CONNECTICUT
GREEN BANK SM

Board of Directors

Meeting Date

October 25, 2019

CONNECTICUT
GREEN BANK

Board of Directors

Lonnie Reed

Chair

Mary Sotos

Senior Policy Advisor of Energy,

DEEP

Binu Chandy

Deputy Director,

DECD

Betsy Crum

Former Executive Director, Women's Housing Institute

Shawn Wooden

Treasurer, State of Connecticut

Thomas M. Flynn

Managing Member, Coral Drive Partners LLC

Matthew Ranelli, Secretary

Partner, Shipman & Goodwin LLP

Eric Brown

Senior Counsel, CT Business & Industry Association

Kevin Walsh

GE Energy Financial Services' Power and Renewable Energy

John Harrity

President, Connecticut State Council of Machinists

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

CONNECTICUT
GREEN BANK

October 18, 2019

Dear Connecticut Green Bank Board of Directors:

We have a regular meeting of the Board of Directors scheduled on **Friday, October 25, 2019 from 9:00 to 11:00 a.m.** in the Colonel Albert Pope Board Room of the Connecticut Green Bank ("Green Bank") at 845 Brook Street, Rocky Hill, CT 06067.

I am excited to announce that at this meeting, we will be joined by **former State Representative Lonnie Reed and Co-Chair of the Energy & Technology Committee**, who has been **appointed by Governor Lamont to serve as the Chair of the Green Bank**.

Welcome aboard Lonnie!

[Note – all those with (*) are agenda items whose materials will be coming by the close of business on Tuesday, October 22nd.]

We have quite an extensive agenda for our next meeting (i.e., this is the most material we have ever provided – my apologies for being overly comprehensive), including:

- **Consent Agenda** – we have a number of items on the consent agenda, including approval of meeting minutes for September 12, 2019. final FY 2019 progress to target memos with redlined revisions, FY 2019 Loan Loss Decision Framework Report, FY 2019 IPC progress to target memo, including an immaterial revision to their PSAs, 2020 regular board and committee meeting schedules, revised position descriptions for Mackey Dykes (i.e., VP of Financing Programs) and Selya Price (i.e., Director of Incentive Programs) that are consistent with the organizational structure in the Comprehensive Plan, and a prior approved C-PACE project timeline extension.

- **Committee Recommendations** – the Audit, Compliance and Governance Committee ("ACG Committee") will be taking up a number of items, including the draft FY 2019 Comprehensive Annual Financial Report ("CAFR"), an update on the recent review of the recommendations from the Auditors of Public Account on the FY 16-FY17 audit, including revisions to the severance policy and meeting attendance of board members.

- **Financing Programs** – the staff is bringing a myriad of transactions that support our Comprehensive Plan and Budget, including:

    1. **Hampshire Foundation Impact Investment** – an innovative financing partnership with a foundation that will invest in Green Bank assets and share financial returns with a Connecticut-based nonprofit;

2. **Sustainable CT Partnership** – a grant to a nonprofit organization in support of citizen engagement in communities that will result in additional project financings through Green Bank programs;
3. **Solar PV and Lead by Example** – a financing partnership with the State of Connecticut to reduce energy costs through the use of solar PV power purchase agreements;
4. **Fuel Cell Energy Navy Subbase Facility** – corporate update on the company and request for modification of term loan facility to permit partial (i.e., 60% - $3.0 MM) advance towards construction costs co-financed with 5th 3rd Bank;
5. **Capital for Change LIME Loan Facility** (*) – update on LIME Loan and approval of budgeted $2.0 MM concessionary loan for LIME Loan product, and approval of incremental $1.0 MM standard loan for LIME Loan product; and
6. **Momentum Solar** (*) – an update on a potential financing partnership to continue building on the low-to-moderate income financing options for residential solar PV.

- **Incentive Programs** – we will be bringing the final step (i.e., Step 15) of the Residential Solar Investment Program ("RSIP") for your review and approval.

- **Executive Session** – we have several personnel-related matters to bring to your attention. Please review the materials provided in the second set of board materials dealing with Executive Session.

As you can see, we have a number of transactions to work through.

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

Until then, enjoy the upcoming weekend!

