The change applied to the brand name only, the modules continued to be manufactured at the same production facilities. At that time, Panasonic produced solar cells at two plants and had three module assembly bases—two in Japan and one in Hungary—with an annual production capacity of 600 MW. In 2012, Panasonic also built a new plant in Kedah, Malaysia to serve as the new solar manufacturing base for Asia, adding 300 MW of production capacity, and increasing Panasonic’s overall module production capacity to 900 MW. In June 2015, in view of the rapidly developing solar power market in Japan, Panasonic announced plans to add an additional 150 MW to its solar photovoltaic modules production capacity.

Panasonic HIT technology is among the top modules with respect to module efficiency. Panasonic modules feature module efficiencies over 19%, and low temperature coefficients below -0.26%/°C. Panasonic is considered a Tier 1 manufacturer in the 2017 Bloomberg New Energy Finance survey.

Panasonic has a long history in the PV business. DNV GL views Panasonic to be capable of supplying PV modules that do not pose atypical risks compared to generally available modules in the market. A summary of selected details as well as DNV GL’s view are presented in the table below.

**Table 3-9 Panasonic PV summary**

<b>PV Production Experience</b>	20 years of HIT manufacturing	Company website
<b>Manufacturing capacity</b>	Approximately 1 GW	Various news reports
<b>Manufacturing locations</b>	Japan, Hungary, Malaysia, soon Buffalo NY	Company website
<b>Manufacturing chain</b>	Cells and modules	Company website
<b>Market Standing</b>	Not in the top ten.	PVtech.org
<b>Technologies offered</b>	Mono heterojunction	Company website
<b>Factory certifications</b>	ISO 9001 Quality Management System, ISO 14001 Environmental Management System OHSAS 18001 Occupational Health and Safety	Company website
<b>Extended duration tests</b>	Top Performer DNV GL Module Reliability Scorecard 2018	DNV GL
<b>DNV GL view</b>	Capable of supplying PV modules that do not pose atypical risks	

## 3.2 Inverters

Based upon review of the Tranche 3 Composition data [3] provided by CT Green Bank, the following manufacturers represent over 99% of the inverters deployed in the Portfolio. Manufacturers included in the review include SolarEdge, ABB/Power-One, Enphase, SMA, SunPower, and Delta Electronics.

**Table 3-10 Portfolio composition by inverter manufacturer**

<b>Inverter manufacturer</b>	<b>System count</b>	<b>% of total</b>
<b>SolarEdge Technologies</b>	3163	66%
<b>Enphase Energy</b>	926	19%
<b>SunPower</b>	468	10%
<b>SMA America</b>	80	2%
<b>ABB/Power-One</b>	71	1%
<b>Delta Electronics</b>	54	1%
Remaining (6)	49	1%
<b>Total</b>	<b>4,811</b>	<b>100.0%</b>

DNV GL has utilized its experience in the inverter industry, including that related to performing detailed technology reviews of SolarEdge, ABB, Enphase, SMA, and SunPower inverters, to inform the manufacturer level summaries provided herein. Where available, DNV GL relied on additional manufacturer-provided reliability data.

### 3.2.1 SolarEdge

SolarEdge (NASDAQ: SEDG, with a March 2015 initial public offering) is a solar electronics manufacturer which was founded in 2006 and began mass production of module-level power optimizers and inverters in 2009. As of December 2016, SolarEdge documentation indicates that it has shipped approximately 15.4 million power optimizers and 663,000 inverters as well as an unspecified number of three-phase inverters. In 2017, SolarEdge was ranked number 10 in global PV inverter market share by shipments, per GTM Research.

SolarEdge provides both module level electronics (optimizers) and inverters. SolarEdge is best known for its power optimizers, which are small electronic devices attached to each PV module which operate under the principal of implementing Maximum Power Point Tracking (MPPT) at the individual module level. An additional benefit of this setup is real-time performance monitoring of each PV module. These devices are commonly deployed in situations where a PV array may consist of two or more azimuths and/or complex shading conditions where part of the module or array may be wholly or partially shaded while another part has a clear view of the sun. SolarEdge was one of the first market entrants for this type of component. The systems with SolarEdge optimizers almost always employ SolarEdge inverters as the inverters are designed to work as a system with optimal performance and cost.

DNV GL is very familiar with SolarEdge’s residential product lines, and has reviewed the design for reliability, highly accelerated life testing (HALT), and field track record since the optimizer’s introduction. In 2016, SolarEdge also provided DNV GL up-to-date track record summaries for inverters and power optimizers.

SolarEdge has seen a decline in failure rates for its installed bases of both inverters and power optimizers over time as product improvements have been implemented.

**Table 3-11 SolarEdge inverter manufacturing summary**

<b>Manufacturing experience</b>	9 years
<b>Size and diversification of parent company</b>	None: Pure Play PV electronics manufacturer
<b>Country of origin: Manufacturing facilities:</b>	Israel Contract manufacturers in China and Hungary

#### Power Optimizers

The documentation provided to DNV GL indicates that the field reliability of the power optimizers is high. Each power optimizer device contains a relatively low discrete component count (compared to solar inverters), utilizes existing mature electronic technologies and fabrication methods, and is subject to rigorous product testing. Short of longer duration field reliability data, SolarEdge has applied established QA/QC and production methods which in their view allow them to warrant the devices for 25 years of operation, based upon a daily duty cycle of 12 hours on, 12 hours off.



## Inverters

The single-phase and three-phase inverter data supplied by SolarEdge in 2015 (as well as single-phase inverter data from other fleets DNV GL has reviewed) all indicate that SolarEdge inverters have a good track record and are on par with other leading inverter suppliers in terms of performance and failure rates.

DNV GL considers SolarEdge to be an acceptable supplier of solar inverter systems with power optimizers. SolarEdge is the leader in module level optimizer technology.

### 3.2.2 ABB/Power-One

Founded in 1973, Power-One was originally a United States-based manufacturer of alternating current/direct current (AC/DC) and direct current/direct current (DC/DC) power conversion and management equipment. The company was arranged into separate divisions for power solutions and renewable energy solutions. Power-One's power solutions products are used in computer servers, data centers, network power systems and industrial markets. The renewable energy solutions business produced power conversion equipment for the solar and wind energy markets, including both residential scale and utility scale solar inverters.

Power-One was acquired by the Swiss engineering and manufacturing conglomerate ASEA Brown Boveri (ABB) in July 2013. Their inverter products have adopted the ABB brand as of May 2014. The company was listed as the 4<sup>th</sup> largest global PV inverter supplier by shipments for 2017 by GTM Research.

ABB has provided a variety of additional documentation regarding company background and testing of their inverters to DNV GL in Q2 2013, including sales and product failure rate data. These documents provide a synopsis of ABB production to date of various inverter model families. Generic inverter failure modes are presented via Pareto charts. These rates have been reduced since 2009 across greatly expanded production, and present a positive picture of Power-One's efforts to track and measure inverter failures and to implement various corrective actions so as to reduce product returns and/or service calls.

DNV GL has reviewed ABB's capabilities in detail and has been positively impressed with both the PV inverter products and the company.

DNV GL considers ABB to be an acceptable supplier of inverters due to its significant manufacturing history and track record of designing and manufacturing power control equipment.

**Table 3-12 ABB (Power-One) string inverter manufacturing summary**

<b>Manufacturing experience</b>	10 years <sup>1</sup>
<b>Size and diversification of parent company</b>	Parent company is a diversified engineering and manufacturing conglomerate
<b>County of origin</b>	Italy <sup>2</sup>

1. DNV GL was not able to determine when the first string inverter was manufactured; however, the renewable energy products division was initiated in 2006. Power-One's broader manufacturing experience dates back over 40 years.

2. Power-One also has manufacturing facilities in the U.S. It has advised DNV GL in December 2013 that Italy is the relevant country of origin for its string inverters.

### 3.2.3 Enphase

Enphase Energy (NASDAQ: ENPH) is a publicly-held company based in Petaluma, California, and is the world's leading microinverter manufacturer.

**Table 3-13 Enphase inverter manufacturing summary**

<b>Manufacturing experience</b>	2008
<b>Size and diversification of parent company</b>	Pure-play microinverter manufacturer + related monitoring services
<b>County of origin</b>	Germany (Phoenix Contact), China (Flextronics), and Canada (Flextronics)

As of Q1 2017, Enphase reported that it has sold approximately 13-14 million of its microinverters since their introduction in 2008 and is currently on its seventh generation design. The devices have thus far been well-received by the solar industry and no substantial failures (e.g., serial defects) have been reported in industry press. The use of module-level electronics like Enphase can be particularly beneficial for systems with partial shading or complex roof designs, as the microinverters help reduce mismatch losses (as are incurred with string inverters). Enphase's microinverters are also favored by certain installers due to the simplicity (relative to a string inverter) of installing them and module level performance monitoring, among other reasons.

DNV GL has reviewed reliability information for Enphase M215 integrated ground (IG) and M250 microinverters which support a 25-year design lifetime, although some proportion will likely fail over this period. DNV GL has recently completed an updated Technology Review of Enphase's product lines (Q2 2015), and such report may be available via Enphase. This report includes a significant reliability discussion including failure rate projections. DNV GL views the overall Enphase activities to ensure product reliability very positively. These include:

- Design for Reliability
- Reliability testing (HALT)
- Actual field performance monitoring with low field failure rates.

The approaches used by Enphase are state-of-the-art in these areas.

DNV GL views Enphase to be the leading microinverter supplier and an acceptable supplier based on our thorough Technology Review.

### 3.2.4 SMA

Once the largest PV inverter manufacturer in the world, SMA was ranked 6<sup>th</sup> in the US residential PV inverter market share for 2018. [17] SMA was founded in 1981, and is based in Germany. SMA was listed on the Frankfurt Stock Exchange (S92) in 2008. The SMA Americas division is based in Rocklin, California. SMA Solar Technology AG is the global leader in the development, production, and sales of PV inverters. SMA is represented in all important PV markets, including 21 countries on four continents. Note that SMA has downsized in the more competitive recent market. SMA produces a wide range of inverters from the smaller

string inverters to the larger commercial and utility scale products. While their market share has eroded as other top tier manufacturers have consolidated and entered the North American markets, SMA remains a leading PV inverter manufacturer.

DNV GL considers SMA to be a top-tier supplier of inverters due to its significant manufacturing history and reliability track record. DNV GL has performed a detailed technology review of SMA’s string inverter products.

**Table 3-14 SMA inverter manufacturing summary**

<b>Manufacturing experience</b>	30+ years
<b>Size and diversification of parent company</b>	Pure-play solar inverter supplier
<b>Country of origin</b>	Germany

### 3.2.5 SunPower

The SunPower inverters used in this portfolio are a mixture of string inverters and microinverters. The 5kW and 6 kW string inverters are rebranded SMA inverters. The microinverters used in the AC modules are all the 3<sup>rd</sup> generation SunPower MI-C-320 microinverters and are the product results of SunPower acquiring SolarBridge in 2014. DNV GL has performed a detailed technology review of SunPower’s microinverters including the MI-C-320 in 2017 and such report may be available via SunPower.

U.S. based SunPower (NASDAQ: SPWR) was founded in 1985. Since their first introduction in 1993, SunPower’s back contact solar cells have been used to construct the industry’s most efficient solar systems based on silicon. In 2011, the French oil giant Total purchased a controlling interest in SunPower. SunPower’s annual production capacity exceeds 1 GW.

To expand their business and maintain their competitive position, SunPower acquired a number of other companies and entered into several joint ventures over the past several years. For example, in July 2010, SunPower formed AUOSP as a joint venture with AUO. In January 2012, SunPower acquired Tenesol, and in November 2013, acquired Greenbotics, Inc. In November 2014, SunPower acquired SolarBridge Technologies, a developer of integrated microinverter technologies for the solar industry.

SunPower employs a contract manufacturer, Celestica Technology Limited, located in Dongguan, China for their microinverter products. The company operates approximately 20 manufacturing and design centers worldwide. With over 25,000 employees, Celestica’s reported 2014 revenues of US \$5.6 billion. The Song Shun Lake facility in Dongguan provides printed circuit assemblies and a variety of services in system final fabrication and test.

**Table 3-15 SunPower inverter manufacturing summary**

<b>Manufacturing Experience</b>	20 years (7 years for solar microinverters)
<b>Size and diversification of parent company</b>	None: pure-play PV manufacturer
<b>County of origin</b>	United States Dongguan, China (ISO 9001), Mexico (Assembly)

SunPower worked with SolarBridge Technologies to develop AC Modules starting in 2010 and sold AC Modules incorporating SolarBridge microinverters starting in 2011. SunPower’s acquisition of SolarBridge Technologies in 2014 gave SunPower the capability to deliver ac panels with factory-integrated microinverters, all manufactured under SunPower’s control. Through 2016, SunPower has deployed over 235,000 gen 3 ac modules and has a reported annual failure rate of less than 0.2%.

DNV GL considers SunPower to be an acceptable supplier of microinverters although the deployment history is limited on the presently produced products.

### 3.2.6 Delta

Delta Energy Systems (“Delta”) develops, manufactures, and markets worldwide, innovative customized and standard power supplies for a variety of different industries, including renewable energies. Delta provides solar inverters and monitoring for residential, commercial, and utility installations.

Delta Electronics Group (founded 1971) is the world's largest provider of switching power supplies and DC brushless fans, as well as a major source for power management solutions, components, visual displays, industrial automation, networking products, and renewable energy solutions. Delta Group has sales offices worldwide and manufacturing plants in Taiwan, China, Thailand, Mexico, India and Europe. The Delta Group is a large company with substantial resources and 80,000 employees in 40 countries. Delta was ranked 15<sup>th</sup> in the US PV inverter market in 2017, by GTM Research, “The Global PV Inverter and MLPE Landscape, H2 2017.” Annual inverter shipments for 2017 were stated at 1,300 MWac worldwide per GTM Research. Wood Mackenzie Power Renewables had Delta ranked number 5 in the national residential market share for 2018.

**Table 3-16 Delta inverter manufacturing summary**

<b>Manufacturing Experience</b>	40 years
<b>Size and diversification of parent company</b>	Parent company is a global provider of power and thermal management solutions
<b>County of origin</b>	Worldwide manufacturing, R&D Labs, and sales offices

The inverters used in this portfolio are the Solivia string inverters ranging in size from 3.8kW to 7.6kW. They are 600Vdc input, single phase inverters ideally suited for the residential market. They also can produce power at 208Vac making them applicable to the commercial market.

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DNV GL has reviewed Delta and its solar inverters in detail and considers Delta to be an acceptable supplier of inverters due to its long history of designing and manufacturing power supply solutions, combined with its growing families of PV and energy storage inverters.

### 3.3 Racking

DNV GL has not reviewed racking used by individual installers in this Portfolio. DNV GL considers residential roof racking commonly installed to be a low risk item. Most residential roof racking systems consist of extruded aluminum rails to support modules, spanning between aluminum or steel mounting standoffs which are bolted to the existing roof structure. The systems are inherently simple, with relatively simple wind loading and structural analysis required. Issues related to residential racking tend to be related to installation errors rather than problems with the racking design. In addition, the relative risk of a structural failure of a roof due to the installation of solar PV module racking is considered by DNV GL to be low. This is due to the relatively low weight of the PV system (typically 3 or 4 psf) in comparison to typical code required design live loads (16 to 20 psf) which are effectively replaced when solar is installed.

### 3.4 Metering and communication equipment

The RSIP states that the contractor and/or system owner and homeowner is responsible for installing a Sponsor approved revenue grade performance monitoring meter and for maintaining a working connection over the useful life of the PV system. For all RSIP projects, system performance data shall be made available to the Sponsor for incentive payments and REC monetization. For PBI projects, incentive payments are made quarterly over six years based on actual production data.

The following eligible Sponsor-approved revenue grade meter manufacturers are represented in the Portfolio and reviewed herein:

- Locus meter – LGate 101 or LGate 120
- Enphase Envoy S Metered & IQ Envoy
- SolarEdge meter- RWND-3D-240-MB with 100A CT Cellular meter
- Solar Data Systems – Solar-Log (plus GE meter) 350, 360, 370 & GE I-210+

The revenue grade energy meters for remote monitoring of PV energy are similar in topology, in that inverter manufacturers use electronic devices, external to the inverter, with wired or wireless communications connections to the inverter, or to a wireless network. The metering is built around the GE revenue meter, or a similar device manufactured by Locus Energy. An exception to this is the SolarEdge solution using a revenue grade energy meter designed by SolarEdge, which carries an efficiency rating that varies from the GE and Locus devices.

#### 3.4.1 Locus meter - LGate 101 or LGate 120

LGate 120 is a single-phase electronic watt-hour, revenue grade meter for remote monitoring of solar PV systems. Installation is between the PV inverter and the electrical service, with a communications connection to the inverter.



**Figure 3-1 Locus Energy LGate 120 revenue grade meter**

**LGate 120 specifications:**

- Accuracy: ANSI 12.20 (Class 0.2%)
- Enclosure type: NEMA 3R
- Temperature range: -20°C to +60°C
- Third-party compliance: not indicated in specification

### 3.4.2 Enphase Envoy S

The Enphase Metering and Management Solution (MMS) manages microinverter operation and gathers revenue-graded energy data. The Revenue Grade Meter is manufactured by GE, and communicates across to the Enphase Envoy Communications Gateway, providing data from review using the Enphase Enlighten software.



**Figure 3-2 Enphase revenue grade meter with Envoy**

**Specification:**

- Accuracy: ANSI 12.20 (Class 0.2%)
- Enclosure type: NEMA 3R
- Temperature range: -40°C to +85°C
- Third-party compliance: not indicated in specification

### 3.4.3 Solar-Log plus GE 210 meter

The Solar-Log PV monitoring technology combines the GE 210 revenue grade meter with proprietary wireless, online energy monitoring.



**Figure 3-3 Solar-Log PV monitoring meter**

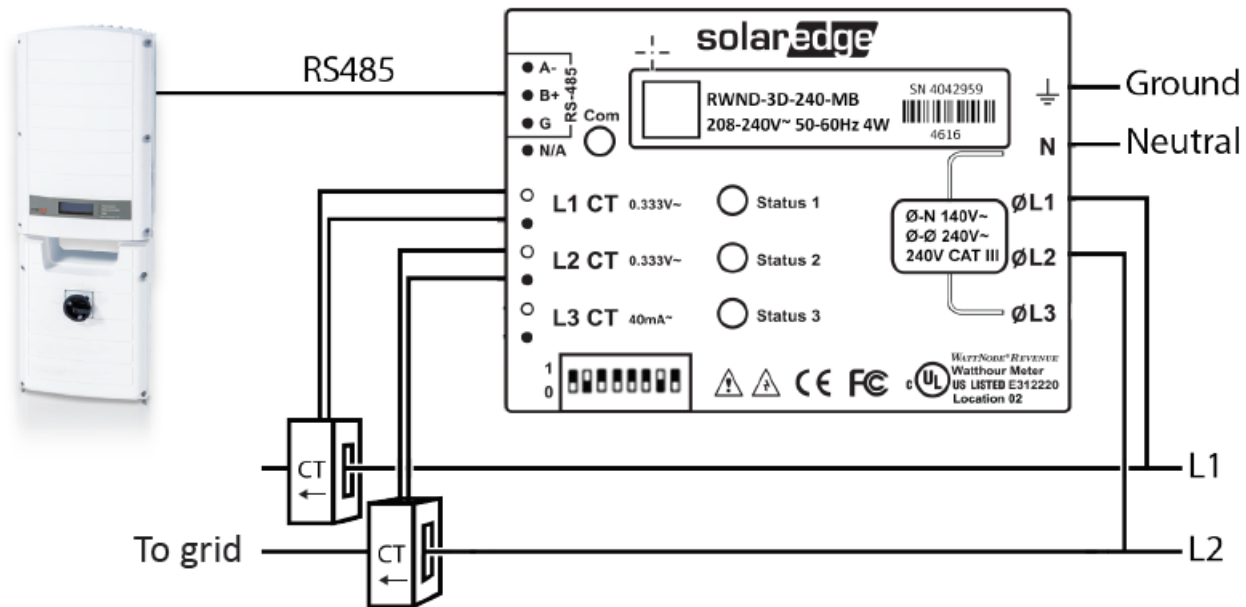
**Specification:**

- Accuracy: ANSI 12.20 (Class 0.2%)
- Enclosure type: NEMA 3R
- Temperature range: -40°C to +85°C
- Third-party compliance: not indicated in specification

### 3.4.4 SolarEdge meter – external to inverter

SolarEdge proprietary revenue grade energy meter is listed by UL to UL 508A, for electrical safety. Meter accuracy of 1% at full load rating of current transformers, 25°C, and power factor of 0.7 to 1.0.





**Specification:**

- Accuracy:  $\pm 1\%$  at full Current Transformer load, 25°C, and power factor of 0.7 to 1.0.
- Enclosure type: NEMA 3R
- Temperature range: -40°C to +55°C
- Third-party compliance: UL 508A

### 3.4.5 Metering and communication equipment conclusions

Communications hardware varies somewhat from manufacturer to manufacturer, with RS-485 or Zigbee connections generally provided. The meter hardware in use is for a low-cost revenue-grade energy metering with adequate accuracy. The revenue grade meters have not been evaluated by DNV GL regarding reliability and useful life; however, the technology in use should provide adequate reliability. Typically, the primary issue with metering is getting the initial settings correct and current transformers properly installed. Once the equipment is operating properly, the reliability of the communications equipment affects the availability of the data, while the revenue grade meters continue to log energy data, with or without functioning communications. RSIP began requiring all meters to communicate using a cellular connection (since it was more reliable in the majority of cases). This requirement was put in place 8 August 2015: Starting with Step 8, which began 8 August 2015, Revenue-Grade Meters were required to be cellular and include a five-year cellular plan provided to the customer incorporated into the price of the meter. The Green Bank covers the cost of the cellular plans after the 5-year period [4].

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## 4. SHREC PRODUCTION FORECASTING PROCEDURES REVIEW

DNV GL has reviewed the procedures by which the Sponsor generates energy production forecasts for residential systems with the purpose of evaluating the long-term accuracy of these forecasts and their usefulness for predicting the Portfolio's SHRECs from energy production.

### 4.1 Review methodology

DNV GL has reviewed the procedure by which the Sponsor generates energy production forecasts for each PV system with the purpose of evaluating the long-term accuracy of these forecasts and their usefulness for predicting the Portfolio's revenue from energy production, and thereby the Portfolio's ability to generate SHRECs. The review has focused on the following areas:


- Quality of data used to establish long-term irradiation and temperature
- Method employed to determine irradiation on the collector plane
- Simulation of physical plant
- Reasonableness of loss factor assumptions.

This section provides a qualitative review of the Sponsor's energy production forecasting procedure, whereas Section 5 provides a comparison between the Sponsor's forecasts and the actual production data.

### 4.2 Energy simulation

Since 2006, PowerClerk has acted as the proposal and system reporting portal for all Sponsor systems, as well as supporting the Sponsor's incentive program. The Sponsor's process requires system information be initially entered in PowerClerk, however, for SHREC forecasting purposes, the Sponsor relies on a parallel calculation in Clean Power Research's (CPR) SolarAnywhere Fleetview. The only difference between PowerClerk and SolarAnywhere Fleetview is the choice of weather data used in the simulation. PowerClerk relies on National Solar Radiation Database (NSRDB) Typical Meteorological Year 3 (TMY3) weather files whereas the CPR SolarAnywhere Fleetview estimate is based on SolarAnywhere typical global horizontal irradiation year (TGY) weather files. All PowerClerk system entries are transferred to CPR SolarAnywhere Fleetview automatically and the underlying PVForm code is the same between PowerClerk and SolarAnywhere Fleetview. The remainder of this section and report focuses on SolarAnywhere Fleetview as the SHREC forecast source.

SolarAnywhere Fleetview is able to access Clean Power Research's (CPR) SolarAnywhere irradiance data through a web-based RESTful API to calculate solar energy production. CPR's SolarAnywhere Fleetview tool incorporates a modified version of Sandia National Labs PVForm Power Output Model. NREL's PVWatts is also based on PVForm, but the SolarAnywhere Fleetview API implements the model differently in several ways. DNV GL understands some of the major differences include reference cell temperature, PV module temperature equations, radiation transmitted through module covers, and module nonlinearity. DNV GL does not have access to the underlying API code and therefore has not independently verified the SolarAnywhere Fleetview API model. DNV GL requested access to PowerClerk and SolarAnywhere Fleetview to validate a number of sample systems.



The inputs into PowerClerk and later transferred to SolarAnywhere Fleetview include the following system parameters:

- Location
- Number of arrays, inverters per array
- PV module manufacturer, model, quantity, and cost
- Inverter manufacturer, model, quantity, and cost
- Fixed tilt or tracking array type
- Azimuth and tilt for each array
- Solar obstruction (shading) angles or monthly (solar access) percentages for each array.

#### 4.2.1 Calculation procedure for the continental United States

The Sponsor uses PVForm code to produce an hourly production time series and SolarAnywhere Fleetview sums the hourly simulation results to output year 1 monthly energy estimates that can be summed to an annual value.

The following is a description of the calculation procedure after drawings are completed:

- 1 CPR SolarAnywhere Fleetview maintains a database of satellite irradiation data. Address, zip code, and state are used to find the irradiance tile over the site.
- 2 The inputs entered into PowerClerk are transferred to SolarAnywhere Fleetview and are translated into the PVForm-required inputs of dc rating, array type, array tilt, and array azimuth.
- 3 The Perez irradiance model is used and plane of array calculations are performed based on the PV array orientation parameters input by the user.
- 4 A shading model is applied based on the shading obstruction angles or monthly (solar access) percentages input by the user. DNV GL notes that the shade loss is calculated based on the percent of shaded area which is not directly correlated to actual module shade losses. Actual shading losses depend on system variables such as module architecture (e.g., bypass diodes) and orientation, string configuration, and severity of shade. As shown in various studies [18], this assumption underestimates the impact of shading losses on the string of modules for string inverters.
- 5 The PVForm Power Output Model is used to calculate production from irradiance, based on the inverter and module specifications of the system. PowerClerk has a drop down of inverter and module models selected by the user and can look up hardware specifications including inverter efficiency values from the California Energy Commission (CEC). These specifications are transferred to SolarAnywhere Fleetview for use in the PVForm Power Output Model.
- 6 The Sponsor uses a fixed 10% de-rate factor, with the exception of inverter and PV module specifications as noted above. A comparison of the Sponsor's de-rate factor vs. the standard de-rate factors for PVWatts v4 is provided in Table 4-1 below.
- 7 The hourly production time series is summed by SolarAnywhere Fleetview to obtain year 1 monthly energy estimates and an annual energy estimate.

- 8 The Sponsor applies a 0.5% annual degradation to the year 1 energy estimates. DNV GL comments on portfolio degradation in Section 5.5.3.

## 4.3 Commentary on the Sponsor's residential methodology

The commentary here regarding the Sponsor's methodology for generating production estimates provides context to the Section 5 discussion of forecast accuracy, where estimates are compared to Portfolio production data.

### 4.3.1 Accuracy and reliability of meteorological data

The Sponsor uses CPR SolarAnywhere TGY data at the site location as the irradiation data input to the energy estimate simulation. Irradiation inputs are a high impact variable within a solar energy production assessment and have the potential to significantly impact the production results. DNV GL discusses the effect of weather data selection throughout this section.

CPR SolarAnywhere data is derived from the SolarAnywhere satellite imagery collected from geosynchronous satellite networks and is applied to 10 x 10 km mesh grids. The data spans 1998 – 2017. DNV GL has reviewed discussions of uncertainty supplied by CPR and has found them insufficient to provide a clear picture of the spatial and temporal uncertainty of this dataset. DNV GL considers the data to be acceptable for use in solar energy estimate production estimates based on endorsements from NREL and the data's general agreement with other, peer reviewed datasets. Also, production index analysis produces correction factors that can compensate for bias error in the weather data among other sources of bias.

DNV GL considers the CPR SolarAnywhere data sets to be suitable for use in PVForm model simulations assuming the localized 10x10 km gridded data is selected as the weather file. DNV GL recommends comparing nearby irradiance resource files to lower the risk of outliers, especially in climatically diverse zones such as coastal or mountainous regions. DNV GL expects the localized 10 x 10 km gridded data from SolarAnywhere to be reasonable, especially given the nature of the spatial coverage needed for residential energy estimates.

Given the background with CPR SolarAnywhere data, DNV GL considers the uncertainty of the Sponsor's solar radiation to be relatively high and higher than a well-calibrated ground measurement station. Nonetheless, DNV GL considers such an approach to be among the best available methods for residential solar applications given the need to have rapid and algorithmic energy estimates. Other meteorological data could potentially have a lower uncertainty if it were site-specific, well-calibrated, well-maintained and consistent between all sites, however the cost of such an approach makes it impractical in most cases with such a large number of systems and the time required to record the measurements. DNV GL considers the use of CPR SolarAnywhere data as a meteorological source to be acceptable for use in the Sponsor's energy forecasts.

### 4.3.2 Accuracy and reliability of energy simulation process

DNV GL has reviewed SolarAnywhere PV Simulation Product Documentation [19] to inform its understanding of the modifications performed to the PVForm Power Output Model, as discussed in Section 4.2. This document provides a comparison of the PVForm model used by PVWatts and SolarAnywhere for a representative system in Boulder, CO, using the same weather data in the simulation. The difference in AC

power is 6% with the largest source of discrepancy being the PTC versus STC reference temperature. The full list of discrepancies are summarized within the document.

While this comparison is useful for highlighting the differences between the two PVForm-based models it does not provide information on the accuracy of the model’s energy estimates. The PVWatts v5 Manual [20] lists the PVForm-based energy estimate error as high as +/- 10% on an annual basis. DNV GL does not have access to the underlying API code and therefore has not independently verified the SolarAnywhere Fleetview API model.

As an engine for generating energy production forecasts, SolarAnywhere Fleetview is able to achieve usability and speed and adequately provides meteorological data spatially and geographically for the various systems considered in this portfolio. Therefore, DNV GL considers the use of SolarAnywhere Fleetview to be a reliable method and the selection of such a tool seems appropriate given the Sponsor’s business model. Aggregating a large number of PV systems into a portfolio results in a portfolio-wide uncertainty that is lower than the uncertainty for a given rooftop PV system, an effect that is discussed in further detail in Section 5.5.

### 4.3.3 Accuracy and reliability of energy loss factor assumptions

Table 4-1 below summarizes the losses used to determine DNV GL’s standard loss assumptions compared to SolarAnywhere Fleetview’s default loss value.

**Table 4-1 default loss factors**

Component loss factors	Sponsor default loss factors	DNV GL recommended values in CT
Soiling + Snow		3.5%
Shading	Defined per system outside of this value	Define per system
Mismatch		1%
Wiring		2%
Connections		0%
Light-induced degradation		2%
Nameplate rating		0%
Age		0%
Availability		2%
<b>Total loss factor</b>	<b>10%</b>	<b>10%</b>

While DNV GL does not have information on the breakdown of the 10% loss factor applied in SolarAnywhere Fleetview, DNV GL finds the 10% loss factor reasonable for this specific Portfolio of systems based on regional weather and assuming aggregation of many thousands of systems. Recommended loss values for each component loss factor are presented herein. DNV GL notes that in SolarAnywhere Fleetview, shade losses are considered outside of the 10% loss factor and agrees with this approach. DNV GL notes that the shade loss is calculated based on the percent of shaded area and may underestimate the impact of shading losses on the string of modules for string inverters. DNV GL notes that actual soiling losses can change based on the geographical region and environment and recommends regional dust and snow soiling losses be calculated. A standard loss factor in all regions would not account for this variability. DNV GL calculated typical snow loss factors in Connecticut since the regional distribution of this Portfolio is small.

A discussion of selected loss factor assumptions follows:

- **PV module nameplate dc rating:** Nameplate variation (also referred to as module binning tolerances) is listed as 0%/+3% (or -0 W to +5 W) on most PV module datasheets. DNV GL also accounts for MPPT non-ideality with an additional 0.5% loss. When considering all module nameplate power losses, DNV GL recommends a value of 0% be used for this loss.
- **Inverter and Transformer:** The inverter efficiency is obtained from a look-up table which is updated using values published by the CEC. DNV GL finds this approach reasonable.
- **Mismatch:** The electrical losses resulting from the performance variation of individual electrically-connected modules. DNV GL recommends a 1% loss for default residential systems using string inverters. DNV GL notes that this loss is lower when using dc optimizer or microinverters.
- **DC and AC wiring:** DNV GL recommends a 2.0% loss for dc wiring loss and ac wiring loss for generic systems. DNV GL notes that for string inverter systems dc wiring losses will be higher than for module-level microinverters. The opposite is true of ac wiring losses when comparing string and microinverter systems. In total, dc and ac wiring losses are typically 1.5% to 2.5% for most residential systems. DNV GL notes that the Sponsor can control this loss by altering the system design and wire selection.
- **LID:** Most conventional silicon modules stabilize with a 1-3% loss within the first few hours/days of exposure.
- **Shading:** As part of the design process, installers must take either manual or satellite-based shade measurements. The shade obstruction angles or monthly solar access percentages are entered into PowerClerk (and subsequently transferred to SolarAnywhere Fleetview) and incorporated into the production estimate. DNV GL notes that the shade loss is calculated based on the percent of shaded area and may underestimate the impact of shading losses on the string of modules for string inverters.
- **Soiling/Snow:** DNV GL notes that actual soiling/snow losses can change based on the geographical region and environment. DNV GL independently calculated soiling/snow losses using precipitation data and snowfall data for a generic residential system in CT and determined that 3.5% is a reasonable estimate of soiling/snow losses as presented in Table 4-1. In order to account for potential error caused by soiling/snow losses, DNV GL considers variance in production expectations in the uncertainty analysis as presented in Section 5.5.
- **System Availability:** DNV GL notes that, to some extent, the Sponsor has visibility into the downtime of systems by monitoring system production data. The Sponsor is able to inform third-party owners and installers when systems are down so that those systems can be brought back

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online. For project monitoring issues that are not addressable by owners and installers, the Green Bank will rely on SunSystem Technology (SST) to assist with troubleshooting and repair.

DNV GL notes that industry-wide practices for controlling system downtime include employing good monitoring techniques, active maintenance, and responsive repairs. DNV GL generally considers a portfolio-wide availability 98% as an achievable target for a well-maintained residential system portfolio of thousands of systems. An estimate of the Sponsor's Portfolio availability is provided in Section 5.2.4.

To obtain an estimate of PV system degradation, DNV GL has relied on its review of the Jordan and Kurtz 2016 Compendium of photovoltaic degradation rates [21]. DNV GL notes that degradation rates used in non-recourse project finance transactions for PV systems are typically in the range of 0.5-0.75% per annum. This range is supported by extensive industry literature [21]. Based on DNV GL's review of available studies, the median system-level degradation rate is reported to be 0.64%, and the interquartile range (P25-P75) is 0.2%-1.2% per annum.

#### 4.3.4 Uncertainty calculations

Uncertainty analyses are not typically performed or considered on individual residential system energy estimates. Therefore, no project level uncertainty calculations were provided for review by the Sponsor.

- However, DNV GL has used the production data set to draw conclusions regarding the uncertainty of the Sponsor's Portfolio production forecasts. These results are provided in Section 5.5.

#### 4.3.5 Validating Sponsor energy estimate process consistency

DNV GL has attempted to replicate the Sponsor's energy forecasting process by manually entering PV system specifications directly into SolarAnywhere Fleetview for 20 systems randomly selected by DNV GL. The inputs used were determined from system drawings and shading reports provided by the Sponsor.

The estimate made by DNV GL for each system was then compared to the annual as-built production estimate provided by the Sponsor for that system. The summary of the validation results including model inputs are provided in Appendix B, as well as in Table 4-2 below. DNV GL notes continued process consistency from the results of these validations.

**Table 4-2 Methodology validation summary**

System	Capacity (kWp)	Installer	Module	Inverter	Estimated Deviation (%)
RPV-28389	2.85	Vivint Solar	Jinko Solar	SolarEdge Technologies	0.00%
RPV-28957	4.48	C-TEC Solar	LG Electronics Solar Cell Division	Enphase Energy	0.00%
RPV-29044	4.06	Vivint Solar	Jinko Solar	SolarEdge Technologies	0.00%
RPV-29047	8.64	Earthlight Technologies	SunPower	SunPower	-0.27%
RPV-29426	13.02	Ross Solar	Silfab	SolarEdge Technologies	0.11%
RPV-29623	8.70	PosiGen	Silfab	SolarEdge Technologies	0.00%
RPV-29687	5.40	SolarCity	Hanwha Q-Cells	ABB	0.00%
RPV-29825	5.12	C-TEC Solar	LG Electronics Solar Cell Division	Enphase Energy	0.00%
RPV-30020	14.88	Ross Solar	Silfab	SolarEdge Technologies	0.00%
RPV-30047	13.40	Sunlight Solar Energy	LG Electronics Solar Cell Division	SolarEdge Technologies	0.05%
RPV-30543	6.38	PosiGen	Silfab	SolarEdge Technologies	0.00%
RPV-30631	4.23	SolarCity	SolarCity	Delta Electronics	0.00%
RPV-31451	15.34	Trinity Solar	Hanwha Q-Cells	SolarEdge Technologies	0.00%
RPV-32507	9.44	Trinity Solar	Hanwha Q-Cells	SolarEdge Technologies	0.00%
RPV-32856	4.90	SunPower Capital	SunPower	SunPower	0.00%
RPV-33291	8.40	Sunrun	LG Electronics Solar Cell Division	SolarEdge Technologies	0.00%
RPV-34118	10.44	SunPower Capital	SunPower	SunPower	0.00%
RPV-36370	9.28	Sunrun	REC Solar	SolarEdge Technologies	0.00%
RPV-36462	10.22	Sunlight Solar Energy	LG Electronics Solar Cell Division	Enphase Energy	0.00%
RPV-37248	5.52	Earthlight Technologies	SunPower	SunPower	0.00%





For validation, DNV GL attempts to replicate the Sponsor's energy estimates to a  $\pm 1\%$  threshold based upon initial data provided by the Sponsor. If DNV GL's initial validation efforts result in agreement with the Sponsor's estimate outside of the  $\pm 1\%$  range, DNV GL requests further details on the Sponsor's inputs to reconcile the deviation.

DNV GL notes that none of the energy estimates exceed the threshold range, though the following systems' electrical drawings differ from the specifications used in SolarAnywhere FleetView:

- System RPV – 29047: System drawings indicate one array with a tilt angle of 14 degrees. System details within SolarAnywhere FleetView indicate a tilt angle of 16 degrees. DNV GL considers this discrepancy to have a negligible impact on the energy estimate.
- System RPV – 30020: System drawings indicate one array with a tilt angle of 48 degrees. System details within SolarAnywhere FleetView indicate a tilt angle of 45 degrees. DNV GL considers this discrepancy to have a negligible impact on the energy estimate.
- System RPV – 31451: System drawings show a total of 2 inverters. System details within SolarAnywhere FleetView indicate only 1 inverter. The Sponsor and CPR have confirmed that there are 2 inverters in the as-built system records and that this discrepancy was a reporting error in SolarAnywhere FleetView that was resolved as of 3 April 2020 [22].
- System RPV – 32507: System drawings indicate one array with a tilt angle of 30 degrees. System details within SolarAnywhere FleetView indicate a tilt angle of 28 degrees. DNV GL considers this discrepancy to have a negligible impact on the energy estimate.
- System RPV – 34118: System drawings indicate one array with a tilt angle of 23 degrees. System details within SolarAnywhere FleetView indicate a tilt angle of 20 degrees. DNV GL considers this discrepancy to have a negligible impact on the energy estimate.
- System RPV – 36462: System drawings show a total of 2 inverters. System details within SolarAnywhere FleetView indicate only 1 inverter. The Sponsor and CPR have confirmed that there are 2 inverters in the as-built system records and that this discrepancy was a reporting error in SolarAnywhere FleetView that was resolved as of 3 April 2020 [22].

Of the 20 systems reviewed, DNV GL independently validated 20 of the 20 systems to within  $\pm 1\%$ . The systems with specification discrepancies were examined by the Sponsor who confirmed that the discrepancies were all within their margin of error. The uncertainty in the portfolio forecast is dependent on sufficient information being provided by the Sponsor.

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## 5. PRODUCTION ANALYSIS

DNV GL has analyzed a production dataset [23] from the Sponsor's Portfolio (the "Portfolio Data" or the "Portfolio") of deployed systems to confirm the accuracy of the Sponsor's energy production estimates and to set expectations for future production of these systems.

DNV GL has also estimated and presented the uncertainty in its production forecast.

### 5.1 Description of the production data set

The Sponsor has provided DNV GL with a dataset consisting of 4,811 systems with Approval to Energize dates between 3 February 2015 and 17 January 2019 [23] [3]. The Sponsor has provided system information for the systems in the Portfolio, including location, system size, estimated monthly production, installer, and inverter and module information. DNV GL understands from the Sponsor that all Year-1 monthly estimates were generated using SolarAnywhere Fleetview, the Sponsor's current energy estimate methodology.

The monthly energy estimates for subsequent years were generated by applying the Sponsor's 0.5% degradation rate to the Year-1 values. DNV GL notes that its recommendations for degradation rates for the portfolio are addressed in Section 5.5.3.

### 5.2 Methodology for arriving at production estimates

DNV GL has analyzed the Sponsor's operational data. This process involved the following steps:

- Clean the production data to remove erroneous values
- Adjust system production to be more representative of the long-term period
- Derive performance indexes based on the past accuracy of the Sponsor's forecasts.

DNV GL assessed all PV systems with available historical data to gain insight on the performance of the Sponsor's entire operational Portfolio. Each of these steps is described in detail in the following sections.

#### 5.2.1 Data cleaning and processing

The analysis of the systems in the production dataset first began with a data QA/QC procedure. The data QA/QC procedure consisted of the following steps:

1. Any months where the meter was running but the system had not begun to operate have been removed from the data set. For each system, the first month of production were removed to account for typical issues associated with project startup.
2. Any system with a monthly energy estimate of zero, or more than three summer months with production greater than 200% of the energy estimate, were classified as erroneous and were removed from the analysis. Ten systems have been removed as a result of this qualification.
3. Systems in the Portfolio are occasionally unable to communicate production data due to communication errors. In such cases, the meter will continue registering production while it is offline

and sync data with the server when the communication is corrected and the meter is back online. When such a communication error spans multiple months, data spikes result, where a month of low or zero production is followed by an unrealistically high measurement for the month. DNV GL has identified such data spikes, including the preceding months of zero production, and removed these months from the analysis.

4. DNV GL has identified data surges where normal production months are followed by unrealistically high production months. These data surges are defined as any month where the measured production is more than 500 kWh overestimated and more than 200% greater than estimated. These months have been removed from the analysis.
5. Systems without 12 months or more of production data with at least one valid data point for each calendar month have been removed from the analysis.

DNV GL finds the Portfolio data set supplied to be reasonable and to contain a low proportion of erroneous data. Table 5-1 summarizes the results of the QA/QC process, finding 2,551 systems (the "Production Sample") as valid for the analysis. The Production Sample forms the basis of the rest of the analysis.

**Table 5-1 Data QA/QC Summary**

Tranche 3 Portfolio Systems	Production Sample Systems
4,811	2,551

## 5.2.2 Solar resource comparison to long-term irradiation

To adjust production data for differences caused by irradiance above or below long-term average, the Sponsor has provided DNV GL with monthly ratios of historical GHI to long-term average GHI for each of the systems in the Portfolio [24]. These ratios were calculated for each system using SolarAnywhere data from a tile located near the system. DNV GL has used these ratios to adjust the production data to what would have occurred in long-term average irradiance conditions. This analysis resulted in an average system-level adjustment of 107.5% of the reported production.

The significant system-level adjustment resulting from the solar resource comparison to the long-term radiation is further bolstered by CPR analysis and an article [25] and separate DNV GL work calculating below average solar insolation in 2018 and 2019 in many parts of the eastern U.S.

## 5.2.3 Additional weather considerations

DNV GL acknowledges that, in addition to GHI, other meteorological variability can impact the production of a PV system; however, in this case, only irradiance variability was considered in this analysis.

DNV GL understands that the East Coast received higher-than-average amounts of snowfall in 2015. This suggests that the production of the Sponsor's systems in the Northeast may have been negatively impacted during these winter months and is therefore not necessarily reflective of long-term production. DNV GL has not reviewed snowfall levels during the period of operation of the Production Sample systems. DNV GL also

notes that the number of systems operational starting in 2015 is relatively small, and therefore the impacts of this higher-than-average snowfall is likely relatively minimal on the portfolio level.

While DNV GL is of the view that inclusion of the solar resource analysis results in more certain forecasts, it does not completely consider all weather events that may cause the average observed performance of the Portfolio to deviate from long-term average behavior.

### 5.2.4 System availability

For purposes of assessing availability, DNV GL defines availability as system downtime where production losses are attributable to a downtime event. DNV GL employs the following approach:

- DNV GL estimates lost production by comparing the actual production to the expected production for each month of operation for each system, ignoring months affected by communication issues.
- Any month where actual to expected production is less than 50% is flagged as a potential downtime event and lost production is approximated as the difference between expected and actual.
- System availability is calculated as the ratio of the total actual production to the sum of the total actual production and the total lost production.

This analysis showed that the production data set system availability has been moderate, with approximately 60.3% of the systems having less than 0.5% downtime. DNV GL has confirmed the Production Sample’s average availability is 96.4%. Table 5-2 summarizes the distribution of system availability for the Production Sample.

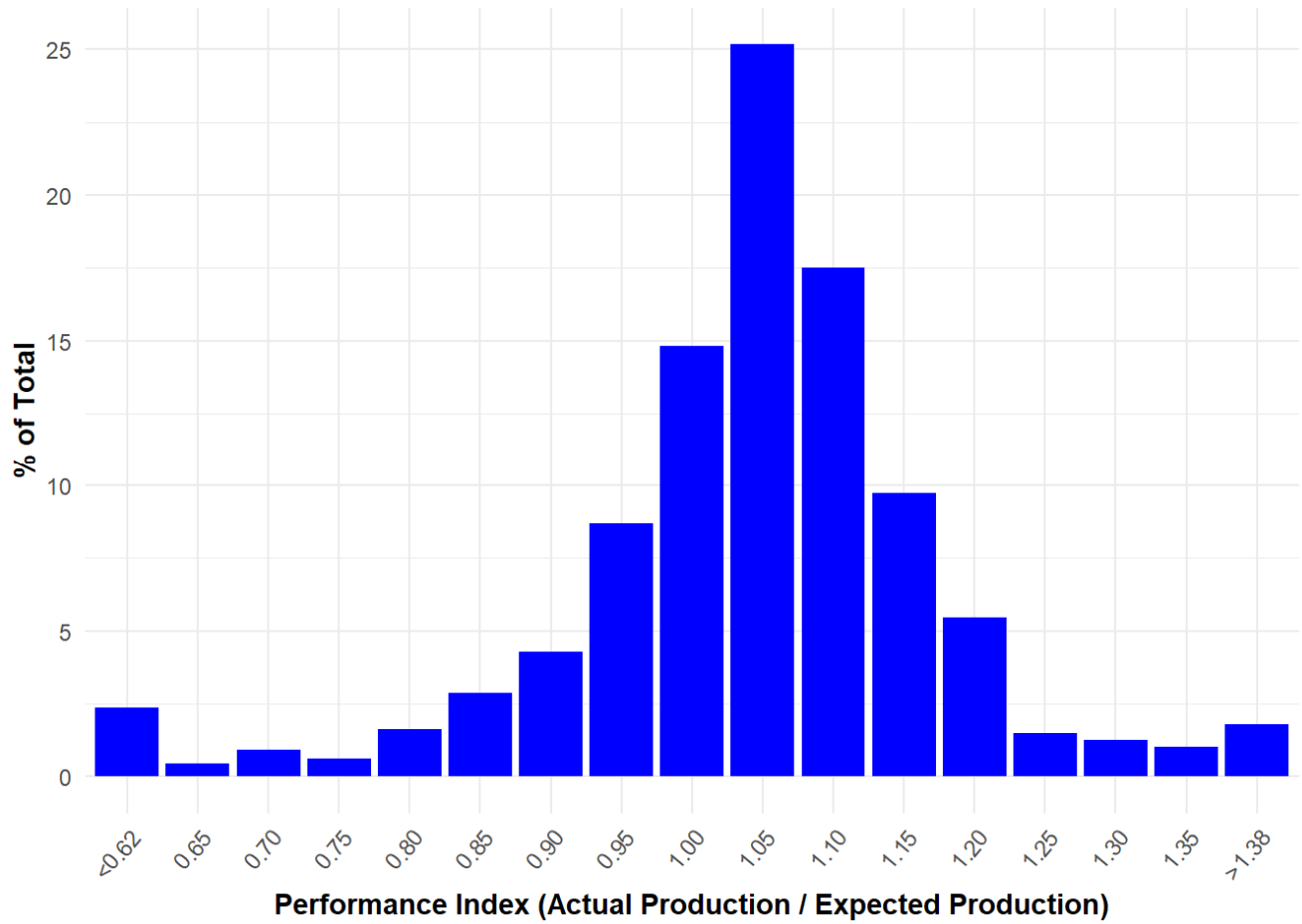
**Table 5-2 System availability frequency distribution**

Availability Bin Floor	% of Total	Availability Bin Floor	% of Total
0.995	60.3%	0.865	0.5%
0.985	1.7%	0.855	0.5%
0.975	6.6%	0.845	0.4%
0.965	6.6%	0.835	0.4%
0.955	5.2%	0.825	0.3%
0.945	4.1%	0.815	0.3%
0.935	2.7%	0.805	0.2%
0.925	1.4%	0.795	0.2%
0.915	1.2%	0.785	0.3%
0.905	1.0%	0.775	0.2%
0.895	0.9%	0.765	0.2%
0.885	0.7%	0.755	0.2%
0.875	0.7%	<0.755	3.2%

## 5.3 Production analysis results

### 5.3.1 Accuracy of Sponsor's energy estimation

Figure 5-1 below summarizes key attributes of the Production Sample.



**Figure 5-1 Production sample summary**

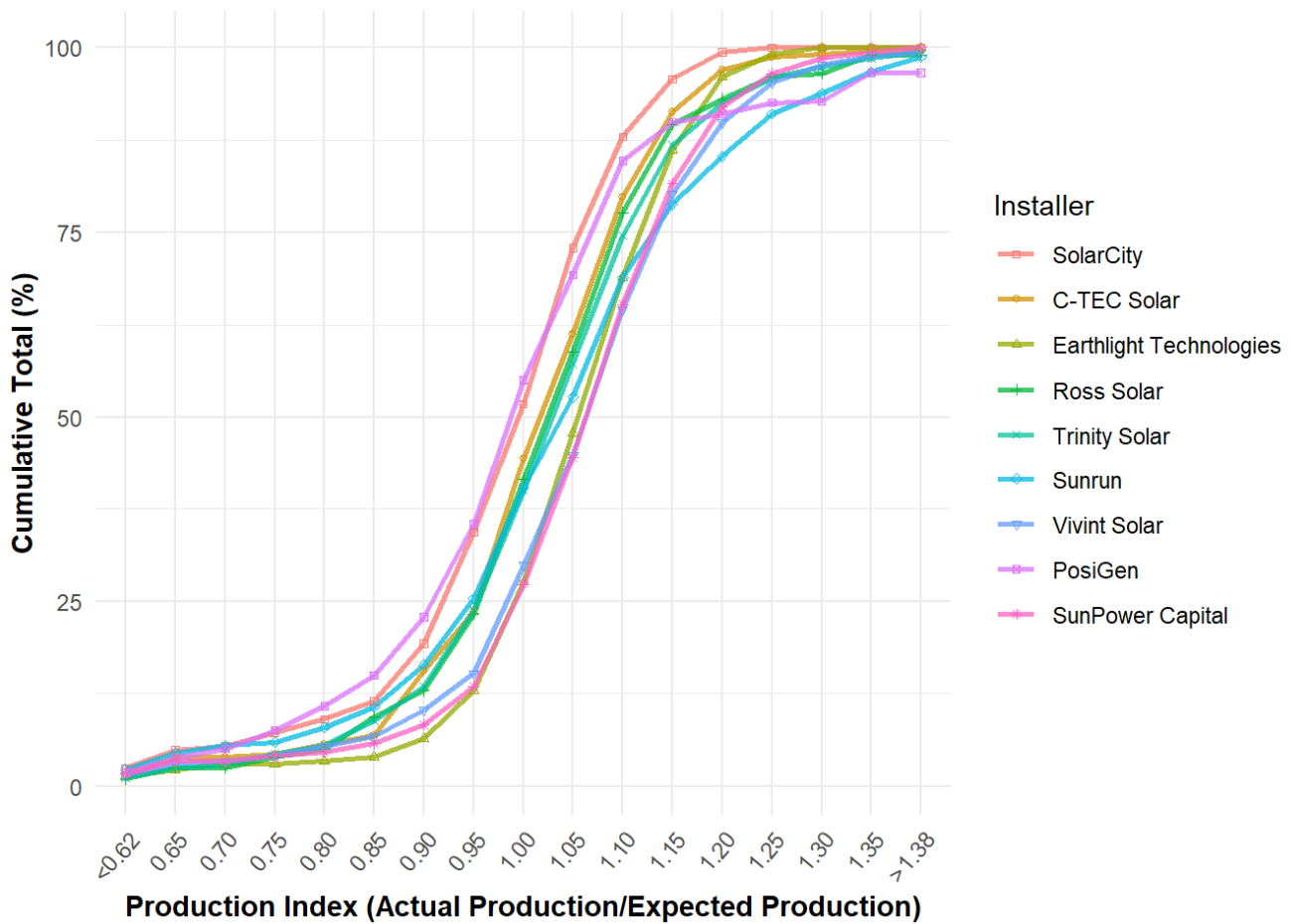
**Table 5-3 Summary statistics of energy production of the Production Sample**

<b>System Count</b>	2,551
<b>Average Performance index</b>	1.04
<b>Median Performance index</b>	1.05
<b>Performance index Standard Deviation</b>	15.4%
<b>Minimum Performance index</b>	0.01
<b>Maximum Performance index</b>	1.64
<b>Performance index &lt; 0.95</b>	16.3%

The Sponsor's operating systems have overperformed their current modeled as-built estimates on average by 4.0%. The Performance Index standard deviation is 15.4%.

### 5.3.2 Accuracy by Installer

DNV GL has presented system performance for the top ten install partners that appear in the Portfolio, as summarized in Figure 5-2.



**Figure 5-2 Cumulative distribution functions of performance index by Install Partner**

**Table 5-4 Summary statistics for energy production by Install Partner**

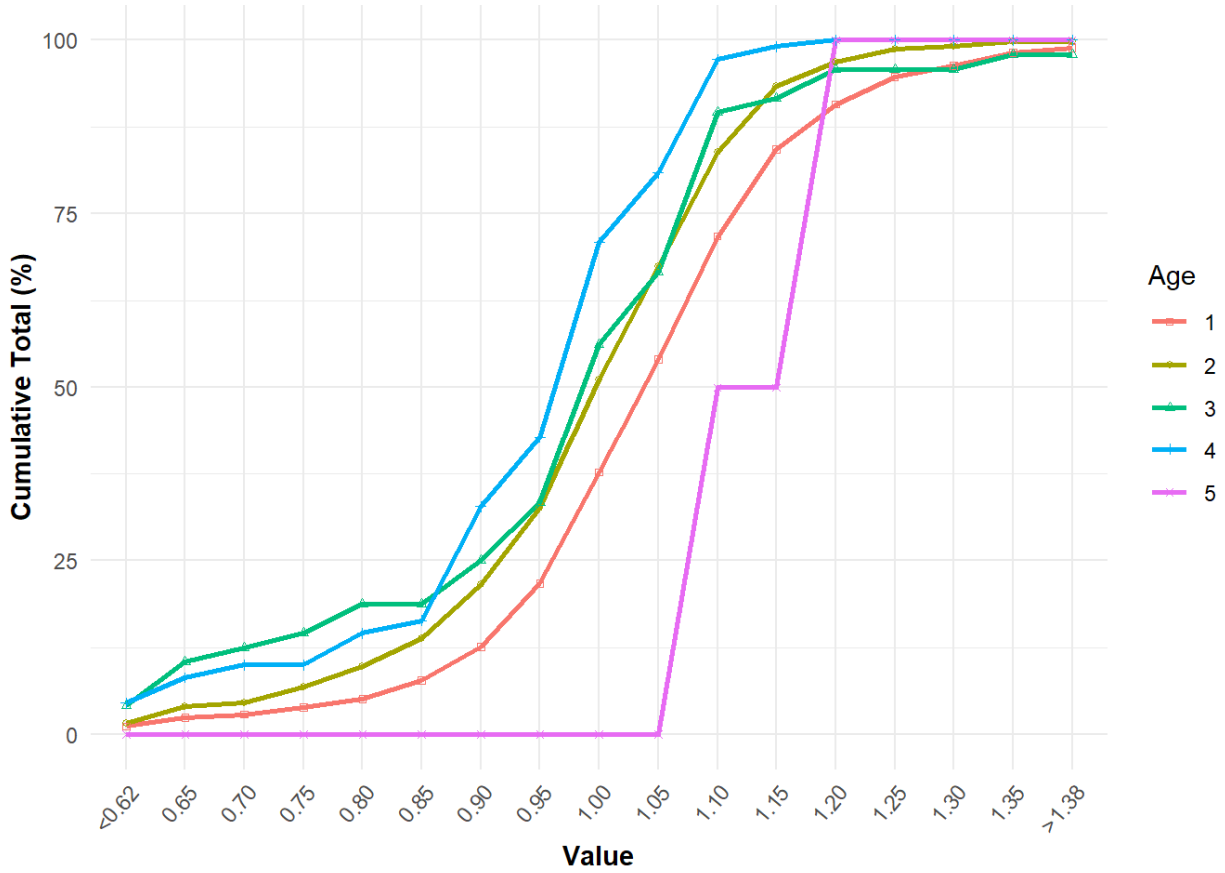
Installer	Count	Mean	Median	Standard Deviation	Minimum	Maximum	< 0.95	> 1.05
Trinity Solar	684	1.05	1.06	13.72	0.16	1.6	14.8%	54.1%
Vivint Solar	390	1.07	1.08	14.14	0.17	1.62	9.7%	67.7%
PosiGen	337	1.02	1.02	18.57	0.17	1.64	24.3%	33.5%
Sunrun	201	1.05	1.06	18.39	0.02	1.53	18.9%	52.7%
SunPower Capital	174	1.06	1.09	15.75	0.07	1.36	8.1%	67.8%
C-TEC Solar	116	1.02	1.05	15.18	0.13	1.41	17.2%	48.3%
Earthlight Technologies	116	1.07	1.08	10.6	0.41	1.27	6.0%	67.2%
Ross Solar	101	1.04	1.06	15.87	0.1	1.39	13.9%	54.5%
SolarCity	83	0.98	1.01	19.66	0.06	1.19	19.3%	33.7%
EcoSmart Home Services	67	0.99	1.01	16.01	0.01	1.3	23.9%	29.9%

### 5.3.3 Accuracy by system age

Figure 5-3 illustrates the cumulative distribution of the PI by the age of the system. Each curve represents



systems of various ages.



**Figure 5-3 Cumulative distribution functions of Performance Index by PTO date**

**Table 5-5 Summary statistics of energy production by system age**

Age [Years]	1	2	3	4	5
Systems	1,862	609	24	55	1
Average PI	1.06	1.00	0.98	0.92	1.17
Maximum PI	1.64	1.44	1.52	1.13	1.17
PI Std. Deviation	14.7	15.06	21.68	25.77	NA
Minimum PI	1.64	1.44	1.52	1.13	1.17

The PI is seen to generally decrease after one year of operation, from a high of 1.06 for systems one year old to a low of 0.92 for systems four years old. However, the sample size for systems for ages 3, 4, and 5 is generally low and may not necessarily be representative of longer operating systems. DNV GL notes that the

Portfolio is primarily composed of relatively new systems under 2 years and that performance over time will be monitored by the Sponsor as described in Section 4.3.3. DNV GL notes the performance difference between systems one, two, and three years old may be attributed to factors outside of the analyzed irradiance variability. See Section 5.2.3 for additional discussion on possible performance factors.

### 5.3.4 Accuracy by module manufacturer

DNV GL has presented system performance for the top ten module manufacturers that appear in the Portfolio, as summarized in Figure 5-4.

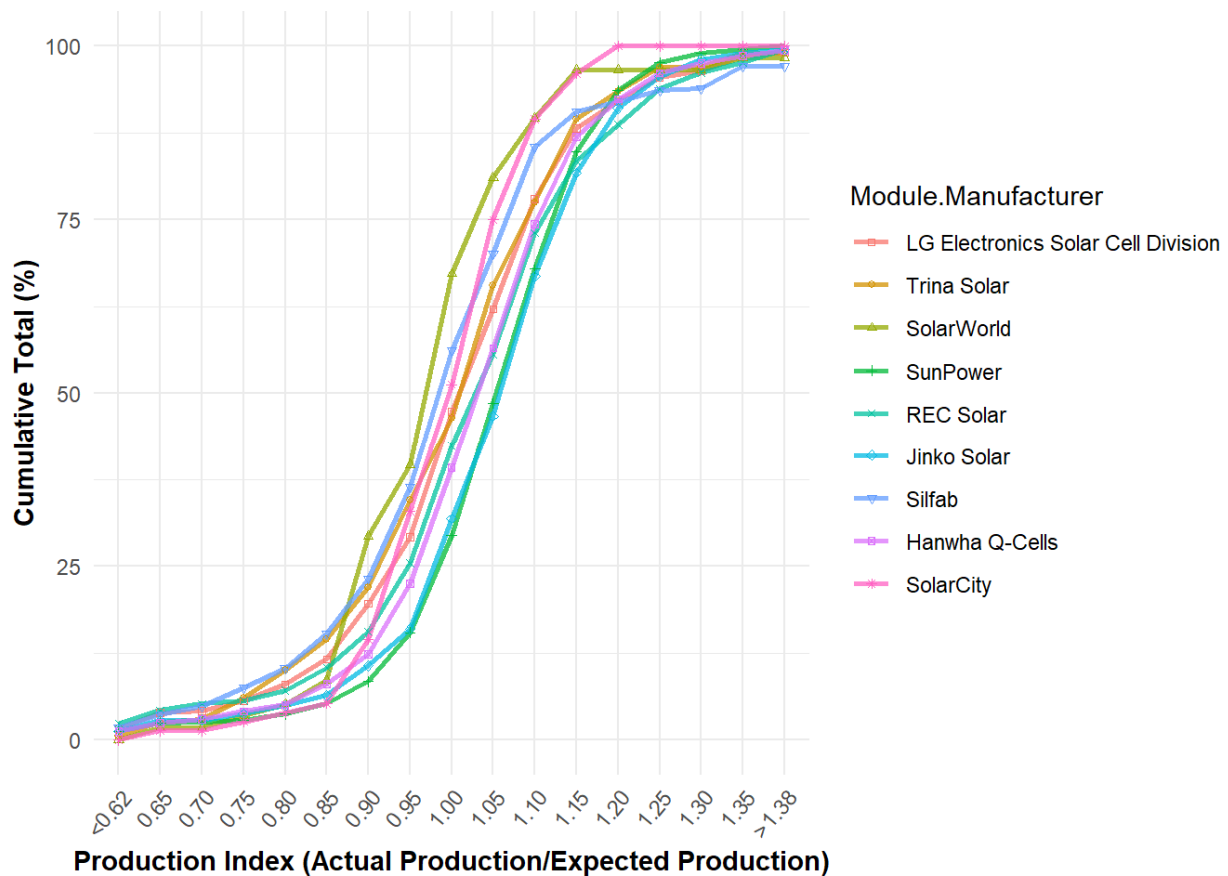


Figure 5-4 Cumulative distribution functions of Performance Index by module manufacturer

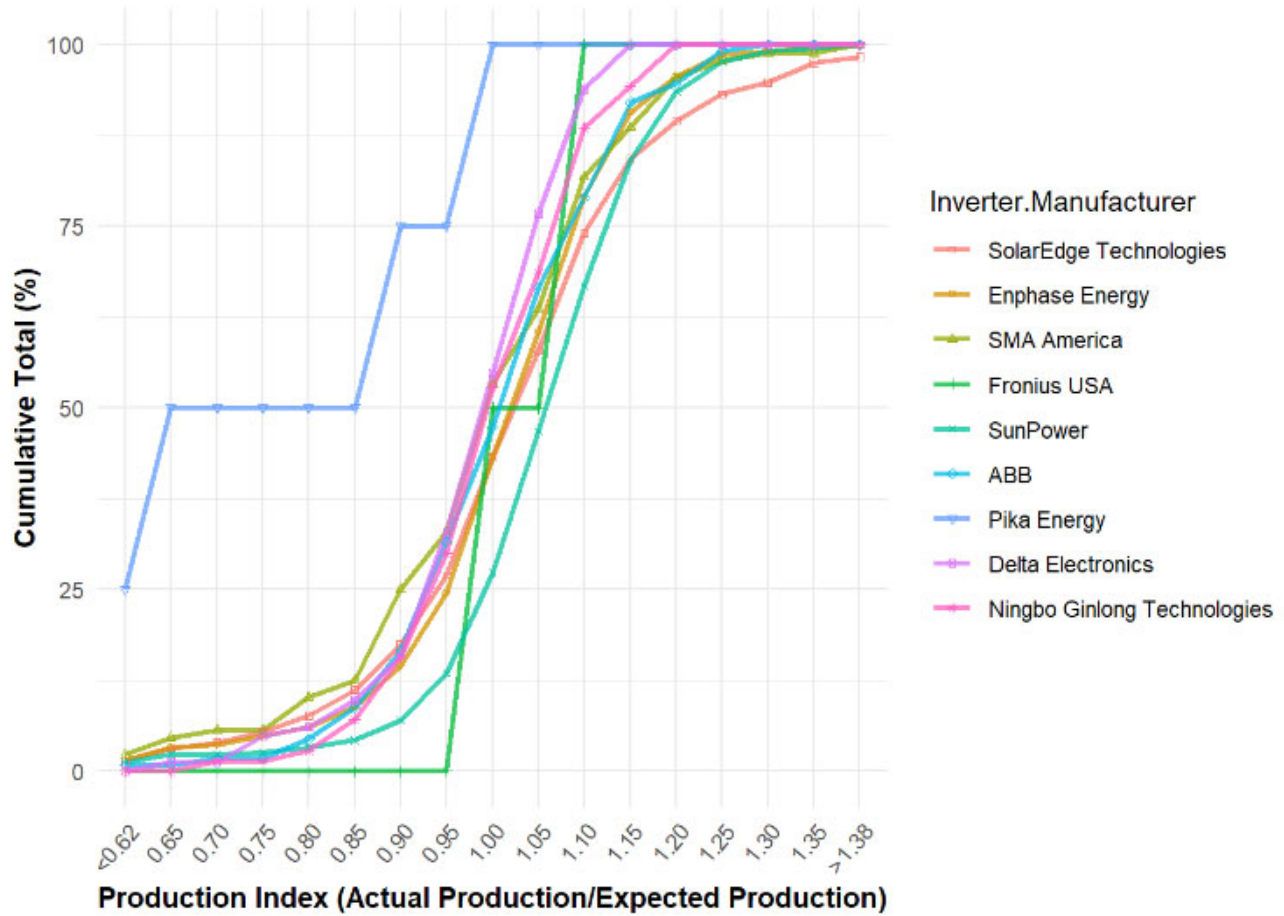
**Table 5-6 Summary statistics of energy production by module manufacturer**

Module manufacturer	Count	Mean	Median	Standard deviation	Minimum	Maximum	< 0.95	> 1.05
Hanwha Q-Cells	583	1.05	1.06	13.84	0.06	1.56	13.6%	55.2%
Silfab	407	1.01	1.02	17.75	0.17	1.64	25.6%	32.2%
Jinko Solar	397	1.07	1.08	13.84	0.17	1.62	9.8%	65.7%
LG Electronics Solar Cell Division	375	1.02	1.04	16.7	0.01	1.53	21.9%	45.1%
SunPower	362	1.06	1.08	13.56	0.07	1.37	8.6%	64.9%
REC Solar	106	1.04	1.05	18.22	0.1	1.44	17.9%	50.9%
Trina Solar	100	1.02	1.03	15.91	0.2	1.54	26.0%	45.0%
SolarCity	38	1.01	1.00	8.7	0.69	1.17	13.2%	31.6%
SolarWorld	29	1.00	0.97	12.57	0.7	1.49	24.1%	24.1%
JA Solar Holding	27	1.05	1.06	15.78	0.57	1.37	11.1%	59.3%

Within these results, SolarWorld systems present the lowest PI at 1.00. Jinko systems outperformed the estimated production with a PI of 1.07.