Sincerely,

Bryan Garcia
President and CEO

AGENDA

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

Friday, October 25, 2019
9:00-11:00 a.m.

Dial (224) 501-3412
Access Code: 539-905-077

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

1. Call to order

2. Public Comments – 5 minutes

3. Consent Agenda – 5 minutes

   a. Meeting Minutes from September 12, 2019
   b. Connecticut Green Bank Progress to Targets for FY 2019 (Final)
   c. Inclusive Prosperity Capital Progress to Targets for FY 2019 (Final) and PSA Revision
   d. Board of Directors and Committees – Regular Meeting Schedule for 2020
   e. Position Descriptions
   f. Extension of C-PACE Transaction Timeline

4. Committee Recommendations and Updates – 30 minutes

   a. Audit, Compliance and Governance Committee – 30 minutes

      i. Comprehensive Annual Financial Report
      ii. APA Recommendations and Staff Responses
      iii. Proposed Revisions to Severance Agreement Policy
      iv. Board of Director Meeting Attendance

5. Financing Programs Recommendations – 45 minutes

   a. Hampshire Foundation Impact Investment
   b. Sustainable CT – Partnership in Citizen Engagement
   c. State of Connecticut and Solar PV – Lead by Example
   d. Fuel Cell Energy – US Navy Submarine Base

e. Capital for Change – LIME Loan Master Funding Facility
f. Momentum Solar (Update)

6. Incentive Programs Recommendations – 15 minutes

   a. Step 15 – RSIP

7. Executive Session – Personnel Related Matters – 30 minutes

8. Adjourn

Join the meeting online at https://global.gotomeeting.com/join/539905077

Or call in using your telephone:
Dial (224) 501-3412
Access Code: 539-905-077

Next Regular Meeting: Friday, December 20, 2019 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, October 25, 2019
9:00-11:00 a.m.

Dial (224) 501-3412
Access Code: 539-905-077

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

1. Call to order

2. Public Comments – 5 minutes

3. Consent Agenda – 5 minutes

   a. Meeting Minutes from September 12, 2019

Resolution #1

Motion to approve the meeting minutes of the Board of Directors for September 12, 2019

   b. Connecticut Green Bank Progress to Targets for FY 2019 (Final)

Resolution #2

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, on July 22, 2016, the Board of Directors of the Connecticut Green Bank approved a Comprehensive Plan for FY 2017 through FY 2019, including an annual budget and targets for FY 2019, which was approved on June 28, 2018 and revised on December 14, 2018 per a Sustainability Plan as a result of the legislative sweeps; and

WHEREAS, on July 18, 2019, the Board of Directors of the Connecticut Green Bank approved of the draft Program Performance towards Targets for FY 2019 memos for the Infrastructure, Residential, Commercial, Industrial, and Institutional sectors.

NOW, therefore be it:

RESOLVED, that Board has reviewed and approved the restated red-line Program Performance towards Targets for FY 2019 memos dated October 25, 2019, which provide an overview of the performance of the Infrastructure, Residential, Commercial, Industrial, and Institutional sectors with respect to their FY 2019 targets.

RESOLVED, that Board has also reviewed and approved the Investment and Public Benefit Performance memo dated October 25, 2019.

c. Inclusive Prosperity Capital Progress to Targets for FY 2019 (Final)

Resolution #3

WHEREAS, on July 18, 2019, the Board of Directors of the Connecticut Green Bank approved of the FY 2020 budget and has authorized the continued engagement of Inclusive Prosperity Capital, Inc. to achieve Green Bank targets in FY 2020.

NOW, therefore be it:

RESOLVED, that Board approves the four first amendments to the Professional Service Agreements with Inclusive Prosperity Capital, Inc as set forth as attachments to the memorandum to the Board dated October 18, 2019.