### 5.3.5 Accuracy by inverter manufacturer

Figure 5-5 presents a summary of system performance for the Production Sample binned by inverter manufacturer.



**Figure 5-5 Cumulative distribution function for performance indexes by inverter manufacturer**

**Table 5-7 Summary statistics for energy production by inverter manufacturer**

Inverter manufacturer	Count	Mean	Median	Standard deviation	Minimum	Maximum	< 0.95	> 1.05
SolarEdge Technologies	1270	1.04	1.05	16.89	0.02	1.64	18.8%	49.9%
Enphase Energy	756	1.03	1.05	14.03	0.01	1.44	15.5%	49.9%
SunPower	342	1.07	1.08	12.95	0.07	1.37	7.0%	67.3%
ABB	57	1.03	1.03	10.25	0.67	1.25	19.3%	40.4%
SMA America	44	1.00	1.03	17.25	0.29	1.35	25.0%	38.6%
Delta Electronics	41	1.01	1.01	8.66	0.69	1.12	12.2%	34.2%
Ningbo Ginlong Technologies	35	1.02	1.03	8.24	0.74	1.14	20.0%	37.1%

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Among the manufacturers that represented more than 1% of the Portfolio, SMA America had the lowest PI, performing on par with estimates. SolarEdge Technologies had the highest PI, performing 4.0% above estimates.

## 5.4 SHREC production analysis

### 5.4.1 SHREC minting process summary

As described in the SHREC Creation and Minting Process Standard Operating Procedure (the "SOP") and email correspondence to changes in the procedure provided to DNV GL in June 2019, the Sponsor creates and mints SHRECs from qualified projects. [26]

A summary of the procedure is as follows:

- Obtain net production in kWh from the Locus monitoring data platform
- Adjust the production data with the CPR solar resource ratio
- Compare adjusted measured production to the energy estimate for each system.
- If the adjusted measured production exceeds 200% of the estimated production and is 500 kWh greater than the estimated production, the Customer assumes the value to be erroneous due to communication errors or back fed generation. Measured production is then limited to the 200% cap.
- 1 MWh equates 1 unit SHREC.

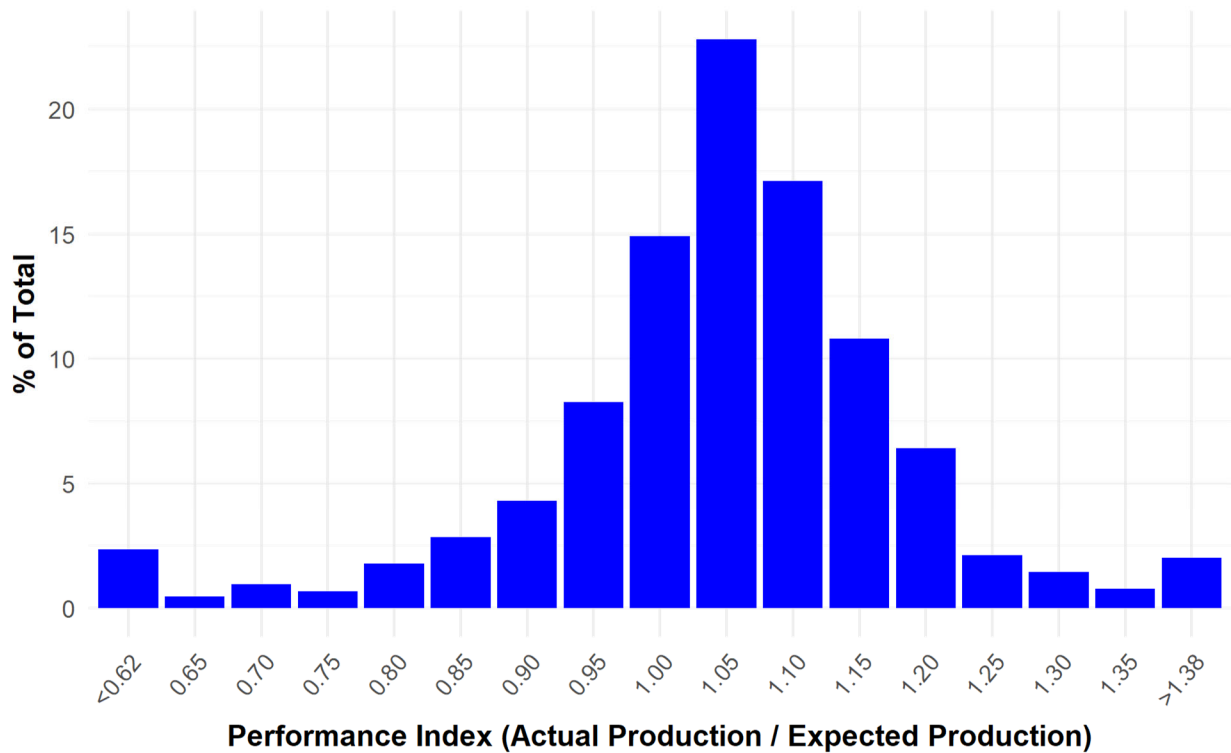
In order to understand future performance of the Portfolio in terms of the SHREC asset class, DNV GL has analyzed past performance of the Portfolio and converted the past performance of SHREC estimates using the processes described in the SOP. DNV GL understands that historically minted SHREC production is largely unavailable, as the Sponsor was granted permission in 2015 to mint SHRECs beginning with 2017.

### 5.4.2 Performance Index of estimated SHREC production

DNV GL has analyzed historical production and processes described in the Section 5.4.1 to develop a synthetic dataset of past SHREC performance. This is done due to the differences in comparisons between the metered production and SHREC forecast estimate, and the SHREC minting process. DNV GL has assumed that all MWh estimated convert to units of SHREC in the Sponsor's SHREC estimate.

DNV GL has approached the analysis by considering the following:

- Utilize the cleaned dataset arrived after data quality management described in Section 5.2.1
- Adjusting the measured production on a monthly basis using the steps described in Section 5.4.1
- Reproduce Performance Indexes utilizing the method described in Section 5.2



**Figure 5-6 Performance Index distribution of the Portfolio**

**Table 5-8 Summary statistics of synthetic SHREC Production**

Statistic	Summary
Count	2,553
Mean	1.043
Median	1.054
Standard deviation	15.6%
Minimum	0.007
Maximum	1.649
< 0.95	16.7%

DNV GL notes that the mean production is increased by 0.4% after comparing these results to those presented in Section 5.3.1. This is likely due to months with high production being capped at 200% of the adjusted estimated production rather than excluded from the analysis completely. Considering that exceedance of the threshold is a rare occurrence in the Portfolio, the small increase seems to align with expectations.

## 5.5 Forecast and uncertainty calculations

DNV GL has completed an uncertainty analysis specific to the Portfolio results presented above. This uncertainty analysis is utilized for Portfolio forecasting as presented in Section 5.5.4, below.

An ensemble of PV systems represents a lower uncertainty relative to the sum of individual systems—this is referred to as the “portfolio effect”. DNV GL has estimated the uncertainty in its production forecast by the method described below.

### 5.5.1 Sources of uncertainty

The sources of uncertainty in the forecast of energy production can be categorized as two types: (1) those due to uncertainties in the historical data and analysis methodology; and (2) those due to the future variability of the solar resource and production loss factors. The portfolio effect arises due to the statistical independence of the contributing sources of uncertainty, which are described in the following subsections.

#### 5.5.1.1 Historical uncertainty

- **Sample representation:**
  - **Production Index:** DNV GL’s forecast is an adjustment to the Sponsor’s forecast, which is assumed to follow the empirical distributions provided in Section 5.5.1. It is observed that regions with larger quantities of PV systems generally have lower production index uncertainty as defined by the law of large numbers.
  - **Limited Data:** For regions lacking a representative sample of production data, uncertainty has been increased.
  - **Technology:** For Portfolio systems whose specifications are as yet undefined, or whose technology (e.g., model type) is not analyzed in the available sample of production data, uncertainty has been assigned to account for any potential deviation in production.
- **Analysis process:**
  - **Suniness:** The uncertainty associated with production data’s period of record. This uncertainty is calculated by considering the region’s inter-annual variability and reducing this value by the square root of the period of record of the production data. This uncertainty value represents the possible deviation in solar radiation and thus energy production, as compared to the long-term solar radiation of the region.
  - **Adjustment to long-term reference:** The uncertainty associated with an adjustment from the historical production data to a long-term solar radiation source. This adjustment process can determine and correct for above or below average solar radiation over the production data period of record.
  - **General:** The uncertainty associated with the general analysis process is taken into consideration. This accounts for factors such as the number of systems being forecasted versus the number of systems with production data in the portfolio, the consistency of the energy assessment forecasting methodology within the portfolio, and other portfolio-specific factors that may need to be accounted for. DNV GL notes that this portfolio has a typical level of general uncertainty.

- **Measurement/Data Reliability:** The accuracy of the production data, including the accuracy of the production metering hardware and validation results.

DNV GL’s uncertainty expectation and methodology is set forth in the Table 5-9 below for each of the uncertainty factors. These values are blended to represent the Portfolio and consider the composition of the Portfolio and the Production Sample in terms of methodology used, the availability of production data, and the definition of system details.

**Table 5-9 Uncertainty in the correction factor**

Production Sample Representation	Analysis Process	Measurement and Data Reliability	Historical Uncertainty
2.0%	3.9	1.6	4.7%

#### 5.5.1.2 Future variables

- **Interannual Variability (IAV):** In any given year, Portfolio production may be higher or lower as a result of variability in the incident solar radiation; and
- **Availability:** The variability of the future energy production due to availability.

**Table 5-10 Future uncertainty**

Inter-Annual Variability 1-Year	Inter-Annual Variability 15-Year	Availability	Future Uncertainty 1-Year	Future Uncertainty 15-Year
1.7%	0.4%	2.0%	2.6	2.0%

#### 5.5.2 Portfolio mean and uncertainty

DNV GL presents correction factors for the Sponsor’s Portfolio first-year energy estimates based on historical data and future uncertainty. Table 5-11 summarizes the estimated correction factors along with the corresponding uncertainty. DNV GL’s annual forecast for future years for the Portfolio is provided below in Section 5.5.4.



**Table 5-11 Correction factors for Year-1 and uncertainties**

Correction Factor	Total Uncertainty 1-Year <sup>1</sup>	Total Uncertainty 15-Year <sup>1</sup>
1.033	5.4%	5.1%

Combining the model uncertainty (found using the principal values described in Section 5.5.1) with the solar resource and availability uncertainty for both the 1-year or 15-year future period cases yields overall Portfolio uncertainty of 5.4% and 5.1%, respectively.

### 5.5.3 Degradation

For an individual system utilizing standard crystalline modules, DNV GL utilizes an asymmetric degradation distribution with a mean of 0.81% and a P90 of 1.8% [27]. For an individual system utilizing SunPower E-series or X-series modules, DNV GL utilizes a normal degradation distribution with a mean of 0.25% and a standard deviation of 0.7%. For large portfolios of systems consisting of a variety of module models, some independent behavior with regards to degradation is expected. This independence reduces the overall Portfolio-level degradation uncertainty when compared to the individual system uncertainties.

To calculate the Portfolio-level degradation uncertainty, DNV GL performed a Monte Carlo simulation on the Portfolio systems. This simulation was run with the assumption that each module model behaves independently. DNV GL notes that other factors can create either correlation or independence in degradation; however, little data is available to inform how these factors behave. In each iteration of the simulation, the model sampled a degradation rate from the appropriate distribution for each module model, and the Portfolio-level degradation rate was then calculated by taking the energy estimate-weighted average of the degradation rates. The results of 5,000 simulations of the Portfolio are presented in Table 5-12.

**Table 5-12 Portfolio degradation rates**

Percentile	Degradation rate
P50	-0.68%
P75	-0.89%
P90	-1.10%
P95	-1.25%
P99	-1.53%

When calculating annual forecasts, DNV GL combines the degradation rates with the Year 1 model uncertainties and variabilities assuming an independent relationship. This results in a further reduction of the apparent degradation rate observed when a degraded forecast is compared with the Year 1 forecast for any of the downside scenarios.

## 5.5.4 Annual forecasts

Based on the observations above, DNV GL has developed an expectation of the annual production for the Portfolio at various probabilities of exceedance. The annual forecasts are the combination of the uncertainties reported in Section 5.5.2, the degradation uncertainty described in and Section 5.5.3, and reductions in availability during the years when inverters are expected to be replaced. Table 5-13 displays the downtime estimated due to inverter replacements by DNV GL.

**Table 5-13 Estimated availability due to inverter replacements**

Year	Availability due to inverter replacements
1	99.9%
2	99.9%
3	99.9%
4	99.9%
5	99.9%
6	99.9%
7	99.7%
8	99.4%
9	99.0%
10	98.4%
11	98.0%
12	98.6%
13	99.1%
14	99.5%
15	99.8%

The correction factor calculated in 5.5.2 represents the expected performance of the systems in the Portfolio on a going-forward basis and are therefore expressed as a percentage of the systems' current contractual estimates. Due to degradation, the contractual estimates are now lower than they were when the systems first began operating, making the correction factors higher than they would be if they were expressed as a percentage of the systems' first-year estimates. Because the Sponsor's financial model requires that the forecasts be expressed as a percentage of the Portfolio systems' first year energy estimates, it is necessary to calculate the extent to which the contractual energy estimates have been reduced by the contractual degradation rates for the system. DNV GL calculated the ratio of the Portfolio systems' estimates for the year of 30 April 2020 – 1 May 2021 to the total of the systems' first-year estimates to be 99.1%. This adjustment factor was applied to the annual forecasts in order to present the results as a percentage of the systems' first-year estimates.

The annual forecasts for various probabilities of exceedance for 1-year and 15-year periods are presented below in the tables below with Year 1 representing 30 April 2020 – 1 May 2021. These forecasts are expressed as a percentage of the Sponsor’s contractual first year production estimate [28] and in production in MWh. DNV GL notes that the relative production forecasts shown will change if the final Portfolio composition differs materially from the Portfolio analyzed.

**Table 5-14 Confidence limits for the Portfolio, 1-year period**

Year	p(50)	p(75)	p(90)	p(95)	p(99)
1	102.3%	98.6%	95.2%	93.3%	89.5%
2	101.6%	97.9%	94.5%	92.5%	88.8%
3	100.9%	97.2%	93.8%	91.8%	88.0%
4	100.2%	96.4%	93.0%	91.0%	87.2%
5	99.5%	95.7%	92.3%	90.2%	86.3%
6	98.8%	94.9%	91.4%	89.3%	85.3%
7	97.9%	94.0%	90.4%	88.2%	84.2%
8	97.0%	93.0%	89.3%	87.1%	82.9%
9	95.8%	91.8%	88.1%	85.7%	81.4%
10	94.6%	90.5%	86.6%	84.3%	79.8%
11	93.6%	89.4%	85.4%	83.0%	78.4%
12	93.4%	89.1%	85.0%	82.5%	77.7%
13	93.2%	88.8%	84.5%	81.9%	76.9%
14	92.9%	88.3%	83.9%	81.1%	75.9%
15	92.5%	87.7%	83.2%	80.3%	74.9%

**Table 5-15 Confidence limits for the Portfolio, production in MWh, 1-year period**

Year	p(50)	p(75)	p(90)	p(95)	p(99)
1	40,937	39,292	37,811	36,925	35,262
2	40,659	39,012	37,528	36,640	34,974
3	40,382	38,727	37,236	36,342	34,664
4	40,103	38,438	36,933	36,029	34,333
5	39,823	38,142	36,620	35,701	33,980
6	39,530	37,831	36,286	35,350	33,597
7	39,191	37,471	35,901	34,945	33,156
8	38,809	37,066	35,469	34,491	32,662
9	38,358	36,593	34,966	33,966	32,095
10	37,852	36,063	34,407	33,382	31,468
11	37,447	35,627	33,935	32,881	30,913
12	37,391	35,520	33,771	32,676	30,633
13	37,319	35,394	33,586	32,447	30,325
14	37,189	35,210	33,342	32,159	29,956
15	37,024	34,990	33,060	31,832	29,547

**Table 5-16 Confidence limits for the Portfolio, 15-year period**

Year	p(50)	p(75)	p(90)	p(95)	p(99)
1	102.3%	98.8%	95.6%	93.7%	90.2%
2	101.6%	98.1%	94.9%	93.0%	89.4%
3	100.9%	97.3%	94.2%	92.2%	88.6%
4	100.2%	96.6%	93.4%	91.4%	87.8%
5	99.5%	95.9%	92.6%	90.6%	86.9%
6	98.8%	95.1%	91.7%	89.7%	85.9%
7	97.9%	94.2%	90.8%	88.7%	84.7%
8	97.0%	93.2%	89.7%	87.5%	83.5%
9	95.8%	92.0%	88.4%	86.1%	82.0%
10	94.6%	90.6%	86.9%	84.6%	80.4%
11	93.6%	89.5%	85.7%	83.4%	78.9%
12	93.4%	89.2%	85.3%	82.8%	78.2%
13	93.2%	88.9%	84.8%	82.2%	77.4%
14	92.9%	88.4%	84.2%	81.5%	76.4%
15	92.5%	87.9%	83.5%	80.6%	75.3%

**Table 5-17 Confidence limits for the Portfolio, production in MWh, 15-year period**

Year	p(50)	p(75)	p(90)	p(95)	p(99)
1	40,937	39,358	37,937	37,086	35,491
2	40,659	39,078	37,654	36,802	35,202
3	40,382	38,793	37,361	36,502	34,891
4	40,103	38,503	37,057	36,188	34,558
5	39,823	38,207	36,743	35,859	34,202
6	39,530	37,895	36,407	35,505	33,815
7	39,191	37,534	36,020	35,097	33,370
8	38,809	37,128	35,585	34,640	32,870
9	38,358	36,653	35,080	34,110	32,297
10	37,852	36,122	34,518	33,523	31,664
11	37,447	35,685	34,042	33,017	31,104
12	37,391	35,577	33,876	32,809	30,819
13	37,319	35,450	33,689	32,578	30,506
14	37,189	35,265	33,442	32,286	30,133
15	37,024	35,043	33,159	31,956	29,719

## 6. MAJOR AGREEMENT REVIEW

DNV GL has reviewed the Master Purchase Agreement (MPA) for SHRECs between CT Green Bank and Eversource Energy and UI. The MPA covers buying and selling SHRECs and is the sole offtake agreement. DNV GL also presents the solar incentive structure relevant to SHREC generation. Review of installer EPC agreements is not included; the CT Green Bank’s procedures for qualifying installers are discussed in Section 2.

### 6.1 Master Purchase Agreement

#### 6.1.1 Summary

SHREC sales to The Connecticut Light and Power Company (dba “Eversource Energy”) and The United Illuminating Company (“UI”) are provided for using a Master Purchase Agreement (MPA). DNV GL has reviewed the following executed agreements (collectively, “MPAs”), both dated 7 February 2017 with Eversource Energy [29] and UI [30].

The MPAs provide for the Sponsor to sell SHRECs at firm pricing (\$50 per MWh for the first tranche, \$49 per MWh for tranche two and \$48 per MWh for tranche three) for 15 years. The Buyer, either Eversource Energy or UI, is obligated to purchase those SHRECs in a tranche associated with the energy generated by the projects assuming the pre-requisites have been met and continue to be met through the term. The main difference between the MPAs provided is the Buyer’s Percentage Entitlement (“BPE”). Eversource Energy having a BPE of 80% and UI having a BPE of 20%. DNV GL has not identified other meaningful differences between the individual MPAs.

While the Buyer is obligated to purchase all SHRECs from a qualifying tranche, there is not a SHREC guaranty or other performance-based terms that require a minimum amount of electricity be produced from a tranche.

A summary of the primary findings and/or risks identified is provided in the following table.

Section	Primary Findings
	<b>Parties and contract status:</b>
6.1.1	Buyer of SHRECs: Eversource Energy (80%) UI (20%) Contract status: Executed 7 February 2017
6.1.2	<b>Term:</b> The tranche delivery term starts on 1 January of a tranche year and continues for 15 years. The Buyer’s obligation to purchase tranche SHRECs will end no later than the earlier of when Sponsor achieves deployment of 305.4 MWdc of qualifying residential solar PV installations or 31 December 2022, meaning the final tranche start date would begin 1 January 2022.

Section	Primary Findings
6.1.3	<b>Sale of SHRECs:</b> The purchase price of each SHREC is \$50.00 in the MPAs for Tranche 1, \$49 for Tranche 2, and \$48 for Tranche 3. The Sponsor establishes the price of each tranche in accordance with Connecticut General Statutes. An SHREC is equal to one megawatt hour (MWh) of electricity generated from a qualifying residential solar photovoltaic system. The Buyer is obligated to purchase all SHRECs generated by SHREC projects in a tranche. SHRECs are invoiced quarterly.
6.1.4	<b>Obligations of Sponsor:</b> The Sponsor is responsible for ensuring energy generation has begun prior to tranche delivery start date, providing the tranche purchase price and project details, ensuring the SHREC projects qualify as residential solar PV system, executed the tranche confirmation (Exhibit B), and completing delivery of SHRECs to Buyer.
6.1.5	<b>Obligations of Buyer:</b> The Buyer is responsible for ensuring it has received regulatory and corporate approval and has received tranche detail and executed the confirmation (Exhibit B).
6.1.6	<b>Energy generation and metering:</b> SHREC projects must be located behind a qualifying utility revenue meter and must have a separate meter dedicated to measurement of SHREC project's energy output. The meter shall be installed, operated, maintained, and testing to meet applicable requirements and standards of the utility and electric system operator.

## 6.1.2 Term and termination

The agreement term begins upon execution and, unless terminated earlier, continues for 15 years from the final tranche start date. The Buyer's obligation to purchase tranche SHRECs will end no later than the earlier of when Sponsor achieves deployment of 305.4 MWdc of qualifying residential solar PV installations or 31 December 2022, meaning the final tranche start date would begin no later than 1 January 2022.

The tranche delivery term starts on 1 January of a tranche year and continues for 15 years.

## 6.1.3 Sale of SHRECs

The purchase price of each SHREC is set by the Sponsor in accordance with the Connecticut General Statutes, currently not more than \$50.00 (the price for each SHREC in Tranche 1), \$49 (the price for each SHREC in Tranche 2), and \$48 (the price for each SHREC in Tranche 3). An SHREC is equal to one megawatt hour (MWh) of electricity generated from a qualifying residential solar PV system. The Buyer is obligated to purchase all SHRECs generated by SHREC projects in a particular tranche, irrespective of any delays in REC deliveries, whether or not due to one or more force majeure events. Upon transfer and receipt, Buyer receives titles to all the SHRECs and Environmental Attributes.

Assuming all obligations are met, SHRECs are bought and delivered within 90 days after tranche delivery term start date. For each contract year of the tranche term, SHRECs are delivered equal to the electricity produced by projects in the applicable tranche. Payment for any SHRECs are invoiced quarterly, with payment due by the last business day of the month following the month during which SHRECs were delivered.



## 6.1.4 General obligations

The Sponsor is responsible for providing notice to the Buyer certifying:

- Details of the tranche project's and their system size, tranche delivery term start date, and purchase price has been provided in Exhibit B and has been executed between both parties for each tranche.
- Energy generation has begun prior to tranche delivery start date
- The tranche purchase price
- The SHREC projects, as constructed, meet all of the requirements of a qualifying residential solar photovoltaic system pursuant to the Energy Act, which means the project:
  - Receives funding from the Connecticut Green Bank
  - Certified by the authority as a Class I renewable source (e.g. electricity generated from solar power)
  - Emits no pollutants,
  - Located on the customer-side of the review meter of a one-to-four family home,
  - Serves the distribution system of the electric distribution company
  - Capable of producing SHRECs
- Has satisfied all obligations in the MPAs to complete the delivery of the SHRECs to Buyer

## 6.1.5 Buyer's general obligations

The Buyer agrees to the following general obligations:

- Has received regulatory and corporate approvals
- Details of the tranche project's and their system size, tranche delivery term start date, and purchase price has been provided in Exhibit B and has been executed between both parties for each tranche.

## 6.1.6 Metering and interconnection


SHREC projects must be located behind a qualifying Connecticut electric system's revenue meter. The MPAs do not allow for a SHREC project to be interconnected to the utility electric system. The project must have a separate meter dedicated to measurement of the SHREC project's energy output. The meter shall be installed, operated, maintained, and tested to meet applicable requirements and standards of the utility and electric system operator.

## 6.1.7 Liability limits

In the MPAs reviewed by DNV GL, the Sponsor nor the Buyer is liable to the other party for any damages or otherwise.

## 6.2 Solar incentive structure

The following describes the current residential solar incentives as per the residential solar investment program website [31] which provides both current and historical incentive levels. As the program is structured as a declining incentive block structure, projects in Tranche 3 will have received various incentive levels:

- 
- When purchasing a solar PV system for your home, the EPBB incentive is calculated at \$0.426/watt up to 10 kW for utility consumption equaling the last 12 months of electricity usage and \$0.328/watt from previous utility consumption for systems up to 20 kW. Systems that have a calculated design factor less than 75% receive a discounted incentive.
  - For PV systems that are leased, the PBI is calculated at \$0.03/kWh for system up to 20 kW. The PBI is paid quarterly over six years upon validation of system generation.

## 6.3 O&M Agreement

DNV GL understands that the Sponsor does not have direct responsibility for O&M costs for the Portfolio, as the Sponsor's role is as an asset program administrator. As such, DNV GL has not reviewed either O&M cost estimates or inverter replacement cost projections.

## 7. OPERATING SYSTEM REVIEW

### 7.1 Design audit review

DNV GL has completed electrical design reviews of a sample of 20 systems from the Portfolio for the purpose of confirming consistency with the Sponsor's agreed processes and identifying any specific issues or risks. The systems were independently selected by DNV GL to be representative of the Portfolio as a whole. The detailed findings from the review are presented in Appendix A and a summary of the audit systems is shown in Table 7-1.

**Table 7-1 Design review system summary**

System	Size [kW dc]	Installer	Drawing Rev Date
23359	7.42	Vivint Solar	12/15/2016
25902	12.8	Ross Solar Group	4/4/2017
26200	1.02	C-TecSolar	6/20/2017
28957	4.48	C-TecSolar	10/23/2017
29044	4.06	Vivint Solar	12/5/17
29047	8.64	Earthlight	2/27/2017
29426	13.02	Ross Solar Group	1/26/2018
29623	8.7	Posigen CT LLC	2/28/2017
29687	5.4	Tesla	11/8/2017
30047	13.4	Sunlight Solar Energy	12/14/2017
30543	6.38	Posigen CT LLC	6/6/2018
30631	4.225	Tesla	1/6/2018
31451	15.34	Trinity Solar	3/8/2018
32507	9.44	Trinity Solar	5/8/2018
32856	4.9	Sunpower	5/10/2018
33291	8.4	Sunrun	5/31/2018
34118	10.44	Sunpower	7/11/2018
36370	9.28	Sunrun	9/28/2018
36462	10.22	Sunlight Solar	10/2/2018
37248	5.52	Earthlight	11/5/2018

### 7.1.1 Electrical design

DNV GL reviewed the electrical design drawing package provided by the Sponsor via their BOX project folder for each sample system. The electrical design packages have varying degrees of consistency and completeness.

DNV GL notes the following observations:

- Fourteen of the systems did not indicate the racking system being utilized. DNV GL was unable to confirm which mounting structures are UL 2703 listed and assess racking specific grounding considerations for these systems. Racking details are typically included within the design, but DNV GL did note that the installation process includes inspection checklists that do indicate that the racking system is grounded.
- The self-inspection photos for seventeen of the systems did not provide adequate information for review of the warning label signs. DNV GL notes that for multiple projects low resolution photos were provided for review which showed warning signs have been applied to the systems - some photos were taken at close range and the warning label can be read easily, while some photos were taken at a distance and it is more difficult to read the text. DNV GL is unable to confirm the content of these warning signs, code compliance and if they are appropriate for their respective systems. The Sponsor has indicated that it will instruct installers to take clearer photos of labels and from a closer distance so that they can all be read in detail.
- One of the projects does not address technology selection nor design approaches that could provide Potential Induced Degradation (PID) mitigation which leaves the potential for performance degradation over time and possible warranty coverage issues (specific to module installation manual language compliance). This is a common omission within residential portfolios; however current design approaches are starting to include this focus within their design processes.
- One system utilized undersized OCPD for the inverter output circuit they are protecting. This is not necessarily a safety concern, but it could cause nuisance trips and is not code compliant.

Due to the omissions noted, the sampled system designs exhibit varying degrees of quality and do not necessarily reflect a unified design process. While the omissions noted should be rectified for future designs, critical issues were not found and therefore DNV GL considers that the projects meet standard electrical design quality compared with typical practices in the residential market. Plan sets provide the necessary details, conductors and OCPD are sized appropriately, and equipment is rated for its intended usage, except where noted. DNV GL does not expect that the PV systems in the Portfolio are at above-normal risk of electrical issues and the inspections checklists provide additional assurances.

The detailed findings from the electrical design review are presented in Appendix A.

### 7.1.2 Structural design

The Sponsor does not require installers to submit structural design drawings as part of project completion. As such, DNV GL was not able to select a sample of structural designs for audit. Site visit inspection results are summarized in Section 7.2 in lieu of a structural design audit sample review.

### 7.1.3 RSIP inspection report review

DNV GL reviewed self-inspection reports and third party-inspection reports, if available, provided by the Sponsor for each of the twenty systems in the design audit review sample shown in Table 7-1. Prior to receiving an incentive, passing inspection documentation is required to be submitted. Therefore, all systems reviewed were deemed to have passed by the Sponsor. DNV GL has reviewed the inspection reports for completeness and any inconsistencies in the reports. DNV GL notes the following observations:

- For 19 systems, the inspection forms were complete or missing items that were deemed to be low risk. The most prevalent low risk deficiency was failure to complete the performance data section and provide solar reporting device information. It's also noted that for two systems, passing checks were provided for backup generator and battery backup when photographs did not indicate that either were installed at the home, suggesting that all items were checked as passing without care and attention.
- For the remaining system, there were missing passing checks for supply interconnection. If proper bonding was not achieved and overcurrent protection is not in place this would pose a high risk to the home.