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 instruments.

d. Board of Directors and Committees – Regular Meeting Schedule for 2020

Resolution #4

Motion to approve the Regular Meeting Schedules for 2020 for the Board of Directors, ACG Committee, B&O Committee, and Deployment Committee.

e. Position Descriptions

Resolution #5

Motion to approve the position descriptions for Vice President of Financing Programs (Officer) and Director of Incentive Programs

f. Extension of C-PACE Transaction Timeline

Resolution #6

WHEREAS, pursuant to Conn. Gen. Stat. 16a-40g (the "Act") the Connecticut Green Bank ("Green Bank") is directed to, amongst other things, establish a commercial sustainable energy program for Connecticut, known as Commercial Property Assessed Clean Energy ("C-PACE");

WHEREAS, pursuant to the C-PACE program, the Green Bank Board of Directors (the "Board") or the Green Bank Deployment Committee (the "Committee") had previously approved and authorized the President of the Green Bank to execute financing agreements for the C-PACE projects described in the Memo submitted to the Board on October 18, 2019 (the "Finance Agreements");

WHEREAS, the Finance Agreements were authorized to be consistent with the terms, conditions, and memorandums submitted to the Board or Committee and executed no later than 120 days from the date of such Board or Committee approval; and

WHEREAS, due to the property owner actions or omissions which delayed closing on the relevant transaction(s), the Green Bank will need more time to execute the Finance Agreements.

NOW, therefore be it:

RESOLVED, that the Board extends authorization of the Finance Agreements to no later than 120 days from the date of this Board and consistent in every other manner with the original Board or Committee authorization for the Finance Agreements.

4. Committee Recommendations and Updates – 30 minutes

a. Audit, Compliance and Governance Committee – 30 minutes

i. Comprehensive Annual Financial Report

Resolution #7

WHEREAS, Article V, Section 5.3.1(ii) of the Connecticut Green Bank ("Green Bank") Operating Procedures requires the Audit, Compliance, and the Governance Committee (the "Committee") to meet with the auditors to review the annual audit and formulation of an appropriate report and recommendations to the Board of Directors of the Green Bank (the "Board") with respect to the approval of the audit report;

WHEREAS, the Committee met on October 18, 2019 and recommends to the Board the approval of the proposed draft Comprehensive Annual Financial Report (CAFR) and draft Federal Single Audit Report contingent upon no further adjustments to the financial statements or additional required disclosures which would materially change the financial position of the Green Bank as presented.

NOW, therefore be it:

RESOLVED, that the Board approves of the proposed draft Comprehensive Annual Financial Report (CAFR) and draft Federal Single Audit Report contingent upon no further adjustments to the financial statements or additional required disclosures which would materially change the financial position of the Green Bank as presented.

ii. APA Recommendations and Staff Responses
iii. Proposed Revisions to Severance Agreement Policy

Resolution #8

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, that the ACG Committee recommended to the Board of Directors approval of the proposed draft revisions to the Green Bank Severance Policy on October 17, 2019.

NOW, therefore be it:

RESOLVED, that the Board of Directors approve of the revisions to the Green Bank Severance Policy as set forth in the memorandum to the Board dated October 17, 2019.

iv. Board of Director Meeting Attendance

5. Financing Programs Recommendations – 45 minutes

a. Hampshire Foundation Impact Investment

Resolution #9

WHEREAS, Connecticut Green Bank ("Green Bank") staff has submitted to the Green Bank Board of Directors (the "Board") a proposal for Green Bank or one of Green Bank's wholly-owned entities ("SPEs") to enter into an agreement with the Hampshire Foundation, or an organization related to Hampshire Foundation, for an impact investment of up to $1,000,000 (the "Hampshire Foundation Impact Investment") whereby the Hampshire Foundation Impact Investment would be used in order to reinvest funds in other Green Bank investments, programs or its operations and to deliver a grant or grants to Sustainable CT as explained in a memorandum to the Board dated September 5, 2019;

WHEREAS, the Hampshire Foundation satisfies three criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) uniqueness, (2) strategic importance and (3) urgency and timeliness;

WHEREAS, along with a general repayment obligation by the Green Bank (or, if such obligation of general repayment is by a Green Bank SPE, a general repayment obligation by such SPE together with, if necessary, a guarantee of the Green Bank), Hampshire Foundation could potentially be secured by a general non-exclusive pledge of a commercial solar PPA portfolio owned in part by Green Bank or its SPEs together with their related cash flows associated with the commercial solar PPA program;

WHEREAS, Green Bank staff recommends that the Board approve the proposed Hampshire Foundation Impact Investment, generally in accordance with memorandum summarizing the Hampshire Foundation Impact Investment and the terms generally presented to the Board in a memorandum dated September 5, 2019; and

WHEREAS, Green Bank would benefit from a process that would open the door of the Green Bank to a broader array of impact investors to supplement funding sources for the Green Bank and diversify the Green Bank's base of stakeholders and to support Sustainable CT;

NOW, therefore be it:

RESOLVED, that the Board approves Green Bank (or one of its wholly-owned SPEs on behalf of Green Bank and, if necessary, with a guarantee of the Green Bank) to enter into the Hampshire Foundation Impact Investment as a strategic selection;

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 Hampshire Foundation Impact Investment 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.

b. Sustainable CT – Partnership in Citizen Engagement

Resolution #10

WHEREAS, the Comprehensive Plan and FY 2020 budget identify Sustainable CT as a partner of the Connecticut Green Bank ("Green Bank"), including an allocation of $100,000 from the FY 2020 Research and Development budget;

WHEREAS, Connecticut Green Bank ("Green Bank") staff has submitted to the Green Bank Board of Directors (the "Board") a proposal for Green Bank to enter into a grant agreement with Sustainable CT for $100,000 for programmatic purposes in order to increase our impact by applying the green bank model through Sustainable CT's programs as explained in a memorandum to the Board dated September 5, 2019;

WHEREAS, Sustainable CT satisfies all criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) special capabilities, (2) uniqueness, (3) strategic selection, (4) multiphase, follow-on investment and (5) urgency and timeliness;

WHEREAS, the Green Bank's $100,000 Innovation in American Government Award is to be used to further the innovation and programs of the organization. The Green Bank has proposed and been approved to regrant $75,000 of these proceeds to Sustainable CT;

WHEREAS, Green Bank staff recommends that the Board approve a grant between the Green Bank and Sustainable CT, generally in accordance with memorandum summarizing the grant to the Board in a memorandum dated September 5, 2019; and

WHEREAS, Green Bank would benefit from Sustainable CT's public awareness and engagement program to increase participation in Green Bank's incentive and financing programs. Through the partnership, Green Bank and Sustainable CT are driving investment in projects in communities throughout the state.

NOW, therefore be it:

RESOLVED, that the Board approves Green Bank to enter into a Grant Agreement with Sustainable CT as a strategic selection;

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 Sustainable CT grant agreement 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.

c. State of Connecticut and Solar PV – Lead by Example

Resolution #11

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 Memorandum dated October 18, 2019 (the "Memo") 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;

WHEREAS, Green Bank is conducting an RFP for engineering, procurement, and construction services for the State Pilot Projects. Once project costs are known, CGB will run an RFP with this pre-qualified group of financiers and project owners to select the owner/counterparty and ultimate power purchase agreement price for the State.

NOW, therefore be it:

RESOLVED, that the Board of Directors approves funding, in a total not-to-exceed amount of $5 million 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 President of Green Bank; and any other duly authorized 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 on such terms and conditions as are materially consistent with the memorandum submitted to the Board on October 18, 2019; 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 effect the above-mentioned legal instruments.

d. Fuel Cell Energy – US Navy Submarine Base

Resolution #12

WHEREAS, FuelCell Energy, Inc., of Danbury, Connecticut ("FCE") has outstanding from the Connecticut Green Bank ("Green Bank") a $6 million loan that was used to successfully acquire a 15 megawatt fuel cell facility in Bridgeport, Connecticut (the "Bridgeport Project"), and FCE has operated and maintained the Bridgeport Project without material incident and is current on payments under the Bridgeport Loan;

WHEREAS, FuelCell Energy, Inc., of Danbury, Connecticut ("FCE") has outstanding from the Connecticut Green Bank ("Green Bank") a $1.8 million loan that was used to provide cash collateral in support of a letter of credit issued by Fifth Third Bank for the benefit of the Bridgeport Project (the "Project Assurance Financing Facility"), and FCE is current on payments under the Project Assurance Financing Facility;

WHEREAS, FCE has previously requested term loan financing support from the Green Bank to develop a 7.4 megawatt fuel cell project in Groton, Connecticut located on the U.S. Navy submarine base and supported by a power purchase agreement ("PPA") with the Connecticut Municipal Electric Energy Cooperative ("CMEEC") (the "Navy Project");