Notes on the findings are presented in Appendix A. [Site inspection review summary](#)

### 7.2.1 Site visit sample

Ten PV systems were inspected in February 2020. These systems are distributed across seven install contractors as shown in Table 7-2.

**Table 7-2 2020 Site visit Sample summary**

Install Partner	# of systems in Portfolio	% of systems in Portfolio	# of system inspected
Trinity Solar	2,047	43%	1
PosiGen	523	11%	3
Sunrun	348	7%	1
SunPower Capital	245	5%	1
Ross Solar	148	3%	1
Earthlight Technologies	155	3%	2
SolarCity	113	2%	1
<b>Total</b>	<b>3,579</b>	<b>74%</b>	<b>10</b>

## 7.2.2 Sampling considerations

DNV GL provided the audit sample systems as well as 15 additional systems to IBTS for site visit scheduling. These candidate systems for inspection were selected from the top 10 installers by installed capacity (MWac). Sites inspected were determined by scheduling logistics organized between IBTS and homeowners. The age of the systems inspected was between 0-5 years. The inspected systems are presented below.

**Table 7-3 2020 site visit sample by installer**

System ID	Installer
RPV-29426	Ross Solar
RPV-34118	SunPower Capital
RPV-29687	SolarCity
RPV-28820	PosiGen
RPV-33566	PosiGen
RPV-32507	Trinity Solar
RPV-29047	Earthlight Technologies
RPV-37248	Earthlight Technologies
RPV-36370	Sunrun
RPV-29623	PosiGen

## 7.2.3 Inspection methodology

DNV GL employed IBTS as its sub-contractor for purposes of inspecting deployed CT Green Bank systems. Typically, IBTS inspectors are on site for approximately 1 hour. The inspection has five major sections, which include site and safety, point of interconnection, inverter, electrical, and mechanical. Twenty-one priority criteria have been identified, as presented in Appendix C.

Applicable questions per major category are determined based upon the specifics of the system being inspected. Overall, IBTS requires 70% of the total points available with no failed priority criteria to pass a system. IBTS grades each question on a pass / fail basis. Points are assigned as follows:

- Non-labeling criteria:
  - Pass = 5 points
  - Fail = 0 points
- Labeling criteria:
  - Pass = 1 point
  - Fail = 0 points

IBTS site visit reports are internally quality reviewed prior to delivery to DNV GL.

DNV GL has reviewed the IBTS summary reports as well as individual inspection reports and photo documentation per system. DNV GL’s summary of the ten site visit results, with particular focus on structural and electrical issues, is presented in the following sub-section.

## 7.2.4 Site inspection findings

An initial summary of IBTS’s findings is presented in Table 7-4, below.

**Table 7-4 CT Green Bank site inspection finding summary – IBTS scoring**

Case #	System ID	Installer name	IBTS Priority criteria missed	Overall score	Overall IBTS scoring
<b>SQ-1-20-8933</b>	RPV-37248	Earthlight Technologies	1	97.0%	FAIL
<b>SQ-1-20-8947</b>	RPV-32507	Trinity Solar	0	97.0%	PASS
<b>SQ-1-20-8932</b>	RPV-29047	Earthlight Technologies	0	98.0%	PASS
<b>SQ-1-20-8943</b>	RPV-34118	SunPower	1	96.0%	FAIL
<b>SQ-1-20-8937</b>	RPV-29426	Ross Solar Group	0	96.0%	PASS
<b>SQ-1-20-8939</b>	RPV-29687	Solarcity	1	94.0%	FAIL
<b>SQ-1-20-8945</b>	RPV-36370	Sunrun Install	0	94.0%	PASS
<b>SQ-1-20-8934</b>	RPV-29623	Posigen	0	96.0%	PASS
<b>SQ-2-20-9271</b>	RPV-28820	Posigen	0	89.5%	PASS
<b>SQ-2-20-9270</b>	RPV-33566	Posigen	1	93.12%	FAIL

DNV GL reviewed the IBTS results to identify which priority criteria were not satisfied and thus caused an automatic failure for the system with an otherwise high score.

Three of the ten systems were identified to have failed due to a structural priority criterion missed. For these systems, all failures were related to the inadequate installation of flashing. While IBTS considers this a priority criteria, DNV GL typically ranks these as low in the short term and medium risk in the long term, as they do not represent a risk of the system failing, and are easily identified visually and fixed. The Sponsor has indicated that it will add the following line on the inspection checklist to remind installers to confirm adequate flashing: “Any roof penetrations are properly flashed and sealed.”

One failure was also reported for electrical issues. The issue was conductors in contact with the roof surface, which DNV GL ranks as a low risk in the short term but high risk in the long term. The loose conductor issue is related to installation quality.

## 7.2.5 Structural inspection findings

Table 7-5 summarizes the incidence rate for structural issues across the ten inspected CT Green Bank systems.

**Table 7-5 Incidence of structural issues at CT Green Bank site visits**

Issue	Fails	% of systems with an issue
Flashing and Additional Penetrations	3	30%
Roof Conditions	0	0%
Racking & Module Installation	0	0%
Mounting of Other Components	0	0%
PV Array Layout <sup>4</sup>	2	20%

Of the structural inspection categories, Flashing and Additional Penetrations and PV Array Layout have the highest issue prevalence, at 30% of systems inspected having one or more occurrence in these categories.

Major IBTS findings, per inspection category, include:

- **Flashing and Additional Penetrations** – This category typically includes flashing of racking attachment feet and penetrations for conduits. Flashing installation issues included not installing metal flashing far enough under the shingles to provided required overlap for two systems, and on another the inspector did not observe the flashing installed for the Zep mounting feet, as per the installation manual. Improper flashing of penetrations can result in roof leaks, which may result in increased O&M costs if repairs are required under warranty. The International Residential Code (IRC) Section R903 and R905.2.8 has requirements for flashing of roof penetrations. The Sponsor has indicated that it will add the following line on the inspection checklist to remind installers to confirm adequate flashing: “Any roof penetrations are properly flashed and sealed.”
- **Roof Conditions** – Roof conditions overall were found to be in good condition at all sites, with no excessive wear noted and no residents reporting roof leaks. DNV GL notes that it does not appear that the inspectors entered the attic to inspect the roof framing or positive attachment of the racking system. No sites were indicated to require additional structural evaluation.
- **Racking & Module Installation** – Racking and module installation system issues were not noted to be observed at any of the ten sites.
- **PV Array Layout** –Two systems identified as having module layouts which did not have the minimum requirements for fire access as specified by the International Fire Code (IFC) 605.11.1 and IBC 1512.1. The Sponsor confirmed that these two projects were permitted before the latest IFC was adopted by Connecticut in October 2018.

## 7.2.6 Electrical inspection findings

Table 7-6 summarizes the incidence rate for electrical issues across the 10 inspected CT Green Bank systems.

<sup>4</sup> This is reflective of the IBTS report, please see the PV Array Layout discussion in Section 7.2.5.



**Table 7-6 Incidence of electrical issues at IBTS site visits**

Issue	Fails	% of systems with an issue
Conductors loose/low beneath array	1	10%
Undersized circuit breaker	2	20%
Inadequate labeling	10	100%

Of the electrical inspection categories, labeling is a commonly identified issue, with a 100% prevalence. Several NEC code violations were noted in these inspections. The Sponsor has indicated that it will instruct installers to take clearer photos of labels and from a closer distance so that they can all be read in detail. Wire management and labeling are already on the Green Bank inspection checklist but the Green Bank will increase correspondence with installers to reduce these occurrences.

Major IBTS findings, per inspection category, include:

- **Wiring and Wire Management** – One instance found where array circuit conductors were in contact with the roof surface or hanging loose, which over time due to roof abrasion could damage the PV wire and will lead to conductor failure. The criticality is low in the short-term but high for long-term reliability.

## 7.2.7 Discussion


DNV GL has assessed all the issues presented by the independent site inspection agency and has assigned a DNV GL criticality index (low, med, high) rather than relying on the “priority” designation provided by IBTS.

### 7.2.7.1 Structural

For the structural issues noted, most of the items observed do not represent a high criticality. The most prevalent issue found in the inspection reports relates to flashing, which represents a low criticality which may lead to long term roof damage if the flashing issues are not resolved and roof leaks develop, leading to increased O&M costs due to roof leak warranty claims. The Sponsor has indicated that it will add the following line on the inspection checklist to remind installers to confirm adequate flashing: “Any roof penetrations are properly flashed and sealed.” The two systems where improper clearance for fire access was noted represent a high criticality in the case of a fire, as the clearances are intended to provide access paths for firefighting operations. Although the systems did not meet the setback requirements, DNV GL notes that for most residential systems there are typically alternative ventilation and access options, given that the PV system typically does not cover an entire roof in which it is installed, or adjacent roofs. Additionally, for residential fires local authorities may choose not to vertically ventilate and access the roof due to the risk, and local jurisdictions may choose to relax these setback requirements. The Sponsor confirmed that the IFC requirements for these clearances had not yet been adopted in Connecticut at the time of installation. Both systems had applied for permits before the fire code was adopted in October 2018.

### 7.2.7.2 Electrical

DNV GL notes that some of the issues identified are typical of other residential systems and common issues across most sites are inadequate wire management and improper labelling. Wire management over the entire array should be checked to ensure conductors are not contacting roof surfaces or hanging low. A



review of NEC required labels during the design stage may help alleviate improper labeling, especially with the use of inverter integrated solar modules.

A complete list of the electrical issues and a detailed assessment/criticality assignment for each issue is included in Appendix D.

The high criticality designation has been assigned to the following electrical issues:

- Wire management with respect to long term reliability (system # SQ-1-20-8943, SQ-1-20-8945)

## 8. FINANCIAL MODEL TECHNICAL INPUT REVIEW

DNV GL has not received a project specific financial model for review. DNV GL’s review of technical inputs relevant for revenue generation as well as O&M considerations and stress case considerations follows.

### 8.1 Revenue

#### 8.1.1 Correction factors

As discussed in Section 5 and summarized in Section 5.4, using the synthetic SHREC production generated from the production data of the Portfolio, DNV GL has calculated a P50 value of 1.033 which is intended to be applied to the Sponsor’s first-year energy estimates for the Portfolio. When adjusting the correction factor for age and inverter availability, the P50 Year 1 annual forecast, representing 30 April 2020 – 1 May 2021, is 1.023 and is intended to be applied to the Sponsor’s first-year energy estimates for the Portfolio.

#### 8.1.2 Degradation

Recommended Portfolio degradation rates are described in Section 5.5.3, and re-presented in Table 8-1 below.

**Table 8-1 Portfolio degradation rates**

Percentile	Degradation rate
P50	-0.68%
P75	-0.89%
P90	-1.10%
P95	-1.25%
P99	-1.53%

When calculating annual forecasts, DNV GL combines the degradation rates with the Year 1 model uncertainties and variabilities assuming an independent relationship. This results in a further reduction of the apparent degradation rate observed when a degraded forecast is compared with the Year 1 forecast for any of the downside scenarios.

#### 8.1.3 Useful life

DNV GL expects well-designed, properly installed, and well-maintained PV systems to perform in line with expectations for 25–30 years. While DNV GL views system performance and maintenance requirements as increasingly uncertain beyond Year 30, as equipment replacement rates are expected to increase, DNV GL considers that well-funded and maintained systems could achieve an operational life beyond their designed service life and up to 35 years or longer. Given the broad equipment list and installer base, and given the varying care with which homeowners will keep the systems clean, the actual achieved lifetime for the PV systems is expected to vary within the Portfolio.

## 8.2 O&M

DNV GL understands that the Sponsor does not have direct responsibility for O&M costs for the Portfolio, as the Sponsor's role is as an asset program administrator. As such, DNV GL has not reviewed either projected Performance Guarantee payout liabilities or inverter replacement cost projections.

## 8.3 Stress cases

The stress cases outline below are intended to illustrate potential risks to the Portfolio. DNV GL considers lower-than-expected Project performance and limited or absent operational monitoring and PV system maintenance risks to Portfolio economics.

- **Production stress cases**

DNV GL's correction factors for P75, P90, P95, and P99 production stress cases are presented in Section 5.5.4, above.

- **Installer bankruptcy / market exit**

DNV GL has considered the case that an installer is no longer able to service its systems. This would have potential deleterious impacts on SHREC production.


The Sponsor has taken steps to mitigate against this risk. As noted in Section 2.2, the Sponsor has contracted with Locus Energy, an AlsoEnergy Company, for Portfolio monitoring, and the Sponsor has contracted with SunSystem Technology as a third-party US residential O&M provider. DNV GL views this as an appropriate risk mitigation step.

In addition, DNV GL further notes the emergence of market depth in the form of specialized firms able to step in as O&M service providers for residential portfolio. In alphabetical order, Energy Expert Services, IndaSpec, and Omnidian are three such firms.

DNV GL can evaluate other stress cases upon request.

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## APPENDIX A – ELECTRICAL DESIGN ISSUES LIST

**Table A-1 Electrical Design Issues Summary**

ID	Design Review Notes	Risks
<b>RPV - 23359</b>		
001	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
002	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV - 25902</b>		
004	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
005	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV - 26200</b>		
006	No issues noted	
<b>RPV - 28957</b>		
007	No issues noted	
<b>RPV - 29044</b>		
008	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
009	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC 690.
<b>RPV - 29047</b>		
010	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
011	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV - 29426</b>		
012	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
013	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC 690.
<b>RPV - 29623</b>		
014	The solar OCPD at the main panel is undersized.	Regulatory, performance – OCPD should be sized to 125% of the inverter output current. Under sizing will cause nuisance trips leading to lost production.
015	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
016	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV - 29687</b>		
017	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
018	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
019	There are no provisions to prevent PID and the dc system is ungrounded	Performance - Potential for significant performance degradation over time and potential module warranty coverage issues.
<b>RPV - 30047</b>		
020	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV - 30543</b>		

ID	Design Review Notes	Risks
021	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
022	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV – 30631</b>		
023	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
024	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
025	There are no provisions to prevent PID and the dc system is ungrounded	Performance - Potential for significant performance degradation over time and potential module warranty coverage issues.
<b>RPV – 31451</b>		
026	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV – 32507</b>		
027	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV – 32856</b>		
028	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
029	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV – 33291</b>		
030	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
031	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV – 34118</b>		
032	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
033	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
<b>RPV – 36370</b>		
034	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
035	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.
<b>RPV – 36462</b>		
036	No issues noted	
<b>RPV – 37248</b>		
037	Electrical design does not specify the PV Racking structure or it being UL listed.	Regulatory – all equipment is required to be listed as UL 2703 or to otherwise meet bonding requirements per NEC.
038	Warning signage was not provided for review.	Regulatory, safety – appropriate warning signage is required per NEC.



**Table A-2 RSIP Inspection Report Summary**

ID	Inspection Review Notes	Risks
<b>RPV – 23359</b>		
	Form missing complete performance data	Low risk
<b>RPV – 25902</b>		
	Form is complete	
<b>RPV – 26200</b>		
	Form should be marked as "n/a" for overcurrent protection and dc disconnect label due to use of microinverters. Missing passing criteria for inverter/interconnection. Green Bank inspector verified missing items as passing.	Low risk
<b>RPV -28957</b>		
	Form should be marked as "n/a" for overcurrent protection and dc disconnect label due to use of microinverters.	Low risk
<b>RPV - 29044</b>		
	Form is missing pass checks for supply side interconnection. Form is missing solar reporting device information.	High risk if proper bonding was not achieved and overcurrent protection is not in place.
<b>RPV - 29047</b>		
	Form is complete	
<b>RPV - 29426</b>		
	Form is complete	
<b>RPV - 29623</b>		
	Form missing performance data. Also note that "pass" checks were added for backup generator and battery backup, neither of which are shown in the photos, suggesting the installer simply checked all line items without reading them.	Low risk
<b>RPV - 29687</b>		
	Form missing complete performance data	Low risk
<b>RPV - 30047</b>		
	Form missing complete performance data, solar reporting device information.	Low risk
<b>RPV - 30543</b>		
	Form missing complete performance data. Also note that "pass" checks were added for backup generator and battery backup, neither of which are shown in the photos, suggesting the installer simply checked all line items without reading them.	Low risk
<b>RPV - 30631</b>		
	Form missing complete performance data	Low risk
<b>RPV - 31451</b>		

	Form is complete	
<b>RPV - 32507</b>		
	Form missing pass check for customer ability to access data	Low risk
<b>RPV - 32856</b>		
	Incorrect RPV system number listed	Low risk on incorrect RPV number since the homeowner name and address match contract
<b>RPV - 33291</b>		
	Form missing complete performance data, solar reporting device information.	Low risk
<b>RPV - 34118</b>		
	Form is complete	
<b>RPV - 36370</b>		
	Form missing complete performance data, solar reporting device information	Low risk
<b>RPV - 36462</b>		
	Form missing complete performance data, solar reporting device information	Low risk
<b>RPV - 37248</b>		
	Form is complete	

## APPENDIX B – VALIDATION OF PRODUCTION ESTIMATES

DNV GL has attempted to replicate the Sponsor’s energy forecasting process. System specifications and validation results are listed below.

**Table B-1 SolarAnywhere Fleetview inputs for audits 1 to 5**

Audit #	1	2	3	4	5
ID	RPV-28389	RPV-28957	RPV-29044	RPV-29047	RPV-29426
City	New Britain	Hamden	Meriden	Brookfield	Canton
State	CT	CT	CT	CT	CT
ZIP Code	06051	06517	06450	06804	06019
PTO Date	12/29/2017	3/20/2018	5/9/2018	2/2/2018	3/8/2018
PV Module Manufacturer	Jinko Solar	LG Electronics	Jinko Solar	SunPower	Silfab Solar
PV Module Model	JKM285M-60B	LG320N1C-G4	JKM290M-60B	SPR-X22-360-C-AC-240V	SLA-M 310W
Module Pmax (W)	285	320	290	360	310
DC Power (kWp)	2.85	4.48	4.06	8.64	13.02
Inverter Manufacturer	Solar Edge	Enphase	Solar Edge	SunPower	Solar Edge
Inverter Model	SE3800H-US	iQ6+	SE3800H-US	SPR-X22-360-C-AC-240V	SE10000A-US
No. of Inverters	1	14	1	24	1
Array 1 - DC Power (kWp)	2.85	4.48	2.61	4.68	6.82
Array 1 - Tilt (°)	39	32	23	26	30
Array 1 - Azimuth (°)	174	182	111	223	147
Array 1 - Average Shading Loss (%)	89%	94%	91%	94%	86%
Array 2 - DC Power (kWp)			1.275	3.96	2.17
Array 2 - Tilt (°)			23	16	30
Array 2 - Azimuth (°)			291	223	237
Array 2 - Average Shading Loss (%)			80%	93%	77%
Array 3 - DC Power (kWp)					2.17

Audit #	1	2	3	4	5
Array 3 - Tilt (°)					34
Array 3 - Azimuth (°)					147
Array 3 - Average Shading Loss (%)					94%
Array 4 - DC Power (kWp)					1.86
Array 4 - Tilt (°)					34
Array 4 - Azimuth (°)					237
Array 4 - Average Shading Loss (%)					84%

**Table B-2 SolarAnywhere Fleetview inputs for audits 6 to 10**

<b>Audit #</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>ID</b>	RPV-29623	RPV-29687	RPV-29825	RPV-30020	RPV-30047
<b>City</b>	Ansonia	Branford	Hamden	Ridgefield	Windham
<b>State</b>	CT	CT	CT	CT	CT
<b>ZIP Code</b>	06401	06405	06517	06877	06280
<b>PTO Date</b>	2/23/2018	4/10/2018	4/20/2018	4/23/2018	5/9/2018
<b>PV Module Manufacturer</b>	Silfab Solar	Hanwha	LG Electronics	Silfab Solar	LG Electronics
<b>PV Module Model</b>	SLA290M	Hanwha Q.Peak-G4.1/SC300	LG320N1K-A5	SLA310M	LG335N1C-A5
<b>Module Pmax (W)</b>	290	300	320	310	335
<b>DC Power (kWp)</b>	8.7	5.4	5.12	14.88	13.4
<b>Inverter Manufacturer</b>	Solar Edge	ABB	Enphase	Solar Edge	Solar Edge
<b>Inverter Model</b>	SE7600H-US	PVI-5000-OUTD-US (240V)	iQ6PLUS-72-2-US	SE7600H-US	SE6000H
<b>No. of Inverters</b>	1	1	16	2	2
<b>Array 1 - DC Power (kWp)</b>	8.7	5.4	5.12	14.88	9.045
<b>Array 1 - Tilt (°)</b>	20	13	28	40	40
<b>Array 1 - Azimuth (°)</b>	245	141	186	178	114
<b>Array 1 - Average Shading Loss (%)</b>	99%	76%	97%	79%	83%
<b>Array 2 - DC Power (kWp)</b>					4.355
<b>Array 2 - Tilt (°)</b>					40
<b>Array 2 - Azimuth (°)</b>					204
<b>Array 2 - Average Shading Loss (%)</b>					73%

**Table B-3 SolarAnywhere Fleetview inputs for audits 11 to 15**

<b>Audit #</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
<b>ID</b>	RPV-30543	RPV-30631	RPV-31451	RPV-32507	RPV-32856
<b>City</b>	Bristol	Danbury	New Britain	Plainville	Windsor
<b>State</b>	CT	CT	CT	CT	CT
<b>ZIP Code</b>	06010	06811	06051	06062	06095
<b>PTO Date</b>	6/19/2018	5/23/2018	5/7/2018	9/20/2018	7/23/2018
<b>PV Module Manufacturer</b>	Silfab Solar	SolarCity	Hanwha	Hanwha	SunPower
<b>PV Module Model</b>	SLA290M	SC325	Hanwha 295 Q.PEAK-BLK G4.1 295	Hanwha 295 Q.PEAK-BLK G4.1 295	SPR-X21-350-BLK-D-AC
<b>Module Pmax (W)</b>	290	325	295	295	350
<b>DC Power (kWp)</b>	6.38	4.225	15.34	9.44	4.9
<b>Inverter Manufacturer</b>	Solar Edge	Delta	Solar Edge	Solar Edge	SunPower
<b>Inverter Model</b>	SE5000H-US	Solivia 5.2 TL	SE6000H	SE7600H	SPR-X21-350-BLK-D-AC
<b>No. of Inverters</b>	1	1	2	1	14
<b>Array 1 - DC Power (kWp)</b>	5.22	4.225	8.26	1.475	4.9
<b>Array 1 - Tilt (°)</b>	30	37	19	30	22
<b>Array 1 - Azimuth (°)</b>	166	190	82	86	178
<b>Array 1 - Average Shading Loss (%)</b>	73%	100%	83%	95%	86%
<b>Array 2 - DC Power (kWp)</b>	1.16		7.08	3.245	
<b>Array 2 - Tilt (°)</b>	15		18	30	
<b>Array 2 - Azimuth (°)</b>	346		262	176	
<b>Array 2 - Average Shading Loss (%)</b>	66%		72%	90%	
<b>Array 3 - DC Power (kWp)</b>				4.72	
<b>Array 3 - Tilt (°)</b>				23	
<b>Array 3 - Azimuth (°)</b>				176	
<b>Array 3 - Average Shading Loss (%)</b>				99%	

**Table B-4 SolarAnywhere Fleetview inputs for audits 16 to 20**

<b>Audit #</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>ID</b>	RPV-33291	RPV-34118	RPV-36370	RPV-36462	RPV-37248
<b>City</b>	Clinton	New Milford	Danbury	New Milford	South Windsor
<b>State</b>	CT	CT	CT	CT	CT
<b>ZIP Code</b>	06413	06776	06810	06776	06074
<b>PTO Date</b>	8/23/2018	9/26/2018	1/9/2019	12/17/2018	12/28/2018
<b>PV Module Manufacturer</b>	LG Electronics	SunPower	REC Solar	LG Electronics	SunPower
<b>PV Module Model</b>	LG350Q1C-A5	SPR-X22-360-D-AC	REC290TP2 BLK	LG365Q1C-A5	SPR-X21-345-D-AC
<b>Module Pmax (W)</b>	350	360	290	365	345
<b>DC Power (kWp)</b>	8.4	10.44	9.28	10.22	5.52
<b>Inverter Manufacturer</b>	Solar Edge	SunPower	Solar Edge	Enphase	SunPower
<b>Inverter Model</b>	SE7600H-USRGM	SPR-X22-360-D-AC	SE10000H-US	iQ7PLUS-72-2-US	SPR-X21-345-D-AC
<b>No. of Inverters</b>	1	29	1	28	16
<b>Array 1 - DC Power (kWp)</b>	1.4	10.44	5.51	2.92	5.52
<b>Array 1 - Tilt (°)</b>	18	23	24	34	24
<b>Array 1 - Azimuth (°)</b>	327	195	128	162	215
<b>Array 1 - Average Shading Loss (%)</b>	83%	77%	78%	70%	99%
<b>Array 2 - DC Power (kWp)</b>	7		3.77	7.3	
<b>Array 2 - Tilt (°)</b>	42		23	31	
<b>Array 2 - Azimuth (°)</b>	147		308	162	
<b>Array 2 - Average Shading Loss (%)</b>	63%		71%	59%	

**Table B-5 SolarAnywhere Fleetview results for audits 1 to 5**

<b>Audit #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
ID	RPV-28389	RPV-28957	RPV-29044	RPV-29047	RPV-29426
As-built expected first year production [kWh]	3,190	5,622	3,657	9,801	13,776
DNV GL Prediction from SolarAnywhere Fleetview [kWh/year]	3,190	5,622	3,657	9,828	13,761
Deviation [%]	0.00%	0.00%	0.00%	-0.27%	0.11%

**Table B-6 SolarAnywhere Fleetview results for audits 6 to 10**

<b>Audit #</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
ID	RPV-29623	RPV-29687	RPV-29825	RPV-30020	RPV-30047
As-built expected first year production [kWh]	10,084	5,035	6,504	14,605	13,091
DNV GL Prediction from SolarAnywhere Fleetview [kWh/year]	10,084	5,035	6,504	14,605	13,084
Deviation [%]	0.00%	0.00%	0.00%	0.00%	0.05%

**Table B-7 SolarAnywhere Fleetview results for audits 11 to 15**

<b>Audit #</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
ID	RPV-30543	RPV-30631	RPV-31451	RPV-32507	RPV-32856
As-built expected first year production [kWh]	5,759	5,517	14,600	11,224	5,323
DNV GL Prediction from SolarAnywhere Fleetview [kWh/year]	5,759	5,517	14,600	11,224	5,323
Deviation [%]	0.00%	0.00%	0.00%	0.00%	0.00%



**Table B-8 SolarAnywhere Fleetview results for audits 16 to 20**

<b>Audit #</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
ID	RPV-33291	RPV-34118	RPV-36370	RPV-36462	RPV-37248
As-built expected first year production [kWh]	7,027	10,152	8,287	10,489	6,712
DNV GL Prediction from SolarAnywhere Fleetview [kWh/year]	7,027	10,153	8,287	10,490	6,712
Deviation [%]	0.00%	0.00%	0.00%	0.00%	0.00%



## APPENDIX C – IBTS INSPECTION CRITERIA

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- Site and Safety
  - System Powered On
  - Any Ground Faults
  - Tripped Breakers
- Point of Interconnection
  - Overcurrent Device Protecting Panelboard Busbar
  - Supply Side of Service Disconnecting
  - Breakers Listed for Back Feeding
- Inverter
  - Is Inverter Operating
- Electrical
  - Conductors on Rooftop Properly Sized
  - DC PV Source Circuits Run Inside Buildings
  - System Conductors Readily Accessible
  - Conductors Exposed
  - Are Conductors Loose Beneath Array
  - Are Conductors Touching Roof Surface
  - System Properly Grounded
  - Modules Electrically Grounded Accordance
  - Code Violations
- Structural and Mechanical
  - Is Equipment Mounted Securely
  - Are Boxes Securely Installed
  - Any Objects or Hardware in Contact
  - Any Sign of Damage
  - Are Footing Support Structure

## APPENDIX D – IBTS INSPECTION COMMENTARY

Case #	System ID (RPV #)	Overall score	Priority Criteria Missed	Commentary	Electrical code violations	Criticality of Electrical issues noted (low, med, high)	Structural /building code violations	Criticality of Structural/Building code issues noted (low, med, high)
<b>SQ-1-20-8933</b>	RPV-37248	97.00%	1	6.9 Comment - PRIORITY CRITERIA Flashing for racking not installed far enough under the courses of shingles to provide critical overlap as identified in IRC. 7.3 Comment - NEC 690.31 DC conduit warning label applied to AC conduit. 7.6 Comment - AC enclosure labeled incorrectly with NEC 690.17 label that applies to DC components only.	NEC 690.31/17	NEC 690.31/17 have to do with PV system labels. Criticality is low as it is a documentation issue.	IBC R903, R905.2.8	IBC R903 and R905.2.8 have to do with roof flashing requirements; Inspection indicates flashing for racking not installed far enough under courses of shingles to provide overlap as identified in IRC. Criticality is low in the short term but medium for long term as roof damage may occur if roof leaks occur due to improper flashing.
<b>SQ-1-20-8947</b>	RPV-32507	97.00%	0	System is not installed with respect to IFC required clearances to allow adequate access. 7.6 Comment - AC enclosure labeled incorrectly with NEC 690.17 label that applies to DC components only. 7.10 Comment - Missing required plaque or directory at the service disconnecting means indicating the locations of the PV system disconnecting means when not located at the same location per NEC 690.56(B).	NEC 690.17/56	NEC 690.17/56 have to do with PV system labels. Criticality is low as it is a documentation issue.	IFC 605.11.1, IBC 1512.1	IFC 605.11.1, IBC 1512.1 provides requirements for clearances around solar array for fire access; based on site photos, array appears to extend to edges of roof, not providing minimum clearances for firefighting access; criticality is high in case of fire, and represents possible life safety risk in case of fire
<b>SQ-1-20-8932</b>	RPV-29047	98.00%	0	7.5 Comment - Missing label identifying AC disconnect as required per NEC 110.22(A) 7.6 Comment - AC enclosure labeled incorrectly with NEC 690.17 label that applies to DC components only. 7.9 Comment - Missing values for nominal AC voltage and AC output current per NEC 690.54. 7.10 Comment - Missing required plaque or directory at the service disconnecting means indicating the locations of the PV system disconnecting means when not located at the same location per NEC 690.56(B). 7.11 Comment - Missing label identifying system is equipped with rapid shutdown per NEC 690.56(C), 690.31(G)(4)	NEC 110.22(A) NEC 690.17/54/56 /31	NEC 690.17/54/56/31 and NEC 110.22(A) have to do with PV system labels. Criticality is low as it is a documentation issue.	None	None
<b>SQ-1-20-8943</b>	RPV-34118	96.00%	1	5.16 Comment - PRIORITY CRITERIA One conductor is contacting abrasive roof surface. 7.3 Comment - NEC 690.31 DC conduit warning label applied to AC conduit. 7.5 Comment - Missing label identifying AC disconnect as required per NEC 110.22(A) 7.6 Comment - AC enclosure labeled incorrectly with NEC 690.17 label that applies to DC components only. 7.9 Comment - Missing values for nominal AC voltage and AC output current per NEC 690.54.	NEC 110.27(B) NEC 110.22(A) NEC 690.17/54	NEC 110.27(B) has to do with wire management issues and criticality is low in the short term but high for long term reliability NEC 690.17/54 and NEC 110.22(A) have to do with PV system labels. Criticality is low as it is a documentation issue.	None	None
<b>SQ-1-20-8937</b>	RPV-29426	96.00%	0	System is not installed with respect to IFC required clearances to allow adequate access. 6.10 Comment - Conduit into conditioned space not properly sealed per NEC 300.7. 7.2 Comment - Hand written label information is not durable or permanent as required per NEC 110.21(B). 7.4 Comment - Missing required label for ungrounded systems per NEC 690.35 "WARNING ELECTRIC SHOCK HAZARD.	NEC 300.7 NEC 110.21(B) NEC 690.35	NEC 300.7 has to do with sealing conduits routed in different temperature locations to prevent condensation. Criticality is moderate. NEC 690.35 and NEC 110.21(B) have to do with PV system labels. Criticality	IFC 605.11.1, IBC 1512.1	IFC 605.11.1, IBC 1512.1 provides requirements for clearances around solar array for fire access; based on site photos, array appears to extend to edges of roof, not providing minimum clearances for firefighting access; criticality is high in case of fire, and represents possible life safety risk in case of fire

				THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED".		is low as it is a documentation issue.		
<b>SQ-1-20-8939</b>	RPV-29687	94.00%	1	System is not installed with respect to IFC required clearances to allow adequate access. 6.9 Comment - PRIORITY CRITERIA Unable to verify flashing for Zepp solar mounts. All documentation on web shows mounts installed with flashing attached. 7.2 Comment - Hand written label information is not durable or permanent as required per NEC 110.21(B). 7.4 Comment - Missing required label for ungrounded systems per NEC 690.35 "WARNING ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED". 7.5 Comment - Missing label identifying DC disconnect. as required per NEC 690.13(B). 7.6 Comment - AC enclosure labeled incorrectly with NEC 690.17 label that applies to DC components only. 7.9 Comment - 690.54 label is present, but values are incorrect. Current value reads 23A, but it should read 20.83A.	NEC 110.21(B) NEC 690.36	NEC 690.35/13/17/54 and NEC 110.21(B) have to do with PV system labels. Criticality is low as it is a documentation issue.	IFC 605.11.1, IBC 1512.1 IBC R903, R905.2.8	IFC 605.11.1, IBC 1512.1 provides requirements for clearances around solar array for fire access; based on site photos, array appears to extend to edges of roof, not providing minimum clearances for firefighting access; criticality is high in case of fire, and represents possible life safety risk in case of fire; IBC R903 and R905.2.8 have to do with roof flashing requirements; Inspection indicates flashing for Zep Solar mounts is not able to be verified, whereas web shows mounts installed with flashing attached. Criticality is low in the short term but medium for long term as roof damage may occur if roof leaks occur due to improper flashing.
<b>SQ-1-20-8945</b>	RPV-36370	94.00%	0	5.9 Comment - Improper strain relief used where conductors transition into conduit. 5.15 Comment - Some loose and sagging array conductors are not properly supported beneath the array per NEC 110.27(B). 7.2 Comment - Hand written label information is not durable or permanent as required per NEC 110.21(B). 7.6 Comment - AC enclosure labeled incorrectly with NEC 690.17 label that applies to DC components only. 7.8 Comment - Ungrounded system inverter has labels for both ungrounded system and grounded system. Only the ungrounded label should be present (NEC 690.35(F)). 7.10 Comment - Missing required plaque or directory at the service disconnecting means indicating the locations of the PV system disconnecting means when not located at the same location per NEC 690.56(B). 7.11 Comment - Missing label identifying system is equipped with rapid shutdown per NEC 690.56(C), 690.31(G)(4)	NEC 300.16(B) NEC 110.27(B) NEC 110.21(B) NEC 690.17/35/56/31	NEC 300.16(B) has to do with strain relief and criticality is low in the short term but high for long term reliability. NEC 110.27(B) has to do with wire management issues and criticality is low in the short term but high for long term reliability NEC 690.17/35/56/31 and NEC 110.21(B) have to do with PV system labels. Criticality is low as it is a documentation issue.	None	None
<b>SQ-1-20-8934</b>	RPV-29623	96.00%	0	3.25 Comment - Inverter OCPD sized too small at 35A. Should be 40A. 7.4 Comment - Missing required label for ungrounded systems per NEC 690.35 "WARNING ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED". 7.6 Comment - Missing required NEC 690.17(E) label "WARNING ELECTRIC SHOCK HAZARD. DO NOT TOUCH TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION". 7.7 Comment - All values are absent at NEC 690.53 label. 7.9 Comment - Missing values for nominal AC voltage	NEC 240.6 NEC 690.35/17/53/54/56	NEC 240.6 has to do with OCPD sizing. Criticality is moderate as the undersized OCPD may cause nuisance trips. NEC 690.35/17/53/54/56 has to do with PV system labels. Criticality is low as it is a documentation issue.	None	None

				and AC output current per NEC 690.54. 7.10 Comment - Missing required plaque or directory at the service disconnecting means indicating the locations of the PV system disconnecting means when not located at the same location per NEC 690.56(B).				
<b>SQ-2-20-9271</b>	RPV-28820	89.50%	0	2.8 Comment - Inverter overcurrent protection device sized too small at 35A. 3.25 Comment - Inverter OCPD sized too small at 35A. Should be 40A. 5.26 Comment - Equipment grounding conductor on roof is not run with the circuit conductors within the same raceway per NEC 690.43(F). 5.31 Comment - ILSCO taps are not rated for use on cloth-wrapped wires. 6.6 Comment - EMT conduit not securely fastened and supported within 3 feet of the junction box per (NEC 358.30(A)). 7.4 Comment - Missing required label for ungrounded systems per NEC 690.35 "WARNING ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED". 7.9 Comment - 690.54 label is present but values are incorrect. Current value reads 27A, but it should read 31.67A. 7.10 Comment - Missing required plaque or directory at the service disconnecting means indicating	NEC 240.6 NEC 300.3(B) NEC 110.14 NEC 358.30(A) NEC 690.35/53/54/56	NEC 240.6 has to do with OCPD sizing. Criticality is moderate as the undersized OCPD may cause nuisance trips. NEC 300.3(B) has to do with conductor grouping. Criticality is moderate. NEC 110.14 has to do with terminations. Criticality is moderate. NEC 358.30 has to do with conduit supports. Criticality is low in the short term but high for long term reliability. NEC 690.35/54/56 has to do with PV system labels. Criticality is low as it is a documentation issue.	None	None
<b>SQ-2-20-9270</b>	RPV-33566	93.12%	1	6.1 Comment - Modules installed in an un-level, non-planar fashion. 6.9 Comment - PRIORITY CRITERIA Flashing for conduit supports not installed far enough under the courses of shingles to provide critical overlap as identified in IRC. 7.4 Comment - Missing required label for ungrounded systems per NEC 690.35 "WARNING ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED". 7.9 Comment - 690.54 label is present but values are incorrect. Current value reads 22A, but it should read 20.83A. 7.10 Comment - Missing required plaque or directory at the service disconnecting means indicating	NEC 690.35/53/54/56	NEC 690.35/54/56 has to do with PV system labels. Criticality is low as it is a documentation issue.	IBC R903, R905.2.8	IBC R903 and R905.2.8 have to do with roof flashing requirements; Inspection indicates flashing for racking not installed far enough under courses of shingles to provide overlap as identified in IRC. Criticality is low in the short term but medium for long term as roof damage may occur if roof leaks occur due to improper flashing.



## **ABOUT DNV GL**

Driven by our purpose of safeguarding life, property and the environment, DNV GL enables organizations to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas and energy industries. We also provide certification services to customers across a wide range of industries. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight. Operating in more than 100 countries, our professionals are dedicated to helping customers make the world safer, smarter and greener.



CONNECTICUT  
**GREEN BANK** SM

# Presentation to Standard and Poor's **Connecticut Green Bank**

**\$15,435,000\***

**Solar Home Renewable Energy Credit,  
Green Liberty Bonds, Series 2020**

*\*Preliminary, subject to change*

**May 26, 2020**

# Presentation Participants

- **Connecticut Green Bank (Issuer)**
  - Bryan Garcia, *President & CEO*
  - Bert Hunter, *EVP & Chief Investment Officer*
  - Michael Yu, *Director, Clean Energy Finance*
  - Eric Shrago, *Managing Director*
  - Brian Farnen, *General Counsel and Chief Legal Officer*
- **Lamont Financial Services (Municipal Advisor)**
  - Robert Lamb, *President*
- **Shipman & Goodwin LLP (Bond Counsel)**
  - Bruce Chudwick, *Partner*
- **Ramirez & Co. (Senior Manager)**
  - Alfredo Quintero, *Senior Managing Director*
  - Brad Friedman, *Senior Vice President*
- **Stifel (Co-Manager)**
  - Eric McKean, *Director*



# Green Liberty Bonds

## Transaction Parties



<b>Issuing Entity:</b>	Connecticut Green Bank
<b>Municipal Advisor:</b>	Lamont Financial Services
<b>Bond Counsel</b>	Shipman & Goodwin LLP
<b>Senior Manager:</b>	Ramirez & Co.
<b>Co-Manager:</b>	Stifel
<b>Underwriter's Counsel:</b>	Kutak Rock LLP
<b>Trustee:</b>	Bank of New York Mellon
<b>Independent Engineer:</b>	DNV GL
<b>Climate Bond Verifiers:</b>	Kestrel Verifiers

# Contents

- Introduction to Connecticut Green Bank
- Residential Solar Investment Program & Solar Home Renewable Energy Credits
- Green Liberty Bonds, Series 2020 Overview
- Master Trust Indenture
- 2020 SHREC Transaction

# Connecticut Green Bank

# Connecticut Green Bank

## Mission Statement and Goals



Confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.

- Leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.
- Strengthen Connecticut's communities by making the benefits of the green economy inclusive and accessible to all individuals, families, and business.
- Pursue investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability.

# Connecticut Green Bank

## Vision Statement



...a world empowered  
by the renewable energy  
of community



### REFERENCES

Vision Statement inspired by the Innovations in American Government Awards at the Ash Center of Harvard University's Kennedy School of Government, Maya Angelou's "On the Pulse of Morning," and the powerful words of Mary Evelyn Tucker on "inclusive capitalism".

# Connecticut Green Bank

## Board of Directors

### Board of Directors

### Committees

**Chair**  
Lonnie Reed  
Former State Rep.

**Secretary**  
Matthew Ranelli  
Shipman & Goodwin

**Vice Chair**  
Mary Sotos  
DEEP

**Member**  
Shawn Wooden  
Treasurer  
State of Connecticut

**Member**  
Binu Chandy  
DECD

**Member**  
Brenda Watson  
Operation Fuel

**Member**  
John Harrity  
Connecticut Roundtable  
on Climate and Jobs

**Member**  
RD&D / Manu.  
(VACANT)

**Member**  
Kevin Walsh  
Stonepeak  
Infrastructure Partners

**Member**  
Thomas Flynn  
Coral Drive Partners

**Member**  
Eric Brown  
CBIA



**Deployment**  
Mary Sotos  
DEEP



**BO&C**  
John Harrity  
Connecticut Roundtable  
on Climate and Jobs



**AC&G**  
Matthew Ranelli  
Shipman & Goodwin



**Joint CEEF-CGB**  
Eric Brown  
CBIA

#### REFERENCES

Established Board of Directors in September of 2011 – bylaws, operating procedures, employee handbook, etc.

# Connecticut Green Bank



## About Us

- **Quasi-public organization** – Created in 2011 and successor to the Connecticut Clean Energy Fund.
- **Focus** – Finance clean energy (i.e. renewable energy, energy efficiency, energy storage, alternative fuel vehicles and infrastructure, etc.).
- **Balance Sheet** – Approximately \$76.4 million in net position
- **Support** – from a variety of sources, including:
  - **State Support** – \$0.001/kWh surcharge (i.e., Clean Energy Fund) on electric ratepayer bills (about \$7-\$10 per household per year ≈ \$24-26 MM per year) and RGGI about \$3-5 MM per year (for renewable energy)
  - **Federal Support** – competitive solicitations (e.g., SunShot, USDA, etc.) and non-competitive resources (e.g., ARRA-SEP)
  - **Other Support** – issue “green bonds,” interest income, private capital (e.g., impact investors), and foundations (e.g., PRI’s)

# Public-Private Partnerships



>\$750 Million<sup>1</sup> in Private Capital Raised (5 Years)

**\$80 MM**  
CLOSED  
15:1



Grid-Tied

**\$60 MM**  
CLOSED  
4:1



Residential Solar &  
Energy Efficiency

**\$105 MM**  
CLOSED  
7.5:1



Residential Solar  
Commercial Solar

**\$30 MM**  
CLOSED  
4:1



C-PACE

**\$60 MM**  
OPEN  
17:1<sup>2</sup>



Residential Energy

**\$100 MM**  
OPEN  
5:1



Residential Solar

**\$50-100 MM**  
CLOSED  
9:1



C-PACE

**\$8 MM**  
OPEN / PRI  
100%



Multifamily Energy

**\$60+ MM**  
CLOSED  
6:1<sup>3</sup>



Commercial Solar

**\$77 MM**  
PROJECT FINANCE  
8:1



**\$40 MM**  
CLOSED  
100%<sup>4</sup>



CT Green Bank  
REC Securitization

**\$67 MM**  
Open  
10:1



Small Business  
Energy Advantage

## REFERENCES

- Several transactions such as small hydro, wind, microgrid, CHP and anaerobic digestors not represented on slide
- LLR of \$3.3 MM yields high leverage – and it is 2<sup>nd</sup> loss and thus with no to low defaults (i.e., 10 loans out of 3,447 have defaulted as of 12/31/18 with \$22K in LLR). IRB's using ARRA-SEP not considered in the leverage ratio.
- Securitization of Solar Home Renewable Energy Credits – approx. \$75mm in gross receivables securitized

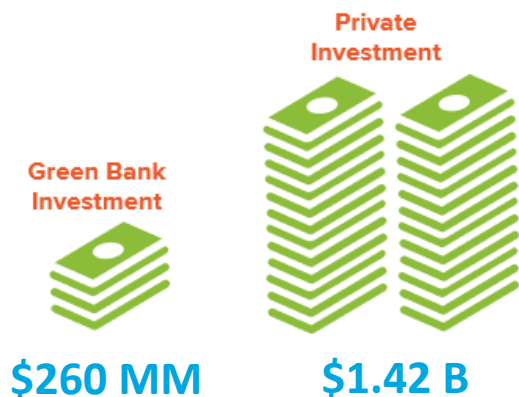


# Connecticut Green Bank



## Impact Investment – Social and Environmental

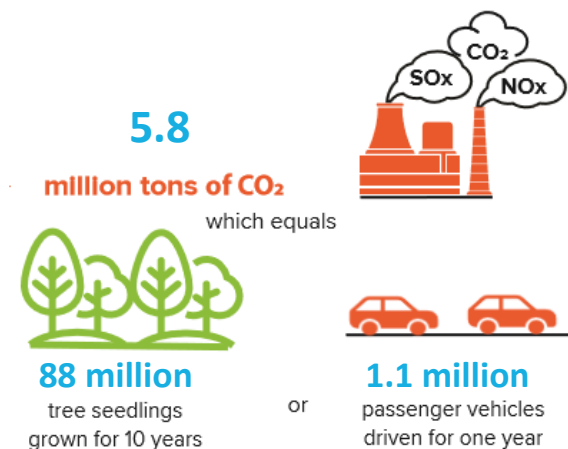
### INVESTMENT



### ECONOMIC DEVELOPMENT



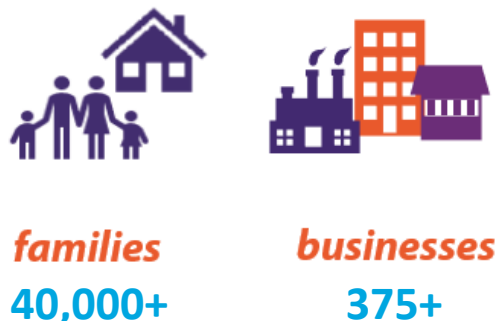
### ENVIRONMENTAL PROTECTION



### TAX REVENUES



### ENERGY BURDEN REDUCED



### PUBLIC HEALTH SAVINGS



#### REFERENCES

Connecticut Green Bank Data Warehouse – July 1, 2011 through June 30, 2019

# Connecticut Green Bank

## Sparking the Green Bank Movement



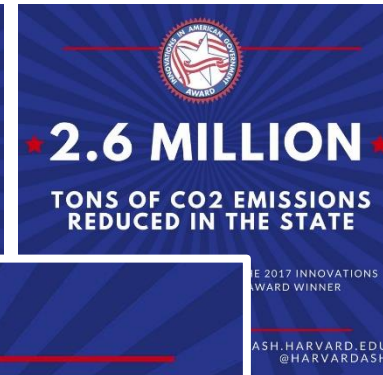
 **HARVARD Kennedy School**  
**ASH CENTER**  
for Democratic Governance  
and Innovation




  
**\$1 BILLION**  
CLEAN ENERGY  
INVESTMENT ACROSS THE  
STATE  
THE CONNECTICUT  
INNOVATIONS IN AMERICAN GOVERNMENT AWARD  
HARVARD Kennedy School  
ASH CENTER  
for Democratic Governance  
and Innovation



  
**13,000**  
NEW JOBS CREATED



  
**2.6 MILLION**  
TONS OF CO2 EMISSIONS  
REDUCED IN THE STATE  
THE 2017 INNOVATIONS  
AWARD WINNER  
ASH.HARVARD.EDU  
@HARVARDASH



  
"As cities and states across this country confront climate change, green banks can help mobilize more private investment and accelerate the growth of their local green energy economies"  
**★ CONNECTICUT GOVERNOR DANIEL P. MALLOY ★**  
THE CONNECTICUT GREEN BANK, THE 2017 INNOVATIONS IN AMERICAN GOVERNMENT AWARD WINNER  
HARVARD Kennedy School  
ASH CENTER  
for Democratic Governance  
and Innovation  
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# Residential Solar Investment Program & Solar Home Renewable Energy Credits

# Residential Solar PV in CT

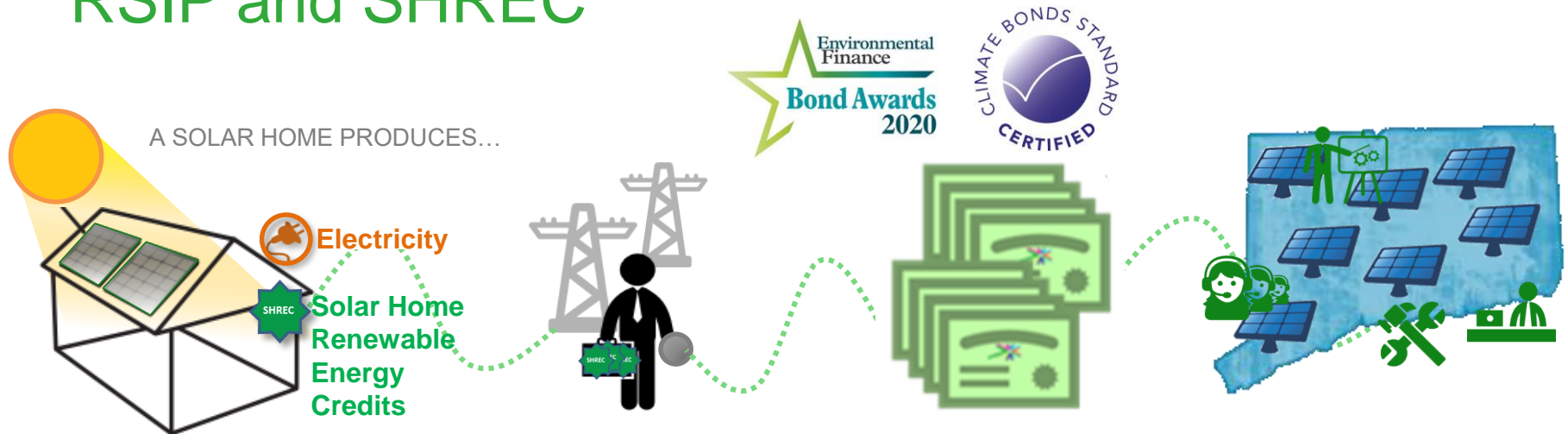
## Public Policy



- **Section 106 of Public Act 11-80** – policy passed in **July of 2011** that creates the **Residential Solar Investment Program**, a declining incentive program (e.g., EPBB and PBI) administered by the CGB to deliver **no less than 30 MW** of new residential solar PV by the **end of 2022**.
- **Public Act 15-194** – policy passed in **July of 2015** that builds on the Residential Solar Investment Program by requiring the **EDC's** to purchase **SHRECs** through **15-year MPA** at a **price set by the CGB** to deliver **no more than 300 MW** of new residential solar PV by the **end of 2022**.
- **Public Act 19-35** – expanded RSIP by 50 MW to 350 MW

# Incentive Business

## RSIP and SHREC



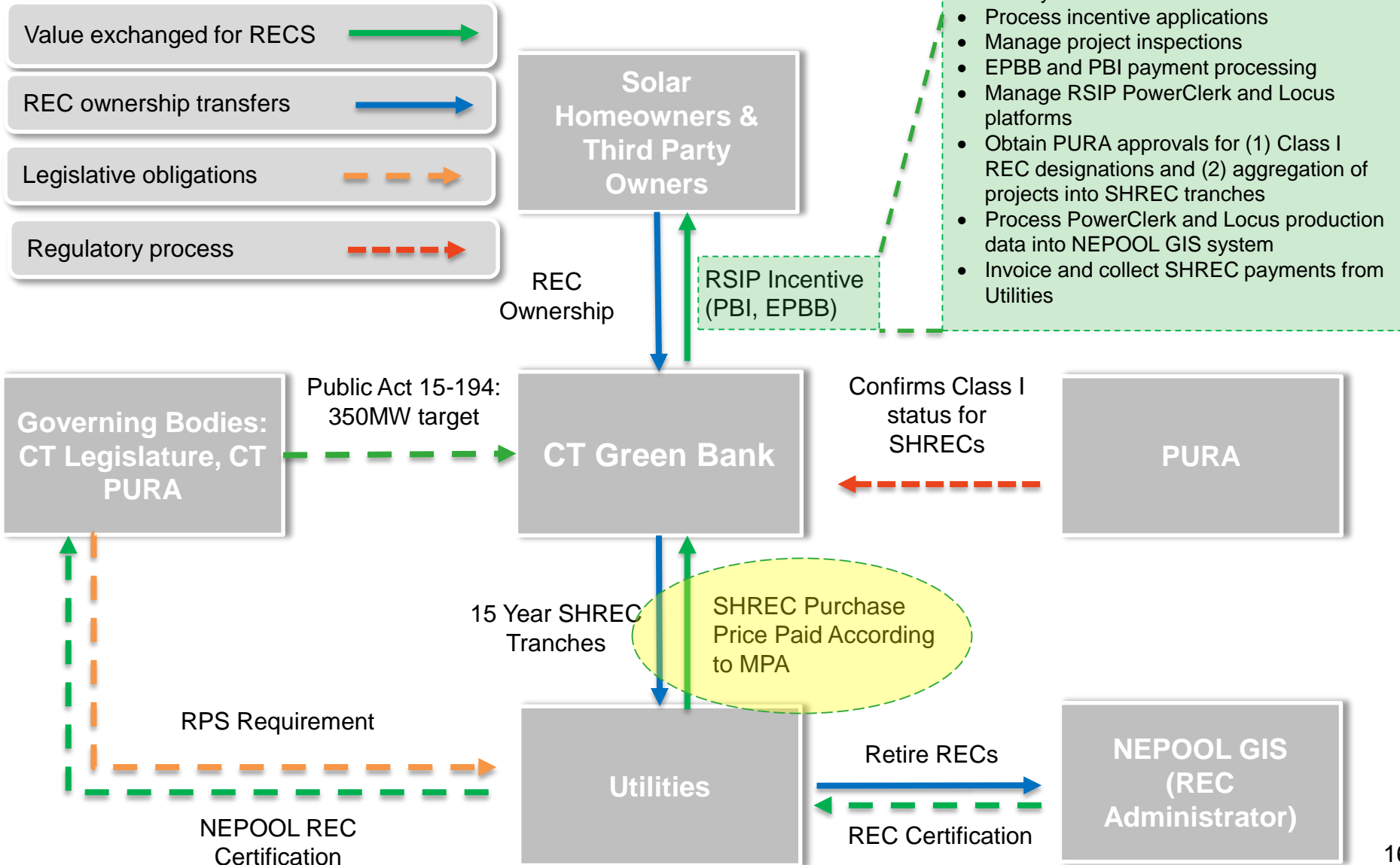
When panels produce electricity for a home, they also produce **Solar Home Renewable Energy Credits (SHRECs)**. The Green Bank provides upfront incentives through RSIP and collects all the SHRECs produced per statute (i.e., PA 15-194).

Utilities required to enter into **15-year Master Purchase Agreement (MPA) with the Green Bank to purchase the stream of SHRECs produced**. This helps utilities comply with their clean energy goals (i.e., Class I RPS).

**Green bonds are created** from the SHREC revenues received through the MPA and **sold to institutional** (i.e., pension funds, insurance companies, etc.) and **retail investors** (i.e., friends and family) to **receive proceeds upfront**.

The Green Bank uses the SHREC revenues and green bond proceeds to **support the RSIP incentives** (i.e., PBI and EPBB), **cover admin costs**, and **financing costs** to achieve **350 MW of solar PV deployment and development of local solar PV industry**

# SHREC Creation Process

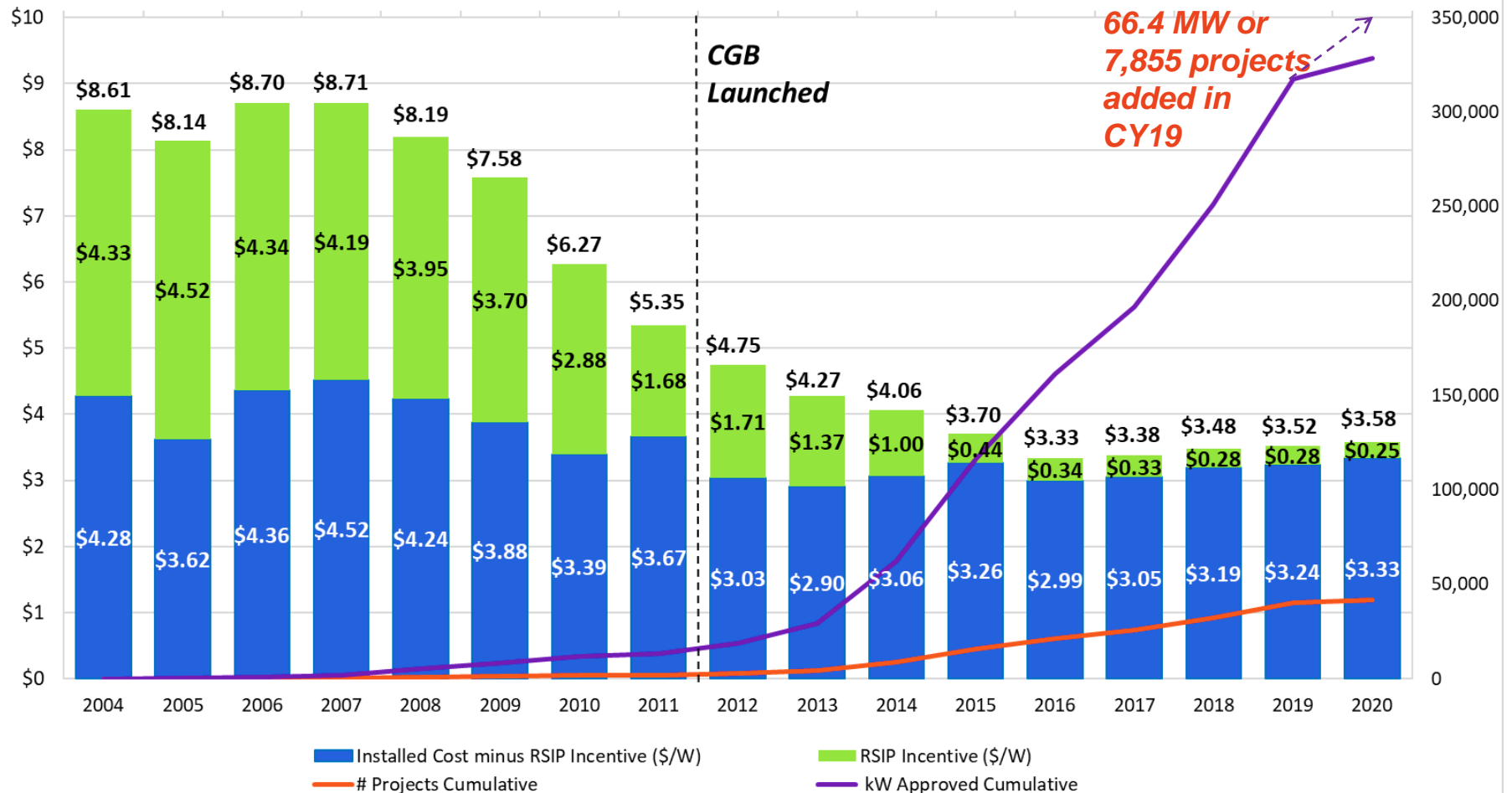


# RSIP Status



315 MW approved out of 350 MW target as of 3/3/2020

Connecticut Residential Solar PV Deployment and Costs\*, CY 2004-2020



\* Total System Cost per Watt figures include all reported installed costs without including those projects where financing costs for some third party ownership installers are included as part of the total system cost.

# Green Liberty Bonds Series 2020 Overview



# Green Liberty Bonds

## Transaction Overview



- The Green Bank offers incentives to homeowners and third-party owners to install solar PV systems.
  - In exchange for its incentives, the Green Bank receives all rights and title to the Class I RECs generated from the systems (**Solar Home Renewable Energy Credits = SHRECs**).
- Under a Master Purchase Agreement (“MPA”) between the Green Bank and Connecticut’s two Investor-Owned Utilities (Eversource and United Illuminating, collectively the “Utilities”), the Green Bank aggregates SHRECs generated from solar PV systems participating in its Residential Solar Incentive Program (“RSIP”) into tranches, and sells those SHREC tranches to the Utilities at a predetermined price over a 15 year tranche lifetime.
  - Eversource is rated A+/A3 (S&P/Moody’s)
  - United Illuminating is rated A-/Baa1 (S&P/Moody’s)
- The SHRECs supporting this bond issuance (Tranche 3) will be generated from 4,818 PV Systems with a SHREC Purchase Price of \$48 per SHREC (projected revenues ~\$25.6m over life of bonds)
- Green Bank has established a Special Capital Reserve Fund (SCRF) funded at MADS to support the bonds
  - “Deemed Appropriated” replenishment by the State of Connecticut if necessary, requiring no legislative approval

# Green Liberty Bonds

## MPA Overview

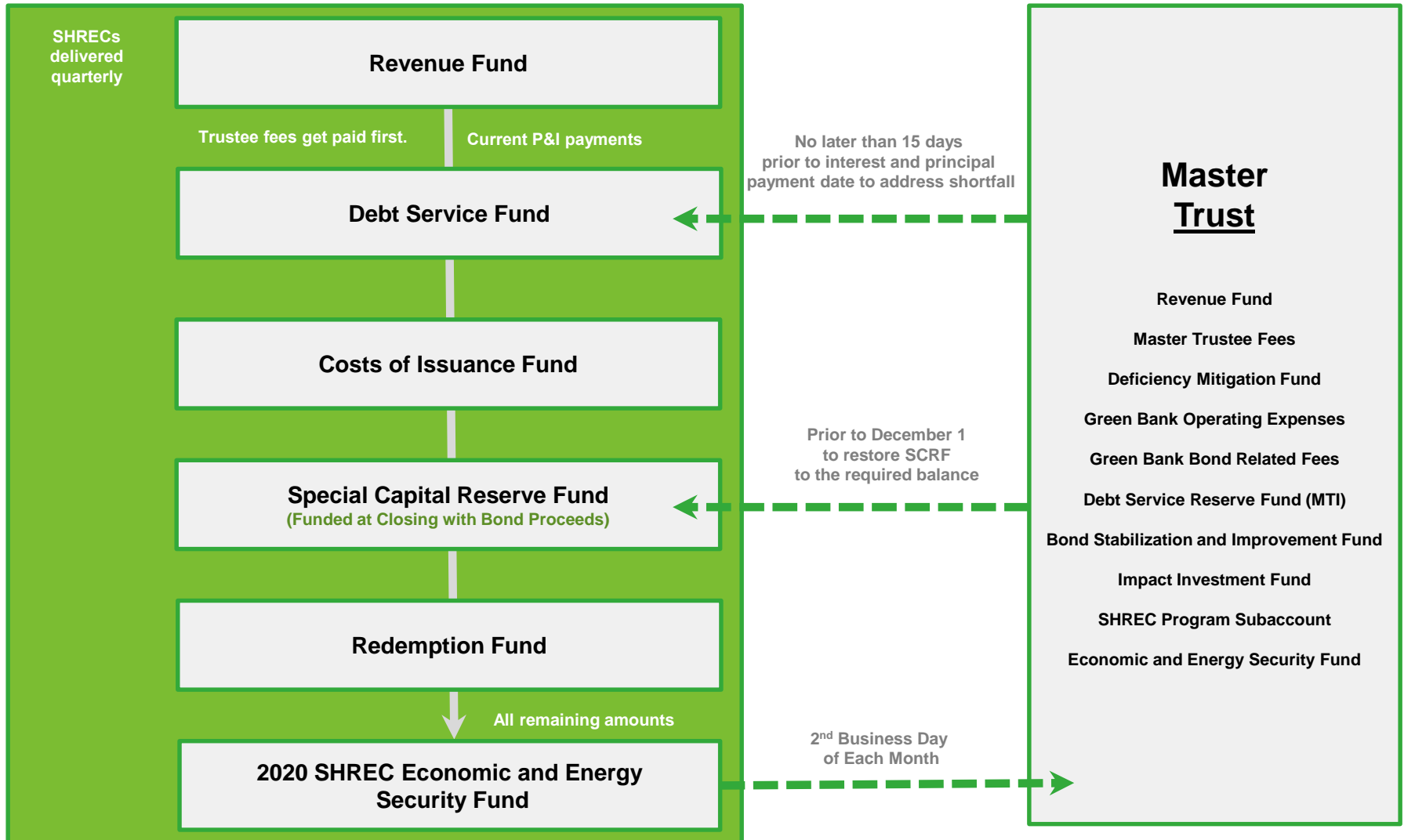


- Pursuant to Master Purchase Agreements (“MPA”), Connecticut’s two Investor-Owned Utilities (Eversource and United Illuminating, collectively the “Utilities”) must purchase annually 15-year tranches of SHRECs produced by qualifying residential solar photovoltaic systems (“Qualifying Systems”) from the Connecticut Green Bank.
  - MPA was approved by CT Public Utilities Regulatory Authority and includes full cost recovery by the utilities of all SHREC costs.
  - Eversource must purchase 80% of SHRECS and United Illuminating must purchase 20% within each tranche.
  - The Utilities’ obligation to purchase SHRECs commences on each tranche delivery term start date and continues for a period of fifteen years.
  - Payment is due on the last business day of the month following the month the SHRECs were delivered
    - The Green Bank must provide a payment invoice by the 15th day following the end of each SHREC creation month
    - SHRECs are to be delivered quarterly
- Utilities’ obligation to purchase future tranches ends no later than the earlier of (a) the Green Banks deployment of 350 MW of qualifying residential solar photovoltaic installations (in which case the Green Bank must notify the Utilities that goal has been met) or (b) December 31, 2022 (maximum of six tranche delivery terms).