WHEREAS, at its October 26, 2018 meeting, the Board approved a term loan facility in an amount not to exceed $5,000,000 for the Navy Project, as a strategic selection and award pursuant to Green Bank Operating Procedures Section XII;

WHEREAS, FCE has requested that $3 million of the term loan financing support from the Green Bank to the Navy Project be made available to the Navy Project to fund a portion of the Navy Project's construction expenses (the "Construction Loan"); and

WHEREAS, Green Bank staff recommends that the Board approve of the Construction Loan in an amount not to exceed $3,000,000 as set forth in staff's memorandum to the Board dated October 18, 2019;

NOW, therefore be it:

RESOLVED, that the Green Bank Board of Directors hereby approves the Construction Loan in an amount not to exceed $3,000,000 for the Navy Project, as a strategic selection and award pursuant to Green Bank Operating Procedures Section XII; and

RESOLVED, that the President of the Green Bank and any other duly authorized officer is authorized to take appropriate actions to provide the Construction Loan to FCE in an amount not to exceed $3,000,000 with terms and conditions consistent with the memorandum submitted to the Board dated October 18, 2019, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 180 days from the date of authorization by the Board of Directors; and

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 Construction Loan.

e. Capital for Change – LIME Loan Master Funding Facility

Resolution #13

WHEREAS, the Connecticut Green Bank ("Green Bank") has an existing Low Income Multifamily Efficiency ("LIME") loan Program with Capital for Change ("C4C");

WHEREAS, C4C has been successful in deploying more than $10 million in LIME Program loans, for 29 projects representing 1,973 housing units improved by the program;

WHEREAS, in order to continue the successful deployment of capital into the LIME Program C4C needs additional funding which it is sourcing from Green Bank and other capital sources;

WHEREAS, Green Bank staff recommends an increase in the LIME funding facility (the "LIME Loan Facility") to $6.5 million from the existing $3.0 million substantially conforming to the terms and conditions explained in staff's memorandum to the Green Bank Board of Directors (the "Board") dated October 21, 2019, and inclusive of the term sheet for the proposed facility attached to said memorandum as Exhibit A;

NOW, therefore be it:

Resolved, that the Board approves the LIME Loan Facility to C4C in an amount of up to $6.5 million in capital from the Green Bank balance sheet in support of the LIME Program;

Resolved, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the LIME Loan Facility on such terms and conditions as are materially consistent with the memorandum submitted to the Board on October 21, 2019; 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 effect the above-mentioned legal instrument.

f. Momentum Solar

6. Incentive Programs Recommendations – 15 minutes

a. Step 15 – RSIP

Resolution #14

WHEREAS, Public Act 19-35, "An Act Concerning a Green Economy and Environmental Protection" (the "Act") updates Connecticut General Statutes 16-245ff and 16-245gg to require the Connecticut Green Bank ("Green Bank") to design and implement a Residential Solar Photovoltaic ("PV") Investment Program ("Program") that results in no more than three hundred and fifty (350) megawatts of new residential PV installation in Connecticut on or before December 31, 2022 and extends through December 31, 2022 or after deployment of 350 MW

the ability to create Solar Home Renewable Energy Credits ("SHRECs") that the electric distribution companies are required to purchase through 15-year contracts;

WHEREAS, as of October 14, 2019, the Program has thus far resulted in nearly two-hundred and ninety three (293) megawatts of new residential PV installation application approvals and nearly two-hundred and fifty two (252) MW of completed projects in Connecticut;

WHEREAS, pursuant to Conn. Gen Stat. 16-245a, a renewable portfolio standard was established that requires that Connecticut Electric Suppliers and Electric Distribution Company Wholesale Suppliers obtain a minimum percentage of their retail load by using renewable energy;

WHEREAS, real-time revenue quality meters are included as part of solar PV systems being installed through the Program that determine the amount of clean energy production from such systems as well as the associated RECs which, in accordance with Connecticut General Statute 16-245gg will be sold to the Electric Distribution Companies through a master purchase agreement entered into between the Green Bank, Eversource Energy, and United Illuminating, and approved by the Public Utility Regulatory Authority;