# Green Liberty Bonds

## Flow of Funds

### Series 2020 Trust



# The Master Trust Indenture

# Master Trust Indenture

## Goals



### **Increase Investment** –

expand deployment of clean energy project finance and infrastructure development to achieve greater societal benefits, deploy funding beyond SBC and existing revenue sources, and citizen engagement as retail purchasers

### **Lower the Cost of Capital**

– raise lower cost capital from institutional investors and “everyday citizens” through “green bonds” for clean energy investments to assist end-use customers in reducing energy burden

### **Protect revenues** –

protection of project revenues and other revenue sources (e.g., CEF, RGGI, etc.) through master indenture, use SCRF as necessary, and citizen engagement as retail purchasers

# Strength of MTI support



Proforma Green Bank Revenues for the MTI							
(\$millions)							
	2019	2020	2021	2022	2023	2024	2025
<b>Utility Remittances</b>	26.09	24.66	24.80	24.30	24.67	25.16	25.67
<b>Grants</b>	0.20	0.04	0.03	0.20	0.20	0.20	0.20
<b>Lease Receipts</b>	1.40	1.40	1.40	1.40	1.40	1.40	1.40
<b>Return of Principal</b>	2.10	3.80	3.20	3.63	4.06	4.28	4.51
<b>Interest receipts</b>	3.80	5.43	6.02	6.25	6.49	6.72	6.96
<b>Sales of RECs</b>	0.42	0.62	0.58	0.54	0.54	0.54	0.54
<b>Other Revenue</b>	1.32	0.77	1.28	1.28	1.28	1.28	1.28
<b>Total</b>	\$35.33	\$36.72	\$37.31	\$37.60	\$38.64	\$39.58	\$40.56

# Strength of MTI support

## Default Tolerance Coverage



**At 25% Net Default Level, MTI Provides Significant Coverage**

Project	Meriden Hydro	CSU	SHREC Tranche 3	Total
Number of Pool Obligors	1	7	2	10
Transaction Par	4MM	9MM	15MM	28MM
Revenues	0.19	1.16	1.75	3.10
Trustee Fees	(0.01)	(0.09)	(0.01)	(0.11)
Available for D/S	0.18	1.07	1.74	2.99
Less default level	(0.05)	(0.29)	(0.44)	(0.77)
Available post default	0.13	0.78	1.30	2.21
MADS Debt Service Requirement	0.26	0.92	1.50	2.68
Deficiency funding requirement	(0.13)	(0.14)	(0.20)	(0.47)
<b>FY2020 MTI Deficiency Coverage</b>				<b>78.6x</b>

# Strength of MTI support

## Proforma Default Coverage



### At 25% Net Default Level, MTI Provides Significant Coverage

Issuance Year	2017	2018	2019	2020	2021	2022	2023	
Project	Meriden Hydro	CSU	SHREC Tranche 3	SHREC Tranche 4	SHREC Tranche 5	C-PACE	Solar Gen	Total
Number of Pool Obligors	1	7	2	2	2	50	20	84
Transaction Par	4MM	9MM	15MM	16MM	16MM	26.5MM	13.4MM	100MM
Revenues	0.17	1.16	1.73	1.83	1.83	1.67	1.10	9.50
Trustee Fees	<u>(0.01)</u>	<u>(0.09)</u>	<u>(0.01)</u>	<u>(0.01)</u>	<u>(0.01)</u>	<u>(0.01)</u>	<u>(0.01)</u>	(0.15)
Available for D/S	0.16	1.07	1.72	1.82	1.82	1.66	1.09	9.35
Less default level	<u>(0.04)</u>	<u>(0.29)</u>	<u>(0.43)</u>	<u>(0.46)</u>	<u>(0.46)</u>	<u>(0.42)</u>	<u>(0.28)</u>	(2.37)
Available post default	0.12	0.78	1.29	1.36	1.36	1.24	0.82	6.97
MADS Debt Service Requirement	0.26	0.92	1.49	1.59	1.59	1.52	0.88	8.25
Deficiency funding requirement	(0.14)	(0.14)	(0.20)	(0.23)	(0.23)	(0.28)	(0.06)	(1.28)
<b>FY2023 MTI Deficiency Coverage</b>								<b>30.2x</b>



# Strength of MTI support

## Default Tolerance Coverage

**FY2020**

**\$470,000**  
Deficiency Mitigation Fund  
Requirement



**78.6x coverage**

**FY2023**

**\$1.28 million**  
Deficiency Mitigation Fund  
Requirement



**30.2x coverage**

# The MTI Advantage

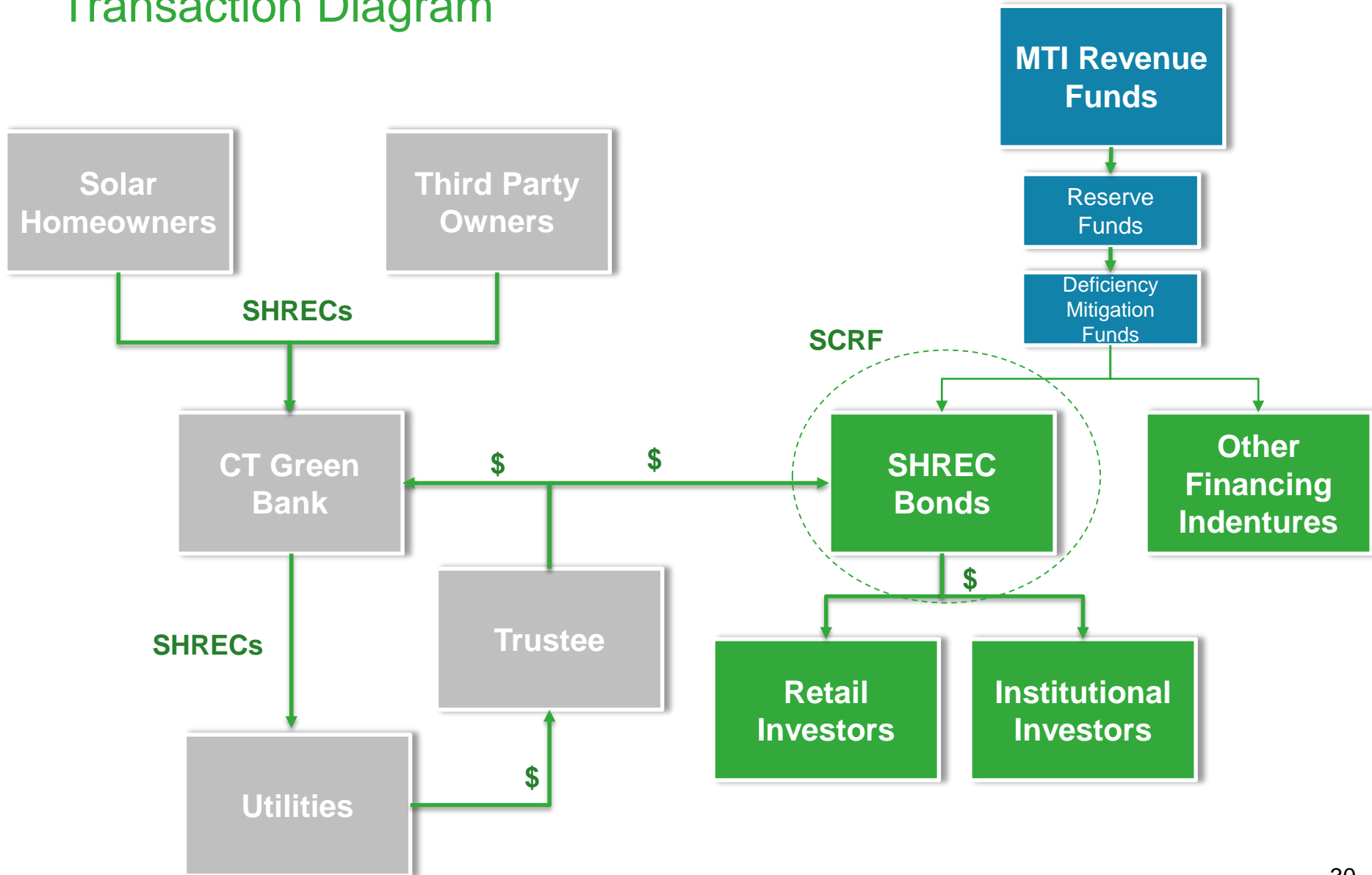


- SBC revenues ensure the Green Bank does not need to issue new loans to operate
- MTI benefits from a gross pledge; debt mitigation funded prior to OpEx
- While all pledge revenues go into the MTI, the additional security as calculated does not include future investments of Green Bank surplus revenues.
- Coverage based only upon annual revenues, so will be repeatable, giving all time to correct problems.
- MTI gets residual (coverage) from all financing indentures at the bottom of the waterfall

# The SHREC Transaction

# SHREC 2020

## Transaction Diagram



# Green Liberty Bonds

## Risks & Mitigants



### Connecticut Green Bank Risk

- The Green Bank may not be dissolved through bankruptcy proceedings since it cannot file for Chapter 11, Chapter 9, or Chapter 7

### Utilities Risk

- Eversource and United Illuminating are investment grade rated and have a statutory obligation to purchase the SHRECs.
  - Eversource and United Illuminating have been granted full cost recovery by their regulator (CT PURA)
  - The Green Bank has strong contractual rights under the MPA.
- In addition, the Connecticut Renewable Portfolio Standard (RPS) is a state policy that requires electric providers to obtain a specified percentage or amount of the energy they generate or sell from renewable sources.
  - This policy creates a financial incentive for development of renewable energy projects by ensuring a market and steady stream of revenue for renewable generators.
  - Under this policy, Eversource and United Illuminating are required to source an increasing share of their energy from renewable sources growing from 25% in 2018 to 48% in 2030 so the SHRECs will help them meet these minimums.
  - After the 15 year life of the tranche, utilities will continue to receive SHRECs generated from the solar PV systems at no cost.

### Customer/TPO Risk

- SHREC payments are made by the Utilities, not by Customers or Third Party Owners (TPOs).
- SHRECs are created as long as systems remain operational, which is in the interest of Customers and TPOs.
- In the RSIP terms and conditions signed by system owners, the Green Bank has title to the environmental attributes (including SHRECs) of the system for as long as the system can operate and there is a provision that the system cannot be moved outside of Connecticut: “No PV system receiving an EPBB or PBI shall be removed from the State of Connecticut for the useful life of the PV system.”

# Green Liberty Bonds

## Risks & Mitigants



### Production Risk

- The Green Bank has a contract with Locus Energy and SunSystem Technology for Active Monitoring and O&M fleet services
  - Locus Energy monitors the RSIP fleet which includes daily review of alerts that flag issues, weekly review of estimated production losses, and quarterly review of fleet production.
- If production is lower than expected (for reasons other than variation in weather or solar insolation), the Green Bank will notify the system owner and help resolve the reason for the lower production.
  - It is in the interest of system owners to resolve issues related to lower than expected production so they can maximize value from their solar PV system through higher displacement of their use of grid electricity.
- Third-party owners (“TPOs”), 74% of Tranche 3, usually have production guarantees built into lease/PPA contracts that require them to compensate homeowners if production is lower than expected.
  - TPOs also benefit from higher production through the Green Bank production based incentive (paid out quarterly for six years based on system production).

# Green Liberty Bonds

## Risks & Mitigants



### Production Risk (Continued)

- An internationally recognized independent engineering (“IE”) firm, DNV GL, conducted technical due diligence on the tranche.
  - IE examined historical performance, conducted an equipment review, and created a production forecast.
  - Based on the IE’s findings their P50 production estimates were above that estimated by the Green Bank (102.3% of Year 1 projections), but with slightly higher degradation rates (DNV 0.68% vs. Green Bank 0.50%).
- **Out of 34,870 RSIP projects completed since 2012, all but 64 are still in operation as of March 2020, a loss rate of 0.2% over 8 years.**

# Tranche 3 Attributes



Summary Attributes	
Number of PV Systems	4,811*
Aggregate PV System Size (kW-DC)	39,205
Average PV System Size (kW-DC)	8.1
Range of PV System Size (kW-DC)	0.5 - 39.6
Average RSIP Incentive Approval Date	1/26/2018
Average Utility Interconnection Approval Date	5/19/2018
Average Panel Age - Months since RSIP Incentive Approval	28.1
Average Panel Age - Months since Utility Interconnection Approval	24.3
Third Party Owned (%)	73.8%
Homeowner Owned (%)	26.2%
Average FICO	745
Range of Non-Zero Credit Score	447 to 850
Eversource Energy Grid Connection (%)	67.7%
United Illuminating Grid Connection (%)	32.3%

- *This number diverges from the total number of SHREC Projects initiated under the Master Purchase Agreements due to cancelled/decommissioned SHREC Projects.*



# Green Liberty Bonds

## Projected Debt Service Coverage



	Expected Net SHREC Receivables (P50)*	Net SHREC Receivables (P90)	Net SHREC Receivables (P99)	Projected Annual Debt Service	P50 Debt Service Coverage	P90 Debt Service Coverage	P99 Debt Service Coverage
11/15/2020	627,986	579,074	539,198	226,622	2.77x	2.56x	2.38x
11/15/2021	1,882,398	1,737,664	1,619,640	1,495,765	1.26x	1.16x	1.08x
11/15/2022	1,869,547	1,724,438	1,605,964	1,487,620	1.26x	1.16x	1.08x
11/15/2023	1,856,676	1,710,748	1,591,295	1,474,542	1.26x	1.16x	1.08x
11/15/2024	1,843,756	1,696,574	1,575,624	1,459,713	1.26x	1.16x	1.08x
11/15/2025	1,830,594	1,681,751	1,558,821	1,442,150	1.27x	1.17x	1.08x
11/15/2026	1,816,318	1,665,495	1,540,184	1,422,703	1.28x	1.17x	1.08x
11/15/2027	1,799,965	1,646,947	1,518,956	1,401,450	1.28x	1.18x	1.08x
11/15/2028	1,781,220	1,625,855	1,494,954	1,376,767	1.29x	1.18x	1.09x
11/15/2029	1,759,489	1,601,717	1,467,772	1,350,245	1.30x	1.19x	1.09x
11/15/2030	1,737,654	1,577,194	1,439,899	1,321,356	1.32x	1.19x	1.09x
11/15/2031	1,724,379	1,560,154	1,418,528	1,294,118	1.33x	1.21x	1.10x
11/15/2032	1,721,525	1,552,240	1,405,116	1,273,072	1.35x	1.22x	1.10x
11/15/2033	1,717,290	1,542,755	1,389,915	1,253,091	1.37x	1.23x	1.11x
11/15/2034	1,382,192	1,237,517	1,110,039	1,076,094	1.28x	1.15x	1.03x
11/15/2035	1,076,094**	1,076,094**	1,076,094**	906,424	1.19x	1.19x	1.19x

\*Expected Net SHREC receivables based on P50 production. P-measures are a statistical estimate of how often, given variances in weather and system performance, solar projects will exceed that value. P50 means that for each year, 50% of the time generation is expected to be above the generation forecast and 50% of the time generation is expected to be below the generation forecast for such year; Net of trustee fees

\*\* Represents the reserve fund release

SHREC performance for prior tranches has achieved 97.5% of their "P50 Expected Net SHREC Receivables"

# Green Liberty Bonds

## Uses of Funds

- Enable recovery of previous expenses, including RSIP incentives paid, financing costs, and administrative costs
- Enable recovery of future expenses, including RSIP incentives expected payments
- Fund required reserve account
  - SCRF Reserve Account



### Use of Funds / Cost Recovery

#### Fund Deposits

SCRF Reserve Account	1,496,718
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#### RSIP Incentives (Tranche 3)

Paid	6,070,892
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Expected Payment	5,343,908
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Total RSIP Incentives	11,414,800
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#### Financing Costs

Warehouse Interest	130,000
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Cost of Issuance	400,000
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Underwriters' Discount	214,616
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Total Financing Costs	744,616
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Administrative	1,778,866
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<b>Total Use of Funds</b>	<b>15,435,000</b>
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# Green Liberty Bonds

## Financing Detail\*



### Series 2020A

#### Preliminary Amortization

#### Serial Bonds

11/15/2021	966,000
11/15/2022	983,000
11/15/2023	996,000
11/15/2024	1,009,000
11/15/2025	1,021,000
11/15/2026	1,033,000
11/15/2027	1,045,000
11/15/2028	1,055,000
11/15/2029	1,064,000
11/15/2030	1,072,000

#### Term Bond

11/15/2035	5,191,000
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<b>Total</b>	<b>\$ 15,435,000</b>
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- Approximate par amount of \$15.4 million
  - Fixed rate structure
- Dates and Redemption
  - Principal due: November 15
  - Interest payable: May 15 and November 15
  - Redemption:
    - Par Call on November 15, 2030
- Denominations: \$1,000
- Tax Status: Federally Taxable  
Exempt from personal income taxes of Connecticut
- Certified Climate Bonds

\*Preliminary, subject to change

# Connecticut Green Bank

## Green Certification



- The Green Bank is working with Kestrel Verifiers to ensure that this bond meets the Climate Bonds Initiative (CBI)'s standard for Solar
- The Green Bank is implementing a programmatic certification for its bonding
- The previous SHREC issuance was labeled as CBI certified and verified by Kestrel
- The Green Bank and Kestrel will report annual on the impact of the projects that are associated with this bond



# Green Liberty Bonds

## Financing Schedule\*



<b>June 17, 2020</b>	<b>Posting of POS and Investor Presentation (munios.com)</b>
<b>June 30, 2020</b>	<b>Retail Order Period</b>
<b>July 1, 2020</b>	<b>Pricing</b>
<b>July 15, 2020</b>	<b>Closing and Delivery</b>

*\*Preliminary, subject to change*

# Appendix

# DNV Projections

## 1-year Portfolio Effect-adjusted probability of exceedance values (% of Total Sponsor Year 1 Estimates)

1-Year Relative Production				
Year	Sponsor Assumption	P50	P90	
1	99.1%	102.3%	94.5%	
2	98.6%	101.6%	93.8%	
3	98.1%	100.9%	93.0%	
4	97.6%	100.2%	92.3%	
5	97.1%	99.5%	91.5%	
6	96.6%	98.8%	90.7%	
7	96.1%	97.9%	89.7%	
8	95.6%	97.0%	88.6%	
9	95.2%	95.8%	87.4%	
10	94.7%	94.6%	86.0%	
11	94.2%	93.6%	84.8%	
12	93.7%	93.4%	84.4%	
13	93.3%	93.2%	83.9%	
14	92.8%	92.9%	83.3%	
15	92.3%	92.5%	82.6%	







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# Connecticut Green Bank

## Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020

# Contents

- Outstanding SCRF Financings
- Revenue Generation and Seasonality
- Illustrative Flow of Funds

# Q1: Outstanding SCRF Financing



## Meriden Hydro and CSCU

- **Project Support Agreements (PSAs):**
  - Designate as related bond indenture under MTI
  - If deficiency in their debt service accounts, MTI trustee will be instructed to set aside funds in Deficiency Mitigation Fund
- **PSA Draw History:**

### CGB Support for SCRF Projects

CSCU		Meriden	
<u>Date</u>	<u>Amount</u>	<u>Date</u>	<u>Amount</u>
Nov-18	\$336,000	Nov-17	\$63,965
Nov-19	\$175,000	Nov-18	\$97,000

# Q2 & 4. - Revenue Generation



## ■ Independent Engineer Forecasts:

- 15-year forecast on P50, P90, and P99 basis
- Availability and seasonality assumptions layered in
  - Seasonality derived from Fleetview SolarAnywhere projections

1. DNV GL Generation Forecast (MWh)				2. Gross Generation with Seasonality					
Year	P50	P90	P99	Quarter Ended	Projected Year	Seasonality	2	3	4
1	40,937	37,811	35,262	12/31/2019	1	14.64%	5,991	5,534	5,161
2	40,659	37,528	34,974	3/31/2020	1	19.18%	7,850	7,251	6,762
3	40,382	37,236	34,664	6/30/2020	1	33.64%	13,771	12,719	11,862
4	40,103	36,933	34,333	9/30/2020	1	32.55%	13,325	12,307	11,477
5	39,823	36,620	33,980	12/31/2020	2	14.64%	5,951	5,492	5,119
6	39,530	36,286	33,597	3/31/2021	2	19.18%	7,797	7,197	6,707
7	39,191	35,901	33,156	6/30/2021	2	33.64%	13,677	12,624	11,765
8	38,809	35,469	32,662	9/30/2021	2	32.55%	13,234	12,215	11,384
9	38,358	34,966	32,095	12/31/2021	3	14.64%	5,910	5,450	5,073
10	37,852	34,407	31,468	3/31/2022	3	19.18%	7,744	7,141	6,647
11	37,447	33,935	30,913	6/30/2022	3	33.64%	13,584	12,526	11,661
12	37,391	33,771	30,633	9/30/2022	3	32.55%	13,144	12,120	11,283
13	37,319	33,586	30,325	12/31/2022	4	14.64%	5,869	5,405	5,025
14	37,189	33,342	29,956	3/31/2023	4	19.18%	7,690	7,083	6,584
15	37,024	33,060	29,547	6/30/2023	4	33.64%	13,490	12,424	11,549
				9/30/2023	4	32.55%	13,053	12,021	11,175

# Q2 & 4. Revenue Generation (cont.)



## ■ Net Revenue Assumptions:

- System availability – determined by Independent Engineer based on historical analysis of system performance
- Price per SHREC set at \$48/SHREC

2. Gross Generation with Seasonality						3. Net Revenue, Time Shifted 2 Quarters				4. Revenue - Bond Schedule				
Quarter Ended	Projected Year	Seasonality	P50	P90	P99	System Availability	P50	P90	P99	Year	Period Ending	P50	P90	P99
12/31/2019	1	14.64%	5,991	5,534	5,161	96.40%	\$ -	\$ -	\$ -	1	11/15/2020	\$ 640,486	\$ 591,574	\$ 551,698
3/31/2020	1	19.18%	7,850	7,251	6,762		\$ -	\$ -	\$ -	2	11/15/2021	\$ 1,889,898	\$ 1,745,164	\$ 1,627,140
6/30/2020	1	33.64%	13,771	12,719	11,862	Price per SHREC	\$ 277,231	\$ 256,059	\$ 238,799	3	11/15/2022	\$ 1,877,047	\$ 1,731,938	\$ 1,613,464
9/30/2020	1	32.55%	13,325	12,307	11,477	48	\$ 363,256	\$ 335,515	\$ 312,899	4	11/15/2023	\$ 1,864,176	\$ 1,718,248	\$ 1,598,795
12/31/2020	2	14.64%	5,951	5,492	5,119		\$ 637,199	\$ 588,538	\$ 548,867	5	11/15/2024	\$ 1,851,256	\$ 1,704,074	\$ 1,583,124
3/31/2021	2	19.18%	7,797	7,197	6,707		\$ 616,557	\$ 569,472	\$ 531,086	6	11/15/2025	\$ 1,838,094	\$ 1,689,251	\$ 1,566,321
6/30/2021	2	33.64%	13,677	12,624	11,765		\$ 275,350	\$ 254,146	\$ 236,847	7	11/15/2026	\$ 1,823,818	\$ 1,672,995	\$ 1,547,684
9/30/2021	2	32.55%	13,234	12,215	11,384		\$ 360,792	\$ 333,008	\$ 310,341	8	11/15/2027	\$ 1,807,465	\$ 1,654,447	\$ 1,526,456
12/31/2021	3	14.64%	5,910	5,450	5,073		\$ 632,877	\$ 584,140	\$ 544,379	9	11/15/2028	\$ 1,788,720	\$ 1,633,355	\$ 1,502,454
3/31/2022	3	19.18%	7,744	7,141	6,647		\$ 612,375	\$ 565,217	\$ 526,744	10	11/15/2029	\$ 1,766,989	\$ 1,609,217	\$ 1,475,272
6/30/2022	3	33.64%	13,584	12,526	11,661		\$ 273,469	\$ 252,166	\$ 234,749	11	11/15/2030	\$ 1,745,154	\$ 1,584,694	\$ 1,447,399
9/30/2022	3	32.55%	13,144	12,120	11,283		\$ 358,326	\$ 330,414	\$ 307,593	12	11/15/2031	\$ 1,731,879	\$ 1,567,654	\$ 1,426,028
12/31/2022	4	14.64%	5,869	5,405	5,025		\$ 628,552	\$ 579,590	\$ 539,558	13	11/15/2032	\$ 1,729,025	\$ 1,559,740	\$ 1,412,616
3/31/2023	4	19.18%	7,690	7,083	6,584		\$ 608,190	\$ 560,814	\$ 522,079	14	11/15/2033	\$ 1,724,790	\$ 1,550,255	\$ 1,397,415
6/30/2023	4	33.64%	13,490	12,424	11,549		\$ 271,581	\$ 250,116	\$ 232,505	15	11/15/2034	\$ 1,389,692	\$ 1,245,017	\$ 1,117,539

# Q2. Illustrative Flow of Funds

## Average Year (P50)



- Quarterly deposits
  - 66% of annual revenue expected in Q4 and Q1
- Significant excess cash

Period Ending	SHREC Revenue	Trustee Fee	Net Revenues	Proposed Principal	Proposed Interest	Proposed Debt Service	Debt Serv Coverage
Closing							
11/15/2020	640,486	12,500	627,986		226,622	226,622	277%
11/15/2021	1,889,898	7,500	1,882,398	966,000	529,765	1,495,765	126%
11/15/2022	1,877,047	7,500	1,869,547	983,000	504,620	1,487,620	126%
11/15/2023	1,864,176	7,500	1,856,676	996,000	478,542	1,474,542	126%
11/15/2024	1,851,256	7,500	1,843,756	1,009,000	450,713	1,459,713	126%
11/15/2025	1,838,094	7,500	1,830,594	1,021,000	421,150	1,442,150	127%
11/15/2026	1,823,818	7,500	1,816,318	1,033,000	389,703	1,422,703	128%
11/15/2027	1,807,465	7,500	1,799,965	1,045,000	356,450	1,401,450	128%
11/15/2028	1,788,720	7,500	1,781,220	1,055,000	321,767	1,376,767	129%
11/15/2029	1,766,989	7,500	1,759,489	1,064,000	286,245	1,350,245	130%
11/15/2030	1,745,154	7,500	1,737,654	1,072,000	249,356	1,321,356	132%
11/15/2031	1,731,879	7,500	1,724,379	1,083,000	211,118	1,294,118	133%
11/15/2032	1,729,025	7,500	1,721,525	1,106,000	167,072	1,273,072	135%
11/15/2033	1,724,790	7,500	1,717,290	1,131,000	122,091	1,253,091	137%
11/15/2034	1,389,692	7,500	1,382,192	1,000,000	76,094	1,076,094	128%
11/15/2035		7,500		871,000	35,424	906,424	118%
	25,468,489	125,000		15,435,000	4,826,732	20,261,732	

### Illustrative Flow of Funds, 2021 and 2020

P50	Revenue	Trustee Fee	Interest	Principal	Account Balance
12/31/2020	\$637,199	(1,875)			\$ 635,324
3/31/2021	\$616,557	(1,875)			\$ 1,250,006
5/15/2021			(264,883)		\$ 985,123
6/30/2021	\$275,350	(1,875)			\$ 1,258,598
9/30/2021	\$360,792	(1,875)			\$ 1,617,515
11/15/2021			(264,883)	(966,000)	\$ 386,632
12/31/2021	\$632,877	(1,875)			\$ 1,017,634
3/31/2022	\$612,375	(1,875)			\$ 1,628,134
5/15/2022			(252,310)		\$ 1,375,824
6/30/2022	\$273,469	(1,875)			\$ 1,647,417
9/30/2022	\$358,326	(1,875)			\$ 2,003,869
11/15/2022			(252,310)	(983,000)	\$ 768,558

# Q3. Stress Test

## Stress Year (P99)



- Even in this unlikely scenario, still able to service debt with SHREC revenues

Period Ending	SHREC Revenue	Trustee Fee	Net Revenue	Proposed Principal	Proposed Interest	Proposed Debt Service	Debt Serv Coverage
Closing							
11/15/2020	551,698	12,500	539,198		226,622	226,622	238%
11/15/2021	1,627,140	7,500	1,619,640	966,000	529,765	1,495,765	108%
11/15/2022	1,613,464	7,500	1,605,964	983,000	504,620	1,487,620	108%
11/15/2023	1,598,795	7,500	1,591,295	996,000	478,542	1,474,542	108%
11/15/2024	1,583,124	7,500	1,575,624	1,009,000	450,713	1,459,713	108%
11/15/2025	1,566,321	7,500	1,558,821	1,021,000	421,150	1,442,150	108%
11/15/2026	1,547,684	7,500	1,540,184	1,033,000	389,703	1,422,703	108%
11/15/2027	1,526,456	7,500	1,518,956	1,045,000	356,450	1,401,450	108%
11/15/2028	1,502,454	7,500	1,494,954	1,055,000	321,767	1,376,767	109%
11/15/2029	1,475,272	7,500	1,467,772	1,064,000	286,245	1,350,245	109%
11/15/2030	1,447,399	7,500	1,439,899	1,072,000	249,356	1,321,356	109%
11/15/2031	1,426,028	7,500	1,418,528	1,083,000	211,118	1,294,118	110%
11/15/2032	1,412,616	7,500	1,405,116	1,106,000	167,072	1,273,072	110%
11/15/2033	1,397,415	7,500	1,389,915	1,131,000	122,091	1,253,091	111%
11/15/2034	1,117,539	7,500	1,110,039	1,000,000	76,094	1,076,094	103%
11/15/2035		7,500		871,000	35,424	906,424	118%
	21,393,406			15,435,000	4,826,732	20,261,732	

p99					
	Revenue	Trustee	Interest	Principal	Account Balance
12/31/2020	\$548,867	(1,875)			\$ 546,992
3/31/2021	\$531,086	(1,875)			\$ 1,076,203
5/15/2021			(264,883)		\$ 811,320
6/30/2021	\$236,847	(1,875)			\$ 1,046,292
9/30/2021	\$310,341	(1,875)			\$ 1,354,758
11/15/2021			(264,883)	(966,000)	\$ 123,875
12/31/2021	\$544,379	(1,875)			\$ 666,379
3/31/2022	\$526,744	(1,875)			\$ 1,191,247
5/15/2022			(252,310)		\$ 938,937
6/30/2022	\$234,749	(1,875)			\$ 1,171,811
9/30/2022	\$307,593	(1,875)			\$ 1,477,529
11/15/2022			(252,310)	(983,000)	\$ 242,219

# Q3. Stress Test

## MTI Draw Scenario (90% of P99)

- Can track revenue quarterly, and if below known annual debt service (adjusted for seasonality), begin to set aside funds
  - Total trustee fees plus debt service for 2021 is \$1,503,265

### Super Stress Cash - 90% of P99

	Revenue	Trustee F Interest	Principal	Account Balance
12/31/2020	\$493,980	(1,875)		\$ 492,105
3/31/2021	\$477,978	(1,875)		\$ 968,208
5/15/2021			(264,883)	\$ 703,325
6/30/2021	\$213,162	(1,875)		\$ 914,612
9/30/2021	\$279,307	(1,875)		\$ 1,192,044
11/15/2021			(966,000)	\$ (38,839)

- Required funding \$1,503,265

- Quarterly split

- Q4 - 34%
- Q1 - 33%
- Q2 - 15%
- Q3 - 19%

	Revenue		MTI Set Aside		Debt Service	Account Balance
	Super Stress	Required	Quarterly	Cumulative		
12/31/2020	\$ 493,980	\$ 505,679	\$ 11,699	\$ 11,699	(1,875)	\$ 503,804
3/31/2021	\$ 477,978	\$ 489,298	\$ 11,320	\$ 23,020	(1,875)	\$ 991,227
5/15/2021					(264,883)	\$ 726,345
6/30/2021	\$ 213,162	\$ 220,009	\$ 6,847	\$ 29,867	(1,875)	\$ 944,479
9/30/2021	\$ 279,307	\$ 288,279	\$ 8,972	\$ 38,839	(1,875)	\$1,230,883
11/15/2021					(1,230,883)	\$ -



# Q3. Stress Test - MTI Funding



- Annually, establish minimum SHREC revenue levels per quarter
  - Set as Debt Service + Trustee Fees and allocated based on expected SHREC seasonality
  - 45 days prior to any debt service payment, if there is a deficiency to cumulative min. funds, authorized officer of the Bank instructs Trustee to capture gap amount in DMF
  - Trustee will transfer from DMF to DSF of SHREC Indenture
  - Transfer will occur at least ten days before due dates in bond documents
- MTI replenished annually
  - Monies that reach the SHREC Economic and Energy Security Fund will transfer to MTI



## Bryan Garcia

---

**From:** Michael Yu  
**Sent:** Tuesday, June 9, 2020 11:43 AM  
**To:** Bronisz, Bettina  
**Cc:** Bryan Garcia; Bert Hunter; Brian Farnen  
**Subject:** RE: some quick questions from OTT  
**Attachments:** 5b\_CGB\_Appendix C\_SCRF Self Sufficiency Memo.pdf; CGB\_BOD\_Resolutions\_032520.docx

Bettina,

Happy to field any additional questions! The Board approved the self sufficiency findings at its March 25, 2020. Memo and resolutions attached.

IPC obtained 501(c)(3) status on October 22, 2018

Cheers,  
Mike

### Michael Yu

*Director, Clean Energy Finance*  
Connecticut Green Bank  
300 Main Street, Stamford CT 06901

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P: 860.257.2344 | C: 212.300.3399



---

**From:** Bronisz, Bettina <Bettina.Bronisz@ct.gov>  
**Sent:** Tuesday, June 9, 2020 10:16 AM  
**To:** Michael Yu <Mike.Yu@ctgreenbank.com>  
**Cc:** Bryan Garcia <Bryan.Garcia@ctgreenbank.com>; Bert Hunter <Bert.Hunter@ctgreenbank.com>; Brian Farnen <Brian.Farnen@ctgreenbank.com>  
**Subject:** some quick questions from OTT

Good morning Mike!

A couple of quick questions:

- What was the date that the Board approved the Findings of Self-Sufficiency and MTI?
- Would you be able to provide me with a pdf of the Findings?
- What was the year that Green Bank got the 501(c)(3) ruling from IRS on the IPC?

I might have a few more questions in the next day or so.

Thanks in advance,  
Bettina

*Bettina M. Bronisz*

Principal Debt Management Specialist

Office of the State Treasurer

**State of Connecticut**

165 Capitol Avenue Hartford, CT 06106

Phone: 860.702.3165 | Fax: 860.622.2931 | Mobile: 860.729.1548

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*"Imagination is more important than knowledge..." - Albert Einstein*



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# Connecticut Green Bank

## Solar Home Renewable Energy Credit, Green Liberty Bonds, Series 2020

June 11, 2020

# Contents

- Any questions outstanding from OTT
- Any questions outstanding from OPM
- Walk through the benefits of the MTI

# Master Trust Indenture

## Goals



### **Increase Investment** –

expand deployment of clean energy project finance and infrastructure development to achieve greater societal benefits, deploy funding beyond SBC and existing revenue sources, and citizen engagement as retail purchasers

### **Lower the Cost of Capital**

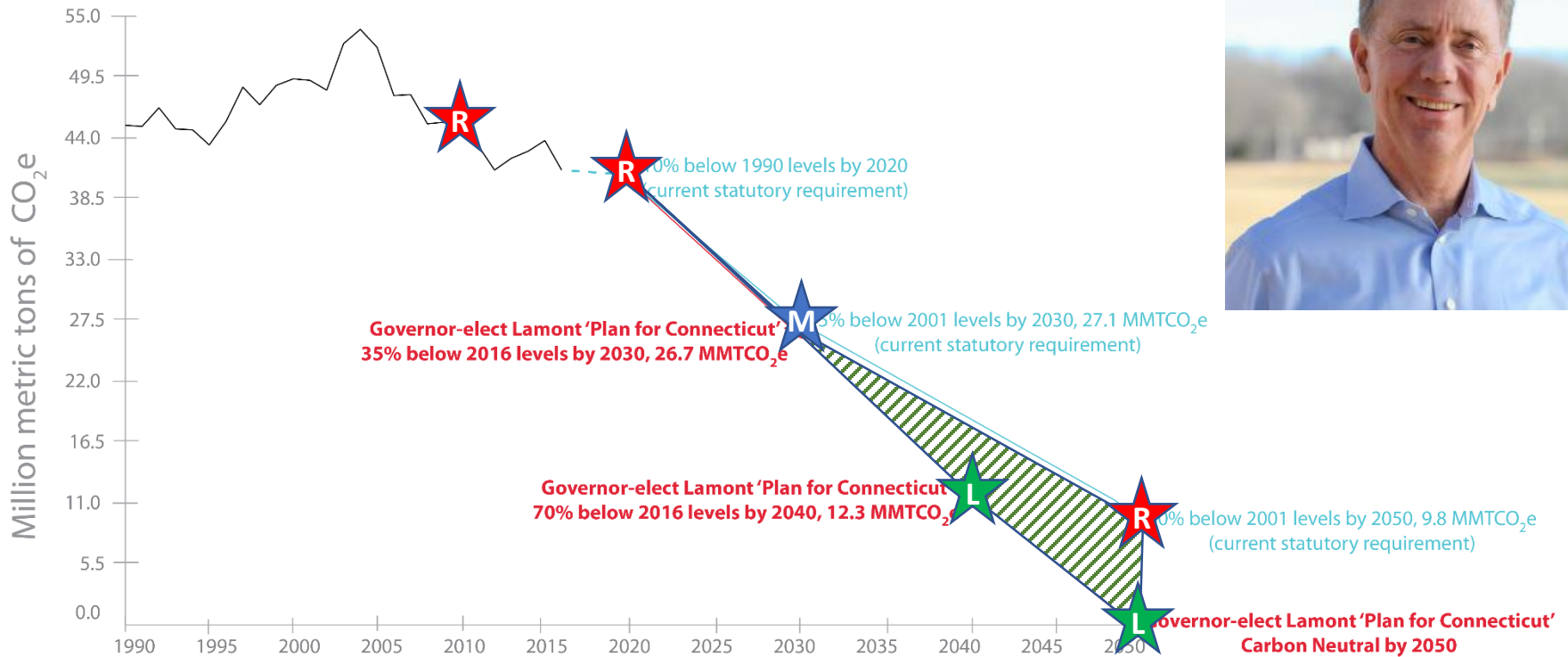
– raise lower cost and longer-term capital from institutional investors and “everyday citizens” through “green bonds” for clean energy investments to assist end-use customers in reducing energy burden

### **Protect revenues** –

protection of project revenues and other revenue sources (e.g., CEF, RGGI, etc.) through master indenture, use SCRF as necessary, and citizen engagement as retail purchasers

# Gubernatorial Leadership

## Confront Climate Change in Connecticut



*“These targets are **tougher than required under the Paris Agreement**, but are achievable, measurable goals that will **guide our state’s energy and environmental policy.**”*



# Connecticut Green Bank

## Mission Statement and Goals



Confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.

- Leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.
- Strengthen Connecticut's communities by making the benefits of the green economy inclusive and accessible to all individuals, families, and business.
- Pursue investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability.

# Connecticut Green Bank

## Vision Statement – Green Bonds US



...a world empowered  
by the renewable energy  
of community



### REFERENCES

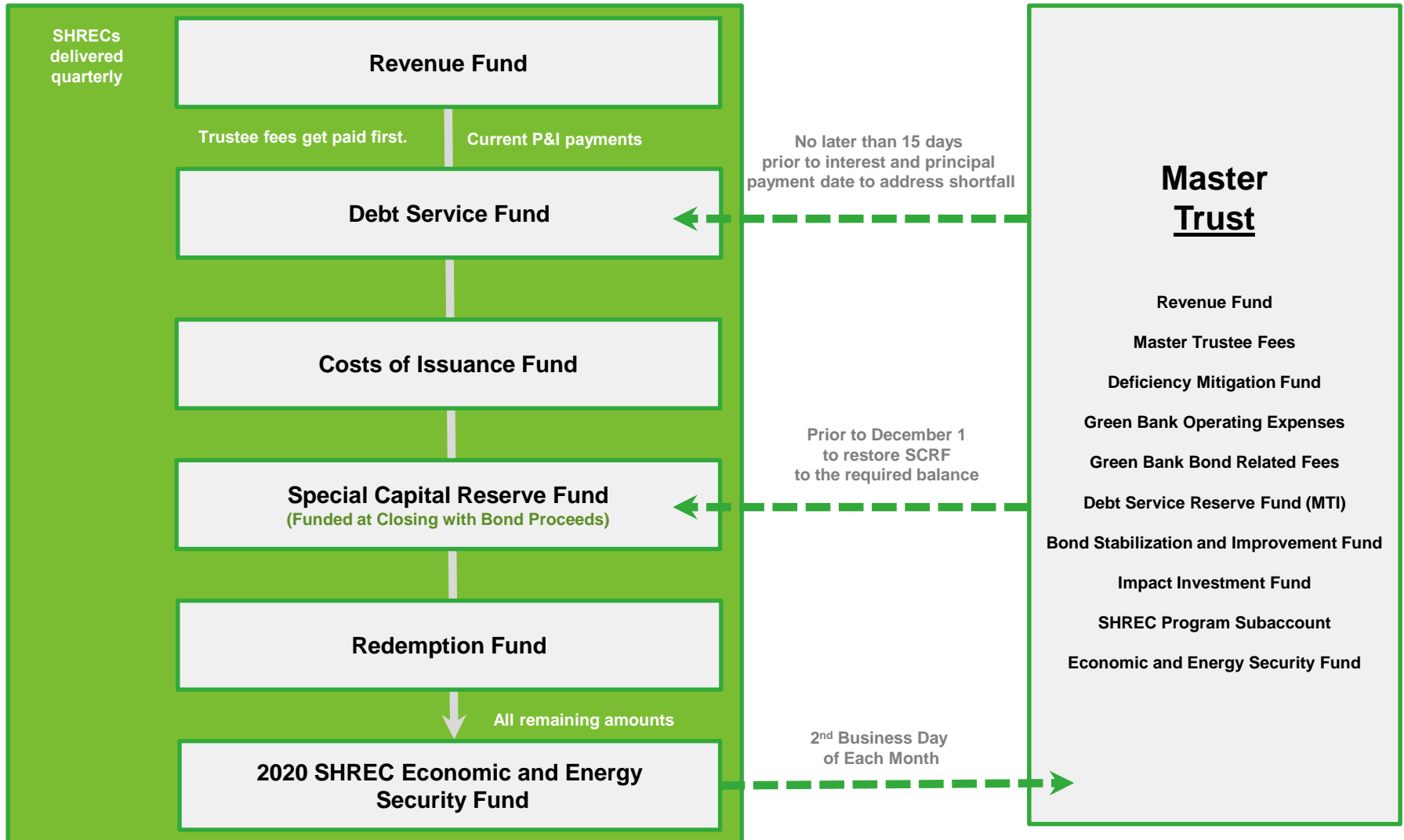
Vision Statement inspired by the Innovations in American Government Awards at the Ash Center of Harvard University's Kennedy School of Government, Maya Angelou's "On the Pulse of Morning," and the powerful words of Mary Evelyn Tucker on "inclusive capitalism".

# Green Liberty Bonds

## Flow of Funds



### Series 2020 Trust



# Strength of MTI support

## Default Tolerance Coverage

**FY2020**

**\$470,000**  
Deficiency Mitigation Fund  
Requirement



**78.6x coverage**

**FY2023**

**\$1.28 million**  
Deficiency Mitigation Fund  
Requirement



**30.2x coverage**

# The MTI Advantage



- SBC revenues ensure the Green Bank does not need to issue new loans to operate
- MTI benefits from a gross pledge; debt mitigation funded prior to OpEx
- While all pledge revenues go into the MTI, the additional security as calculated does not include future investments of Green Bank surplus revenues.
- Coverage based only upon annual revenues, so will be repeatable, giving all time to correct problems.
- MTI gets residual (coverage) from all financing indentures at the bottom of the waterfall

# Green Liberty Bonds

## Financing Schedule\*



<b>June 17, 2020</b>	<b>Posting of POS and Investor Presentation (munios.com)</b>
<b>June 30, 2020</b>	<b>Retail Order Period</b>
<b>July 1, 2020</b>	<b>Pricing</b>
<b>July 15, 2020</b>	<b>Closing and Delivery</b>

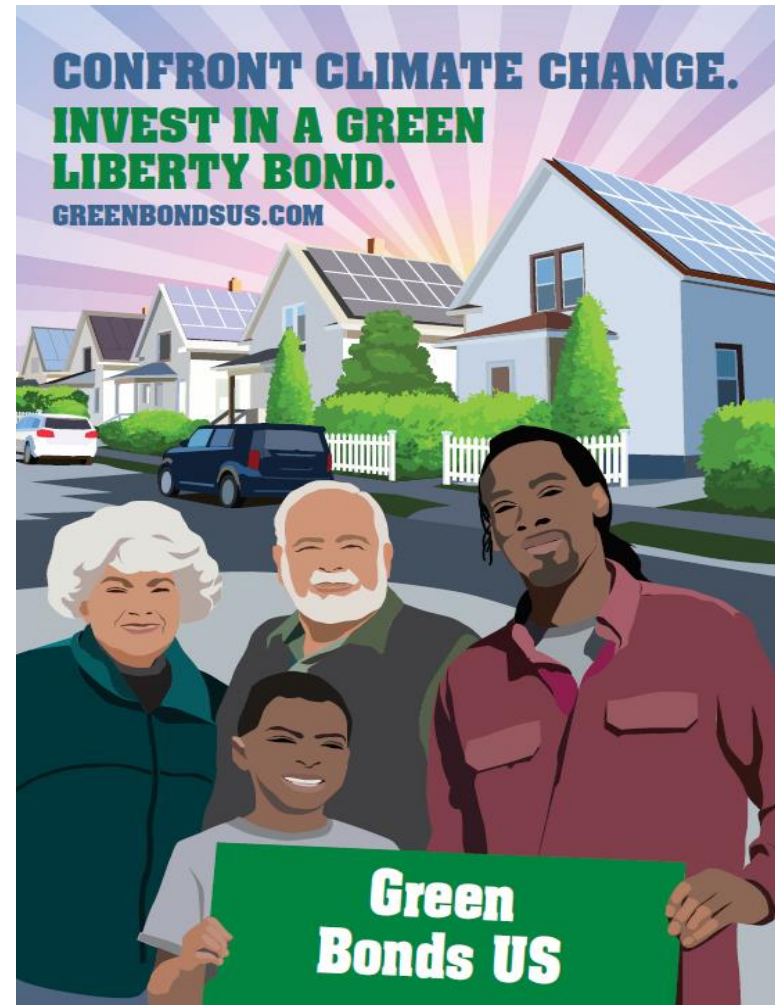
*\*Preliminary, subject to change*

# Green Liberty Bond

## Take Action – “Save for the Planet”



1. **Get Notified** – sign-up at [www.greenlibertybonds.com](http://www.greenlibertybonds.com) to learn about the bonds and receive updates
2. **Find a Broker** – open-up a brokerage account to be able to place an order to buy a bond by contacting Michael LeClair at (203) 772-7200 or [michael.leclair@stifel.com](mailto:michael.leclair@stifel.com)
3. **Buy a Bond** – once all of the details about the bond offering are complete, and the market adjusts to COVID-19, then buy a \$1,000 Green Liberty Bond







# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Bert Hunter, EVP and CIO

**CC:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Mackey Dykes, Vice President, Commercial, Industrial and Institutional Programs

**Date:** June 23, 2020

**Re:** COVID-19 Process Response for Canton Hydro Loan

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## Background, and Project Description & Purpose

Connecticut Green Bank's ("Green Bank") Board of Directors ("Board") approved on October 26, 2018 a not-to-exceed \$1.2 million subordinate loan ("Loan") and \$500,000 limited guaranty from the Green Bank to finance through construction and operation a 1 MW hydroelectric facility located at the Upper Collinsville Dam ("Dam"), on the Farmington River, in Canton, Connecticut (the "Project"). The Loan closed on May 17, 2019, and was leveraged by a \$4.7 million senior loan from The Provident Bank ("Provident"), a \$300,000 in-kind contribution from equipment supplier and turnkey provider WWS Wasserkraft GmbH ("Wasserkraft"), and \$675,000 in equity from Canton Hydro LLC, the project's developers (the "Developer"). Once the Project is completed, State of Connecticut owned buildings through the Department of Energy and Environmental Protection ("DEEP") will benefit from the electricity generated by the hydroelectric facility through the state's Virtual Net Metering ("VNM") program. The Project anticipated a 1-year construction period and the Loan anticipated quarterly interest only payments during construction. Due to COVID-19, staff received a request for interest forbearance and for an increase in the loan amount to help offset a portion of the increase in project expense resulting from the delay.

## Update and COVID Response

Wasserkraft is an Austrian company with longstanding experience in the construction of hydroelectric plants smaller than 10MW per unit. In addition to supplying the main equipment for the Project, Wasserkraft is the turnkey solution provider supervising and managing all subcontractors involved in the project. While most of the work is performed by local subcontractors and personnel, supervising technicians and engineers from Wasserkraft based out of Austria are required to be on site periodically for supervision and, especially, for the final equipment assembly and calibration. However, the COVID19 related travel restrictions by U.S. Department of State upon the directive of the President is preventing critical, technically trained personnel from traveling from Austria to the U.S. to perform the work at the site. The Developer requested an extension of the VNM program's July 25, 2020 deadline to the Public Utilities Regulatory Authority ("PURA"), who approved a 12-month extension without additional fees given the unique factual circumstances, including the indefinite suspension of visitors to the United States from Europe because of the COVID-19 public health emergency and the lack of viable alternative solutions.

As a result of this unprecedented disruption outside of the Project’s control, which is resulting in a longer construction period, Green Bank’s staff is requesting approval to i) restructure interest payments during the remaining construction period and, ii) increase the loan amount in an amount not to exceed \$100,000 for expenses associated with the delays.

**Interest Payment Restructure**

Due to the COVID related delays, Green Bank staff proposes a forbearance on quarterly interest payment during the remaining construction period. Instead of requiring interest payments to be paid quarterly for the remainder of construction, these payments would continue to accrue along with interest and become due after construction is completed. Unless there are further unforeseen delays due to COVID, the Developer foresees construction completed by November 2020 (a six-month delay compared to the initial construction period). As a result, once the Developer makes the payment of interest that we would forbear until construction is completed, the loan outstanding and to be amortized for the balance of the term of the loan is expected to be the same even if this accommodation were not granted. A signed letter from the Developer requesting the restructuring due to COVID-19 is presented as Exhibit A. Green Bank’s forbearance through an amendment to the loan agreement between the parties would enable us to be responsive to the restructuring needs of the borrower during this tumultuous period. As outlined in the Loan Loss Decision Framework approved by the Board on June 8, 2018 and later modified on April 24, 2020, the restructuring calculation compares the loss in revenue, on a net present value (“NPV”) basis, to the Green Bank from its subordinate date to the Project based on the original vs. restructured transaction.

Assuming a discount rate of 8% (equivalent to the interest rate during construction associated with the Project), the proposed restructuring does not have an impact on the NPV since interest continues to accrue for interest payments under forbearance until construction is completed. The table below compares the original and restructured investments.

	<b>NPV all payments</b>
<b>Original Transaction</b>	\$1,245,574.48
<b>Restructured Transaction</b>	\$1,245,574.48
<b>Difference</b>	\$0.00

## Increase in Loan Amount

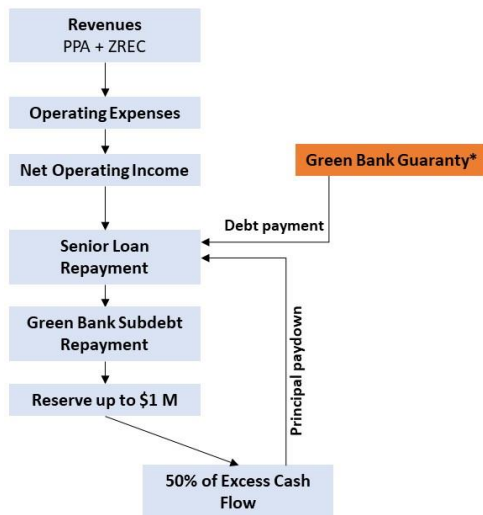
The Developer requests a \$100,000 increase in the Loan amount due to expenses associated with COVID delays, such as insurance and accounting during the longer construction period. An updated sources and uses table is below.

Summary Sources vs. Uses

Green Bank staff proposes approving the increase but requiring that Green Bank advances no more than 50% of approved costs into the operating account secured by Provident Bank (the Senior Lender) with an equal match cash contribution requirement from Developer to be disbursed in the account. The waterfall of payments (see below) along with terms of the loan will remain unchanged:

- 15-year term;
- 8% interest rate. If not fully amortized by year 15, rate on remaining principal outstanding increases to 10%;
- Mortgage style amortization; and,
- Green Bank will take a security position in all project assets but with a full standstill behind the Senior Loans.

### Project's Waterfall



\* Guaranty called upon if there are insufficient reserves to make Senior Loan payments

From a repayment perspective, based on the annual average expected production figures<sup>1</sup> and using the current expected term interest rate for the Provident loan (■■■■% on average), Provident Bank's debt would be repaid in year 11. Once Provident Bank's loan is repaid, unused funds in the Reserve account would be used to be pay back Green Bank, which we expect would retire the Loan by the end of year 12, with an average debt service coverage ratio ("DSCR") of 3.75x. The financial model has been stressed under worst case scenario (that is, using the worst series of water flow years) and debt service is met with the debt also repaid by year 12.

Given the current interest rate environment, Provident's interest rates are significantly lower than anticipated back in October 2018 when Green Bank approved the Loan (originally anticipated interest rates around 6%) thereby improving the overall economics of the Project and Green Bank's ability to get repaid even with the higher loan amount. Originally, we had anticipated Green Bank would be repaid in year 15 and with an average DSCR of 2.63x. The original and revised cash flow projections, along with DSCR are provided in Exhibit B.

From a risk perspective, the transaction holds the same risk as when it was originally approved (risks identified have been included in Exhibit C). Given the advanced stage of construction, construction risk, however, is lower than when the transaction was originally approved. Given the foregoing, staff recommends approval by the Board of (a) the interest forbearance and (b) the requested additional loan.

## Resolutions

**WHEREAS**, in accordance with (1) the statutory mandate of the Connecticut Green Bank ("Green Bank") to foster the growth, development, and deployment of clean energy sources that serve end-use customers in the State of Connecticut, (2) the State's Comprehensive Energy Strategy and (3) Green Bank's Comprehensive Plan for Fiscal Years 2015 and 2016 (the "Comprehensive Plan"), Green Bank continuously aims to develop financing tools to further drive private capital investment into clean energy projects;

**WHEREAS**, Canton Hydro, LLC ("Developers") was awarded exclusivity by the Town of Canton to redevelop a 1 MW hydroelectric facility located at the Upper Collinsville Dam ("Dam"), on the Farmington River, in Canton, Connecticut (the "Project") and the Green Bank Board approved approve subordinate debt financing in an amount to exceed \$1,200,000 (the "Loan") along with an unfunded guaranty, in an amount not to exceed \$500,000 to support the Project;

**WHEREAS**, Developer has requested a \$100,000 increase in the Loan due to delays associated with COVID, for a total not to exceed amount of \$1,300,000;

**WHEREAS**, the Green Bank Deployment Committee ("Deployment Committee") and the Audit, Compliance and Governance Committee ("ACG Committee") recommended approval of the Proposed Loan Loss Decision Framework and Process, set forth in that certain memo to the Board

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<sup>1</sup> Average annual, net (after turbine, generator, speed increaser, transformer efficiencies and 5 days downtime) electrical energy production is based on a power production analysis from a third-party independent engineer based on river flow data from 1997 to 2017.

of Directors dated June 8, 2018 as modified on April 24, 2020 (the “Loss Process”) for their consideration and subsequent approval; and

**WHEREAS**, in accordance with Loss Process, Green Bank staff seeks the approval to restructure the Loan by providing forbearance of quarterly interest payments during construction (the “Restructured Loan”), as more particularly described in the memorandum submitted to the Board on June 23, 2020.

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank is authorized to execute and deliver the Restructured Loan with terms and conditions consistent with the memorandum submitted to the Board on June 8, 2020, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from the date of the Board approval of the Loss Process; and

**RESOLVED**, that the Green Bank Board of Directors hereby authorize staff to execute amend the Loan agreement materially based on the terms and conditions set forth in this board memo dated June 22, 2020 for an increase in Green Bank’s financial support in an amount not to exceed \$1,300,000;

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to affect the above-mentioned legal instruments.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO.

**Exhibit A – COVID 19 Repayment Modification Request (attached)**




**Connecticut Green Bank Loan Agreement  
COVID-19 Repayment Modification Request & Attestation**

By signing below, Canton Hydro LLC (“Borrower”) agree and attest to the following terms and conditions:

- 1.) As a result of the National Emergency, declared, and announced by the President of the United States on March 13, 2020, pertaining to the novel coronavirus disease 2019 (COVID-19) outbreak in the United States, Borrower hereby request that the repayments on my Loan Agreement dated May 17, 2019 with Connecticut Green Bank (the “Loan Agreement”) be modified.
- 2.) To the best of my knowledge and belief, the construction period of the project associated with the Loan Agreement has been and will be directly negatively impacted by COVID-19, and as a result Borrower is currently unable to make the payments contemplated in the Loan Agreement, which Borrower seeks to modify.
- 3.) Borrower understands that it will be provided option(s) to modify its Loan Agreement that it will choose upon receipt from the Connecticut Green Bank.
- 4.) Borrower understands that its request will be subject to a review and approval process. It is not guaranteed that a request for a Loan Agreement modification will be approved by the Connecticut Green Bank.
- 5.) This is not a forgiveness of the Loan Agreement obligations.
- 6.) All Financing Agreement provisions remain in effect, except as expressly stated in this document.

Borrower Entity (Legal Name): Canton Hydro LLC

By: Yottajoule LLC, Member

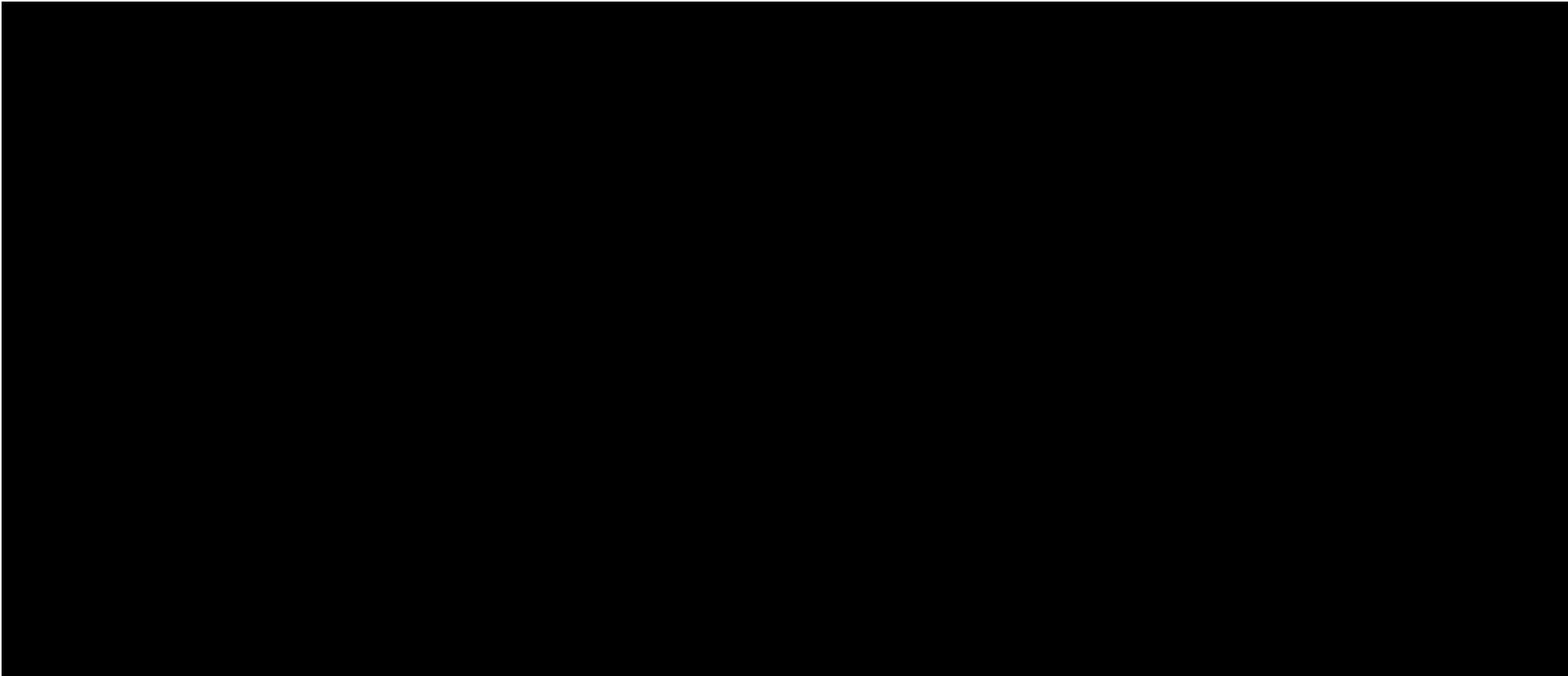
By: 

Borrower Signatory (Print Name): Name: Armin Moehrle

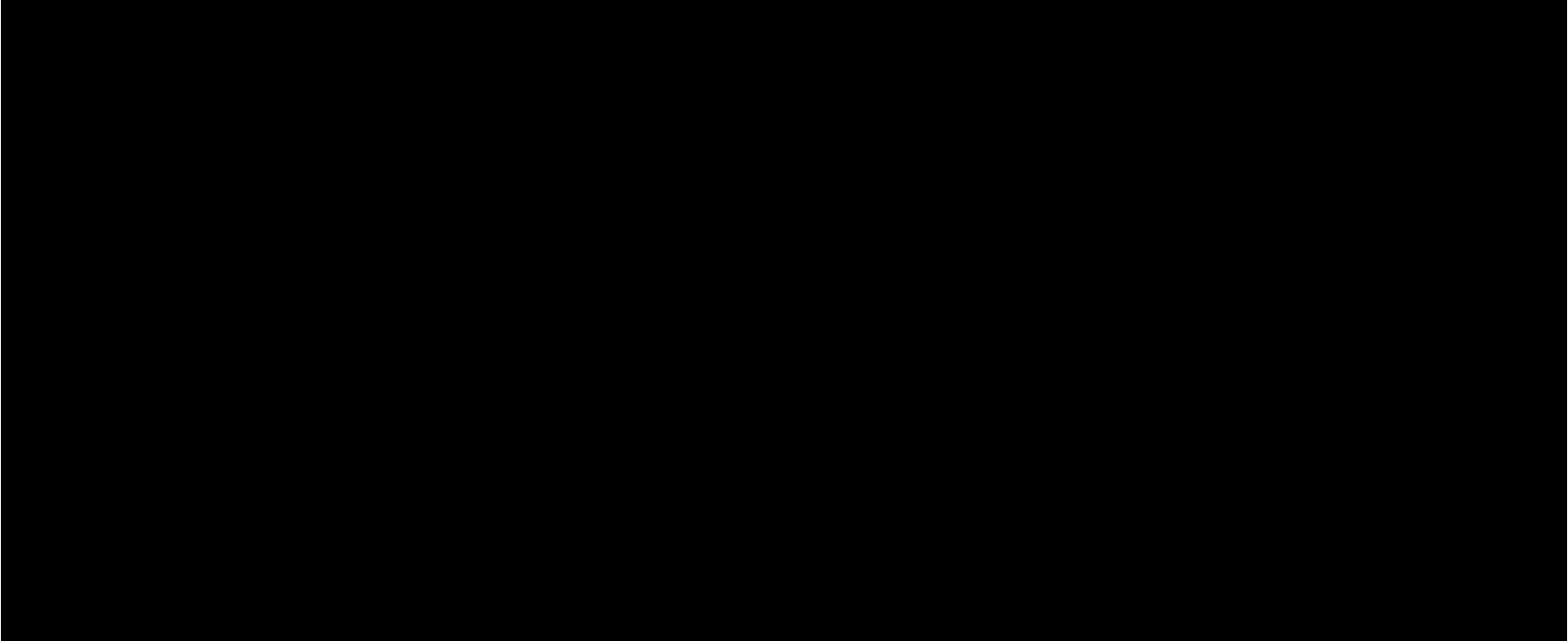
Title: Sole Member, duly authorized

**Exhibit B – Original and Revised Cash Flow, Assumptions and Debt Service Coverage Ratio**

Revised Cash Flow, Assumption and DSCR







## Exhibit C – Risks and Mitigants

As presented in the October 26, 2018 memo approved by the Board

Risk	Risk Level	Mitigating Factor
<b>Construction and Performance Risk</b>	Medium	As described in greater detail in the “Project Partners” section, the parties involved in the Project include accomplished engineers, developers, project managers and owners of hydro facilities who, between them, have experience with hydro projects locally and internationally.
<b>Operational Risk</b>	Medium	The Developer will have a long-term operations and maintenance contract with Wasserkraft, which has already been negotiated. It includes daily remote inspection, weekly onsite supervision, trash rake cleaning and annual service. Green Bank will also require Developers to have appropriate property, commercial liability and umbrella insurance.
<b>Generation Risk</b>	Low	Generation estimates used in the financial model are based on 31 years of water flow data at the Farmington River. The financial model has been stressed under worst case scenario (that is, using the worst series of water flow years) and debt service coverage is still met. Under the ZREC and VNMCA contracts, the Developer does not have any obligations or penalties if there is a shortfall in the amount of electricity generated.
<b>Offtaker risk</b>	Low	The Project’s off-taker is the State of Connecticut under the VNMCA and Eversource under the ZREC, both investment grade entities.
<b>Change in VNM Regulations</b>	Low	The VNMCA includes provisions so that if there were to be a change in VNM regulations, which staff believes a low risk, especially for existing projects, the parties will agree to use best efforts to restore the economic benefits of the VNMCA as originally intended.
<b>Equipment Malfunction</b>	Medium	Wasserkraft is providing a 5-year warranty on the equipment and a 2-year workmanship warranty. Spare parts for items that have most wear and tear will be stored locally in Collinsville near the plant.

# CONFIDENTIAL TO THE BOARD

(ACTIVE FINANCING FACILITY PROPOSAL UNDER NEGOTIATION)

## Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Bert Hunter, EVP and CIO and Louise Venables, Senior Manager, Clean Energy Finance

**CC:** Bryan Garcia, President and CEO; George Bellas, Vice President of Finance and Administration; Brian Farnen, General Counsel and CLO; Eric Shrago, Director of Operations

**Date:** December 14, 2018

**Re:** Amalgamated Bank Revolving Credit Facility Proposal

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### Purpose

This memo seeks approval from the Connecticut Green Bank (“Green Bank”) Board of Directors (the “Board”) for Connecticut Green Bank (“Green Bank”) to enter into an agreement with Amalgamated Bank (“Amalgamated”) for a \$5,000,000 secured revolving line of credit (the “Revolving Credit Facility”). The Revolving Credit Facility would be provided by Amalgamated, to the Green Bank, in order to meet the Green Bank’s short-term liquidity and working capital needs. Along with a general repayment obligation by the Green Bank, Amalgamated would be secured by a first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Lease 1 Notes portfolio (the “Collateral”).

**The selection of Amalgamated as the provider of the Revolving Credit Facility follows the completion of a Request for Proposals (“RFP”) process that closed October 19, 2018.**

### Background

On April 27, 2018 the Board passed a resolution approving the Green Bank to enter into a Revolving Credit Facility with Union Savings Bank (“USB”), following a strategic selection process. However, after Board approval was obtained, the Green Bank was unable to reach financial close with USB because the USB credit committee did not approve the transaction (the transaction with USB had achieved staff approval which was the basis for bringing the USB transaction to the Board). The need for a Revolving Credit Facility remained, so a RFP process was conducted in October 2018 in order to find a suitable lender.

### Business need for a Revolving Credit Facility

Shortly following the announcement of the budget sweeps, the VP Finance and Administration (the “VP F/A”) and the Chief Investment Officer (the “CIO”) together with their teams assessed future liquidity needs of the Green Bank given the material redirection of funding that needs to pass from the Green Bank to the

General Fund prior to the end of FY2018 (\$14 million in June 2018) and during FY2019 (approximately \$1.167 million each month).

Related to the need for liquidity are covenants associated with guaranties by the Green Bank to various financial institutions, notably US Bank under the Solar Lease 2 and Solar Lease 3 facilities (required minimum cash balance of \$4 million).

After weighing the requisite minimum cash balance requirement plus the difficulty in predicting from one month to the next the swings in cash advances needed for various projects, in particular C-PACE and CT Solar PPA transactions – along with the Green Bank commitment to the Small Business Energy Advantage (SBEA) collaboration with the utilities, the VP F/A and CIO jointly determined the benefits to the Green Bank of a short term revolving credit facility. The Board agreed with the benefits of having access to such liquidity for short term cash management purposes when it passed resolutions in April 2018 in favor of the USB facility.

The decision by staff to pursue a liquidity facility in order to meet upcoming cash flow needs is predicated on the pursuit of an effective, yet flexible, means of managing transaction timelines without having to sacrifice optimal closing terms and conditions for liquidity concerns. By effectively managing gaps between uses of cash, in the form of outgoing program and project related investments, and sources of cash, in the form of capitalization from the system benefit charges and Regional Greenhouse Gas Initiative funds, inflows from Green Bank’s portfolio, the SHREC securitization or otherwise, Green Bank staff can optimize its cash flow management while minimizing the risk of short-term liquidity squeezes. The results of effective cash flow management include increased market confidence in the Green Bank’s capacity to close transactions, and an increased ability in the Green Bank to be opportunistic with its investment decisions.

**Request for Proposals Process**

Staff posted a notice of Request for Proposals on the Green Bank website at the end of September, 2018. An informational webinar was held, which was attended by representatives from four financial institutions. At the close of the RFP window, two financial institutions submitted proposals.

Comparison between Like Terms of Proposals Received:

	<b>Bidder X</b>	<b>Amalgamated</b>
<b>Borrower</b>	Connecticut Green Bank (“CGB”)	Connecticut Green Bank
<b>Guarantor</b>	CT Solar Lease 1, LLC (entity to be created – name might be slightly different)	CT Solar Lease 1, LLC (entity to be created – name might be slightly different)
<b>Security</b>	Security interest in all business assets of CGB, secured by UCC filing  1st Security Interest in all assets of CT Solar Lease 1, LLC, secured by UCC filing  Collateral assignment of leases / loans of CT Solar Lease 1, LLC	General repayment obligation of the CGB  Absolute assignment of the revenues associated with the CT Solar Lease 1, LLC (“Collateral Portfolio”), secured by UCC filing

<b>Interest Rate</b>	
<b>Debt Service Coverage Ratio</b>	
<b>Upfront fee</b>	
<b>Unused fee</b>	

Staff considered the terms offered by Amalgamated more favorable on account of the lower upfront fee, more relaxed debt service coverage ratio, and the choice of interest rate options.

**Revolving Credit Facility Structure (NOTE: subject to modification during transaction documentation negotiation)**

In June 2018, the Green Bank secured a SHREC Warehouse Facility with Liberty Bank and Webster Bank. In order to move forward with closing a Revolving Credit Facility, the Green Bank must first obtain a waiver from or an amendment to the Credit Facility with Webster Bank.

The Revolving Credit Facility will be structured as a revolving line of credit whereby the Green Bank may, at any point in time while the line of credit is available, borrow funds in an amount not to exceed the maximum borrowing limit of \$5,000,000. The Green Bank is required to pay monthly, interest-only payments on borrowed funds, together with an unused fee in the amount of █% of the portion of the facility that is not drawn.

Amalgamated has offered the Green Bank a choice of interest rates on the Revolving Credit Facility: either fixed at █% or variable at 1-month LIBOR plus █% (█% as of December 4, 2018). The Revolving Credit Facility will mature 364 days after the closing date.

The financial covenants of the Revolving Credit Facility require that cash collections under the Collateral (i.e. the customer repayments under the CT Solar Lease 1 Notes portfolio) must maintain a ratio of two times (█x) the debt service due on the loan, tested quarterly. Staff is comfortable that this covenant is easily met, even under the assumption that the full \$5million loan is drawn on 'day 1' of the facility. Staff has confirmed the DSCR test with Amalgamated.

Additional key requirements and conditions associated with the Revolving Credit Facility include [the full set of terms and conditions can be found in the **Appendix I – Term Sheet** section below]:

- An upfront facility fee of \$█;
- An unused fee equal to █% of the unused portion of the Revolving Credit Facility
- Payment of Amalgamated’s reasonable legal fees;
- Annual clean-up requirement (Green Bank must pay off all outstanding borrowings and have no debt under the Revolving Credit Facility for a period of at least thirty consecutive days during each 365-day period during which the facility is in place).
- Quarterly circulation of internally prepared balance sheet and related financial statements (including cash flow and income statements and a schedule of accounts receivable aging with year to date aging information); and

- Annual submission to Amalgamated of Green Bank’s CAFR.

Based on staff’s experience with structuring credit facilities, and given conversations with other providers of short-term liquidity facilities, Staff is confident that the above-listed requirements and conditions are both reasonable and manageable.

### Strategic Plan

***Is the program proposed, consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?***

Yes – the proposed facility enables Green Bank to fund advances in respect of various programs active under Green Bank’s Comprehensive Plan (C-PACE, Commercial Solar PPA, etc.).

### Ratepayer Payback

***How much clean energy is being produced (i.e. kWh over the projects lifetime) from the program versus the dollars of ratepayer funds at risk?***

N/A (funds from the Revolving Credit Facility are being borrowed, not advanced)

### Terms and Conditions

***What are the terms and conditions of ratepayer payback, if any?***

N/A (funds from the Revolving Credit Facility are being borrowed, not advanced); however, see **Appendix I – Term Sheet** section below for terms of the Amalgamated Revolving Credit Facility.

### Capital Expended

***How much of the ratepayer and other capital that Green Bank manages is being expended on the project?***

N/A (funds from the Revolving Credit Facility are being borrowed, not advanced)

### Risk

***What is the maximum risk exposure of ratepayer funds for the program?***

N/A (funds from the Revolving Credit Facility are being borrowed, not advanced)

### Financial Statements

***How is the program investment accounted for on the balance sheet and profit and loss statements?***

When funds are borrowed:

\$x	Debit: Cash
\$x	Credit: Short Term Borrowings

When funds are repaid:

\$x	Debit: Short Term Borrowings
\$x	Credit: Cash

## Target Market

### *Who are the end-users of the engagement?*

The end users of the Revolving Credit Facility are Green Bank as well as the underlying programs and projects that receive short-term funding from the underlying line of credit.

## Green Bank Role, Financial Assistance & Selection/Award Process

The Green Bank role is as the borrower, and Amalgamated was chosen as the lender via an RFP process.

## Program Partners

Amalgamated Bank.

Established 95 years ago, Amalgamated Bank is the largest socially responsible bank in America. Through its treasury management, lending and investment management capacities, Amalgamated aims to provide the financial support to its clients who pursue socially and economically responsible objectives. Amalgamated provides the day-to-day banking services and clean finance solutions to environmentally-focused organizations.

## Risks and Mitigation Strategies

The main risk associated with the Revolving Credit Facility is that, in the event of default by the Green Bank, the amount outstanding under the facility becomes due. Such repayment risk is mitigated by the following structural components of the Revolving Credit Facility:

- 1.) The Green Bank is able to repay the Revolving Credit Facility with available cash held in accounts on its balance sheet, and given the overall health of the Green Bank's long-term balance sheet position, there is ample coverage in the form of available net assets relative to the size of the line of credit to raise other credit facilities if needed.
- 2.) Because the Revolving Credit Facility is short-term in nature, to be used in between a financing opportunity and a capital sourcing/monetization event, there is less uncertainty with regards to the economic position of the Green Bank while amounts drawn are outstanding relative to other types of longer-term credit facilities. The Green Bank will operationalize the utilization of the Revolving Credit Facility so that a definitive "source" of short term revenue is identified to repay the "use" of the Revolving Credit Facility within the requirements of the definitive transaction documentation.

## Resolutions

**WHEREAS**, Connecticut Green Bank ("Green Bank") staff has submitted to the Green Bank Board of Directors ("Board") a proposal for Green Bank to enter into an agreement with Amalgamated Bank ("Amalgamated") for a \$5,000,000 secured revolving line of credit ("Revolving Credit Facility") whereby the Revolving Credit Facility would be used in order to meet the Green Bank's short-term liquidity and working capital needs; and

**WHEREAS**, the selection of Amalgamated as the provider of the Revolving Credit Facility follows the completion of a Request for Proposals (“RFP”) process in accordance with Green Bank operating procedures that closed October 19, 2018;

**WHEREAS**, along with a general repayment obligation by the Green Bank, Amalgamated would be secured by a first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Lease 1 Notes portfolio (the “Collateral”); and

**WHEREAS**, Green Bank staff recommends that the Board approve the proposed Revolving Credit Facility, generally in accordance with memorandum summarizing the Revolving Credit Facility and the terms of the summary term sheet, both presented to the Board on December 14, 2018.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves Green Bank to enter into the Revolving Credit Facility with Amalgamated and approves of Amalgamated as a competitive selection to be the sole source provider of the Revolving Credit Facility; and

**RESOLVED**, that the President, Chief Investment Officer and General Counsel of Green Bank; and any other duly authorized officer of Green Bank, is authorized to execute and deliver on behalf of Green Bank any of the definitive agreements related to the Revolving Credit Facility and any other agreement, contract, legal instrument or document as he or she shall deem necessary or appropriate and in the interests of Green Bank and the ratepayers in order to carry out the intent and accomplish the purpose of the foregoing resolutions.

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

Submitted by: Bert Hunter, EVP and CIO and Louise Venables, Senior Manager, Clean Energy Finance



## Appendix I – Term Sheet

### Summary Term Sheet

#### Amalgamated Bank

1. **Borrower:** Connecticut Green Bank
2. **Amount and Loan Type:** Up to \$5,000,000 Revolving Line of Credit
3. **Purpose:** Provide for working capital
4. **Interest Rate:** Borrower's option of:
  - i. Variable rate of 30 Day Libor + ████%
  - ii. Fixed at ████%
5. **Maturity:** 364 days from the closing date
6. **Monthly payments:** Interest-only in arrears.
7. **Upfront Fee:** \$████.00
8. **Unused Fee:** An amount equal to ████% of the unused amount under the facility
9. **Collateral:**
  - i. General repayment obligation of the Connecticut Green Bank
  - ii. Absolute assignment of the revenues associated with the CT Solar Lease 1, LLC portfolio



# Memo

**To:** Connecticut Green Bank Board of Directors  
**From:** Bert Hunter, EVP and CIO and Louise Della Pesca, Associate Director, Clean Energy Finance  
**CC:** Bryan Garcia, President and CEO; Jane Murphy, Vice President of Finance and Administration; Brian Farnen, General Counsel and CLO; Eric Shrago, Director of Operations  
**Date:** June 19, 2020  
**Re:** Amalgamated Bank Revolving Credit Facility Proposal

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## Purpose

This memo seeks approval from the Connecticut Green Bank (“Green Bank”) Board of Directors (the “Board”) for the Green Bank to enter into an amendment of an existing line of credit (the “Original Revolving Credit Facility”) with Amalgamated Bank (“Amalgamated”) for a \$5,000,000 secured revolving line of credit (the “Amended Revolving Credit Facility”). The Amended Revolving Credit Facility would continue to be provided by Amalgamated, to the Green Bank, in order to meet the Green Bank’s short-term liquidity and working capital needs. The selection of Amalgamated as the provider of the Amended Revolving Credit Facility followed the completion of a Request for Proposals (“RFP”) process that closed October 19, 2018. The Original Revolving Credit Facility was approved by the Board on December 14, 2018 and became effective May 22, 2019. Amalgamated has extended the Original Revolving Credit Facility pending approval by the Green Bank Board of the Amended Revolving Credit Facility and final documentation executed by the Green Bank and Amalgamated.

## Description of the Facility – Use and Description

As a revolving facility, the Green Bank would borrow and repay advances in order to meet the Green Bank’s short-term liquidity and working capital needs. The Green Bank has made good use of the facility since it was put in place in May 2019. At the present time, the Green Bank has the full amount of the facility drawn, however the Green Bank is in a position to pay down the advances and expects to do so before the end of June. Since the facility is secured with cash flows from consumer-based receivables, with the loan balances associated with the receivables declining, the “credit ceiling” of the facility will decline at a steady \$300,000 quarterly rate as follows:

At present	\$5,000,000
August 31, 2020	\$4,700,000
November 30, 2020	\$4,400,000
December 31, 2020	\$4,100,000
February 28, 2021	\$3,800,000

The facility would terminate and any loan balance outstanding would be payable not later than the expiration of the facility on May 21, 2021 (unless extended by mutual agreement).

With the substantial decline in LIBOR<sup>1</sup>, the LIBOR-based pricing (1-month LIBOR plus █%) does not reflect Amalgamated's underlying cost of funds in a reliable manner. Accordingly, the parties have agreed to the applicable rate to be the greater of █% and "Prime Rate less █%" (which with Prime = 3.25% equates to █%).

Other key facility terms are as follows:

- Borrower (Green Bank) to maintain a █x DSCR. Debt Service Coverage Ratio shall mean "Borrower's earnings before interest, taxes, depreciation, amortization, and loan loss provision divided by interest and current portion of long-term debt". (Green Bank can easily satisfy this covenant.)
- An "unused fee" in the amount of █% of the portion of the facility that is not drawn (same as with the Original Revolving Credit Facility)
- \$█ renewal fee is payable (this renewal fee was a part of the Original Revolving Credit Facility)
- Adds CT Solar Loan I LLC as a guarantor to the existing guarantor (being CT Solar Lease I LLC - related to the modification of security – see next section)

### **Description of the Facility - Security**

Along with a general repayment obligation by the Green Bank, Amalgamated would be secured by a Guaranty of two subsidiaries: CT Solar Lease 1 (the "Existing Guarantor") and CT Solar Loan 1 LLC (the "Additional Guarantor"), as well as first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Lease 1 Notes portfolio (the "Existing Collateral") as well as additional collateral, being a first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Loan 1 Notes portfolio (the "Additional Collateral"). The reason for adding the Additional Guarantor and the Additional Collateral is that the Existing Collateral would have been insufficient to "back stop" the credit facility at the desired \$5 million credit level. By adding the Additional Collateral the facility can start at the desired \$5 million credit level, while declining as payments received on that collateral decreases the value remaining to support Amalgamated's exposure. In preparation of granting the Additional Collateral to Amalgamated, Green Bank has recently repaid two loan facilities that were supported by this collateral. These loan facilities were from Solar Mosaic, Inc., ("Mosaic") (our crowd funding structure) and The Reinvestment Fund (a private placement). The interest rates on both the Mosaic and The Reinvestment Fund facilities were considerably higher than the rate agreed for the Amended Revolving Credit Facility, which will benefit Green Bank by approximately \$█ during FY21.

### **Strategic Plan**

***Is the program proposed, consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?***

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<sup>1</sup> The London Interbank Offered Rate (LIBOR) is a benchmark interest rate at which major global banks lend to one another in the international interbank market for short-term loans.

Yes – the proposed facility enables Green Bank to fund advances in respect of various programs active under Green Bank’s Comprehensive Plan (C-PACE, Commercial Solar PPA, etc.).

### Ratepayer Payback

***How much clean energy is being produced (i.e. kWh over the projects lifetime) from the program versus the dollars of ratepayer funds at risk?***

N/A (funds from the Amended Revolving Credit Facility are being borrowed, not advanced)

### Terms and Conditions

***What are the terms and conditions of ratepayer payback, if any?***

N/A (funds from the Amended Revolving Credit Facility are being borrowed, not advanced – key terms have been explained in the memorandum above)

### Capital Expended

***How much of the ratepayer and other capital that Green Bank manages is being expended on the project?***

N/A (funds from the Amended Revolving Credit Facility are being borrowed, not advanced)

### Risk

***What is the maximum risk exposure of ratepayer funds for the program?***

N/A (funds from the Amended Revolving Credit Facility are being borrowed, not advanced)

### Financial Statements

***How is the program investment accounted for on the balance sheet and profit and loss statements?***

When funds are borrowed:

\$x	Debit: Cash
\$x	Credit: Short Term Borrowings

When funds are repaid:

\$x	Debit: Short Term Borrowings
\$x	Credit: Cash

### Target Market

***Who are the end-users of the engagement?***

The end users of the Amended Revolving Credit Facility are Green Bank as well as the underlying programs and projects that receive short-term funding from the underlying line of credit.

### Green Bank Role, Financial Assistance & Selection/Award Process

The Green Bank role is as the borrower, and Amalgamated was chosen as the lender via an RFP process in 2018.

## Program Partners

Amalgamated Bank.

Established 97 years ago, Amalgamated Bank is the largest socially responsible bank in America. Through its treasury management, lending and investment management capacities, Amalgamated aims to provide the financial support to its clients who pursue socially and economically responsible objectives. Amalgamated provides the day-to-day banking services and clean finance solutions to environmentally-focused organizations.

## Risks and Mitigation Strategies

The main risk associated with the Amended Revolving Credit Facility is that, in the event of default by the Green Bank, the amount outstanding under the facility becomes due. Such repayment risk is mitigated by the following structural components of the Amended Revolving Credit Facility:

- 1.) The Green Bank is able to repay the Amended Revolving Credit Facility with available cash held in accounts on its balance sheet, and given the overall health of the Green Bank's long-term balance sheet position, there is ample coverage in the form of available net assets relative to the size of the line of credit to raise other credit facilities if needed.
- 2.) Because the Amended Revolving Credit Facility is short-term in nature, to be used in between a financing opportunity and a capital sourcing/monetization event, there is less uncertainty with regards to the economic position of the Green Bank while amounts drawn are outstanding relative to other types of longer-term credit facilities. The Green Bank will operationalize the utilization of the Amended Revolving Credit Facility so that a definitive "source" of short term revenue is identified to repay the "use" of the Amended Revolving Credit Facility within the requirements of the definitive transaction documentation.

## Resolutions

**WHEREAS**, Connecticut Green Bank ("Green Bank") staff has submitted to the Green Bank Board of Directors ("Board") a proposal for Green Bank to enter into an agreement with Amalgamated Bank ("Amalgamated") to amend an existing ("Original Revolving Credit Facility") \$5,000,000 secured revolving line of credit ("Amended Revolving Credit Facility") whereby the Amended Revolving Credit Facility would be used in order to meet the Green Bank's short-term liquidity and working capital needs; and

**WHEREAS**, the selection of Amalgamated as the provider of the Original Revolving Credit Facility followed the completion of a Request for Proposals ("RFP") process in accordance with Green Bank operating procedures that closed October 19, 2018 and was approved by the Board at a meeting held December 14, 2018;

**WHEREAS**, along with a general repayment obligation by the Green Bank, Amalgamated would be secured by a Guaranty of two subsidiaries: CT Solar Lease 1 (the guarantor of the Original Revolving Credit Facility) and CT Solar Loan 1 LLC (the “Guarantees”), as well as first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Lease 1 Notes portfolio as well as additional collateral, being a first priority security interest in, and an absolute assignment of all cash flows associated with, the CT Solar Loan 1 Notes portfolio (the “Collateral”); and

**WHEREAS**, Green Bank staff recommends that the Board approve the proposed Revolving Credit Facility, generally in accordance with memorandum summarizing the Revolving Credit Facility and the terms of the summary term sheet, both presented to the Board on June 26, 2020.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves Green Bank to enter into the Amended Revolving Credit Facility with Amalgamated, to issue the Guarantees and pledge the Collateral in a manner materially consistent with the memorandum to the Board dated June 19, 2020; and

**RESOLVED**, that the President, Chief Investment Officer and General Counsel of Green Bank; and any other duly authorized officer of Green Bank, is authorized to execute and deliver on behalf of Green Bank any of the definitive agreements related to the Amended Revolving Credit Facility, the Guarantees and the Collateral and any other agreement, contract, legal instrument or document as he or she shall deem necessary or appropriate and in the interests of Green Bank and the ratepayers in order to carry out the intent and accomplish the purpose of the foregoing resolutions.

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

Submitted by: Bert Hunter, EVP and CIO and Louise Della Pesca, Associate Director, Clean Energy Finance

# Memo

**To:** CGB Board of Directors  
**From:** Barbara Waters (Associate Director of Marketing)  
**CC:** Bryan Garcia (President and CEO) and Eric Shrago (Managing Director of Operations)  
**Date:** June 26, 2020  
**Re:** Update on Office Space Search

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With the leases for our offices in Rocky Hill and Stamford set to expire December 31, 2020, the Green Bank sought out to find space that met the following goals:

- **Effective and Efficient Layout** – Our present layouts do not have enough space for staff and are dark. They do not provide staff with enough space to collaborate and innovate. We are looking to address those points in our move.
- **Community Engagement** – The Green Bank would like to be part of a community and seeks office space that facilitates its interactions with the surrounding community.
- **Mission Alignment** – We want to be in a building that we can point to as an example of our programs and that speaks to what we are trying to achieve in society - sustainability. We are looking at buildings that have or are willing to implement clean energy retrofits.
- **Beneficial Economics** – As responsible stewards of ratepayer funds, we were looking to spend below our benchmarks for office space.

In 2018, staff conducted an RFP for office space but ultimately decided to engage a broker and issued an RFP for a commercial broker in the fall of 2019. Four responses were received and reviewed. Ultimately, CBRE was selected as the best qualified market experts and most aligned to our goal to find new space that most closely meets our green mission.

Before we began our search, we spoke to our brokers regarding the commercial real estate climate in both locations. The Hartford area market has been very stable regarding rental rates for many years. While there has been no significant increase in demand in the area, tenant flight from the capital city has stabilized. As a result, rents have remained steady in the mid \$20s/sqft with little variation. In Stamford, proximity to New York and an influx of companies has driven rates up, with prime locations demanding close to \$40/sqft or more.

In December 2019, CBRE crafted an RFP that was submitted to brokers and building owners. In January 2020, Eric Shrago, Barbara Johnson, and Barbara Waters from the Green Bank spent several days touring multiple buildings for each location. From these tours staff narrowed the list of prospects to five locations in Hartford and four in Stamford, and in February the brokers began the negotiation process.

During this time, the staff also discussed and sought guidance from the Budget & Operations Committee<sup>1</sup> and the Board of Directors<sup>2</sup> with respect to its intention of moving the headquarters of the organization from Rocky Hill to Hartford, with a focus on economical and sustainable spaces. The board was supportive of the staff direction.

To ensure that the buildings being evaluated are aligned with the Green Bank's mission, staff engaged the C-PACE technical consultant to perform an energy analysis of the finalist buildings (some had already done significant work using green energy methods and met our mission criteria). These inspections moved from in-person to remote due to the coronavirus pandemic. These evaluations are completed, and staff have reviewed them with the building owners. As a result, we winnowed our field to the landlords who are interested in making clean energy changes in their buildings and exploring the possibility of using C-PACE financing to support.

While the COVID-19 pandemic did not change our direction, it has significantly informed and impacted our thinking about the safety of office space for employees. As part of the reopening process for our current offices, we have learned about ways to keep staff as safe as possible while they are working on-site. We have taken those learnings and included them in the evaluation process to ensure that our new offices will continue to be a safe place for our employees to work, innovate, and create solutions that make a significant and lasting impact on society. The reopening preparations have underscored our need for additional office space.

Resulting from our search were two options that met our goals of effective and efficient layout, community engagement, mission alignment, and beneficial economics.

## **Hartford**

Finding office space that met all of the above targets, outside of the City of Hartford (e.g., Middletown, Rocky Hill, and Wallingford), proved challenging, so we focused our search on properties in Hartford. We identified Atlantic Works at 75 Charter Oak Boulevard as the location that best meets our goals. A screw factory in its previous life, the building is now the central part of the Connecticut Non-Profit Center and houses many mission-aligned and adjacent organizations that serve vulnerable communities (including Operation Fuel). The development also has an apartment building. The complex is between downtown and Colt Park and offers greater opportunity for community engagement than our current headquarters. Our space would include 14 offices, 5 conference rooms, a kitchen, and open

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<sup>1</sup> January 10, 2020

<sup>2</sup> January 24, 2020



seating for the staff, with allowance for growth. It offers free parking with access to a fitness facility as well as additional meeting space if needed. From a green perspective, the complex is in the process of getting LEED certified and the owners are very interested in the possibility of using C-PACE financing for a solar and EE projects. Financially, our standard has been the first-year cost of the space, recognizing that we will incur costs associated with the move. Atlantic works is the most economical of the properties we considered. The significantly low rate of rent combined with increased amount of space allows us to expand our mission in a cost-effective way as we plan for growth in societal impact over the next decade by creating a space that serves our innovative culture.

Please note: the benchmarks for the move from Rocky Hill to Hartford were the proposed extension (i.e., 10 years) and expansion (i.e., from 8,496 ft<sup>2</sup> to 10,046 ft<sup>2</sup>) for annual rent in Rocky Hill of \$18.50/ft<sup>2</sup> or \$185,851 with the current comparable rates that the State of Connecticut pays for office space in Hartford of between \$23.00<sup>3</sup> to \$24.50<sup>4</sup> per square foot for 10,000 ft<sup>2</sup> space in Hartford – or the equivalent of \$230,000 to \$245,000.

Please note: current annual rent in Rocky Hill is \$184,788 for 8,496 ft<sup>2</sup> at \$21.75/ft<sup>2</sup>.

Option	Space (SF)	First Year Rent/SF	First Year Cost	Green Energy Notes
<b>Atlantic Works, 75 Charter Oak Boulevard, Hartford</b>	10,000	\$17.00 <sup>5</sup>	\$170,000	Many opportunities available within entire complex, engaged ownership regarding enhancements and C-PACE
<b>845 Brook St, Rocky Hill</b>	10,046	\$18.50 <sup>6</sup>	\$185,851	Landlord will expand EV charging and install solar at the expense of the Green Bank
<b>State of CT Benchmark</b>	10,000	\$23.00-\$24.50	\$230,000-\$245,000	none

### Stamford

In Stamford, we found an equally compelling space at 700 Canal Street. It is a recently renovated building located on the waterfront in the up-and-coming Harbor Point neighborhood, with good proximity to the Stamford Train Station and downtown. The building provides attractive amenities for employees, such as free onsite parking (difficult to find in Stamford), a private shuttle to the train station, and nearby food options. Our technical

<sup>3</sup> Department of Insurance

<sup>4</sup> Department of Banking

<sup>5</sup> Last response from building owner on March 12, 2020 is \$17.00 (Year 1), \$17.50 (Year 2-4), \$18.00 (Year 5), \$19.00 (Year 6), \$19.50 (Years 7-9), and \$20.00 (Year 10)

<sup>6</sup> Last response from building owner on March 12, 2020 is \$18.50 (Year 1) with 2% escalator per year (i.e., \$22.11/ft<sup>2</sup> in Year 10)

evaluation uncovered significant opportunities for both EE and solar projects, and we are in discussions with the landlord regarding the best way to maximize his opportunities to save money and energy. Financially, for our space in Stamford, we have sought space that does not cost us significantly more than our current rent. Due to the structure of the lease in Stamford, we have negotiated several months of free rent that bring the average amortized annual cost (the cost of rent, moving, and operating expenses over the course of the 5 year lease present valued back to now) of the space down to \$119,000 a year, a slight increase for a significantly more functional location.

Please note: current annual rent in Stamford is \$113,000.

Option	Amount of Space (SF)	First Year Rent/SF	First Year Cost	Amortized Annual Cost	Green Energy Notes
<b>700 Canal Street</b>	3,596	\$39.03	\$126,613	\$119,000	Owner very interested in options, very engaged in discussions including C-PACE
<b>300 Main St</b>	4,000	\$28.25		\$113,000	Lots of opportunity for retrofits in the building but no interest from the Landlord
<b>Stamford Class A Benchmark</b>	4,000	\$40.00		\$160,000	none

Staff have briefed the Budget and Operations Committee on the search process on January 10, May 13, June 10 and received input on the search process from the Board on January 24 of this year. On June 16, staff presented and reviewed these options with the Budget and Operations Committee who are recommending to the Board of Directors that they direct and empower staff to complete the negotiation of leases on these two spaces in accordance with the financial terms listed above.

Moving into these two spaces will reduce costs, provide for mission alignment on sustainability, and make the Green Bank a part of the Hartford and Stamford communities.

**Resolution #10**

**WHEREAS**, the leases on the Green Bank’s offices in Rocky Hill and Stamford expire on December 31, 2020;

**WHEREAS**, staff having engaged CB Richard Ellis who have guided the organization’s search for new office space, have identified office space at:

75-85 Charter Oak Avenue, Hartford CT

700 Canal Street, Stamford, CT;

**WHEREAS**, on June 16, 2020, the Budget and Operations Committee recommended that the Board of Directors authorize Green Bank staff to negotiate and enter into leases with the owners of the aforementioned buildings provided they are consistent with the financial terms presented to this committee today in the memorandum dated June 12, 2020;

**RESOLVED**, the Board of Directors authorizes Green Bank staff to negotiate and enter into leases with the owners of the aforementioned buildings provided that the financial terms of those leases not exceed those presented to the Board today in the memorandum dated June 19, 2020.



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