WHEREAS, pursuant to the Act, the Green Bank has prepared a declining incentive block schedule ("Schedule") that offers direct financial incentives, in the form of the expected performance based buy down ("EPBB") and performance-based incentives ("PBI"), for the purchase or lease of qualifying residential solar photovoltaic systems, respectively, fosters the sustained orderly development of a state-based solar industry, and sets program requirements for participants, including standards for deployment of energy efficient equipment and building practices as a condition for receiving incentive funding;

WHEREAS, pursuant to the Act, to address willingness to pay discrepancies between communities, the Green Bank will continue to provide additional incentive dollars to improve the deployment of residential solar PV in low to moderate income communities ("LMI PBI");

WHEREAS, pursuant to Section 16-245(d)(2) of the Connecticut General Statutes, a Joint Committee of the Energy Conservation Management Board and the Connecticut Green Bank (the "Joint Committee") was established to "examine opportunities to coordinate the programs and activities" contained in their respective plans (i.e., Conservation and Load Management Plan and Comprehensive Plan);

WHEREAS, the Joint Committee has established a working group on battery storage deployment ("Working Group") that includes DEEP, the Green Bank, Eversource, UI (Avangrid), and EEB consultants; potential battery storage incentives will be reviewed with this working group; and

NOW, therefore be it:

RESOLVED, that the Board approves of the RSIP Schedule of Incentives set forth in Tables 1, 6 and 7 in the memo "Residential Solar Investment Program – Step 15 Recommendation" dated October 25, 2019, reflecting the following incentive reductions for RSIP Step 15 as compared to Step 14:

- 10% for EPBB overall (consisting of an 8% reduction for capacity ≤10 kW and an 18% reduction for capacity >10 kW)
- 15% for PBI
- 10% for LMI PBI

7. Executive Session – Personnel Related Matters – 30 minutes

Resolution #15

WHEREAS, Section 3.1 of the Connecticut Green Bank (Green Bank) Bylaws provides that the Board of Directors (Board) shall be responsible for determining or approving compensation for the officers;

WHEREAS, on July 18, 2019, the Board approved a 3.0% merit pool in its FY 2020 budget for annual merit adjustments that can range from 0.0% to 5.0%;

WHEREAS, the Green Bank has completed its annual performance review process based on the Board approved annual goals and 360-degree performance reviews from the staff;

WHEREAS, the President and C.E.O. of the Green Bank recommends a 3% merit increase for the Officers other than himself and authorizing the Chair to determine the President and C.E.O.

NOW, therefore be it:

RESOLVED, that all Officers other than the President and C.E.O. shall receive a 3% merit increase for Fiscal Year (FY) 2020; and

RESOLVED, that the Board authorizes the Chair of the Green Bank to determine the merit compensation adjustment for the President and C.E.O. for FY 2020 based on the (i) feedback of the Board members, (ii) performance towards meeting the Green Bank Board approved organizational goals for Fiscal Year 2019 and (iii) his Fiscal Year 2019 360-degree performance review.

Resolution #16

Upon a motion made by [Name Here], the Board of Directors voted unanimously in favor of accepting and approving the recommendations of the President regarding the release and separation agreement discussed in executive session and consistent with the approved guidelines set forth in the Green Bank Severance Policy.

8. Adjourn

Join the meeting online at https://global.gotomeeting.com/join/539905077

Or call in using your telephone:
Dial (224) 501-3412
Access Code: 539-905-077

Next Regular Meeting: Friday, December 20, 2019 from 9:00-11:00 a.m.
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT

CONNECTICUT GREEN BANK SM

Board of Directors Meeting

October 25, 2019

Colonel Albert Pope Board Room

Board of Directors

Agenda Item #1

Call to Order

Board of Directors

Agenda Item #2

Public Comments

CONNECTICUT GREEN BANK

Board of Directors

Agenda Item #3

Consent Agenda

Consent Agenda

Resolutions 1 through 6

1. **Meeting Minutes** – approve meeting minutes of September 12, 2019
2. **FY 2019 Performance Memos**– approval of FY 2019 progress to targets performance memos, including Loan Loss Decision Framework for FY 2019
3. **Inclusive Prosperity Capital** – FY 2019 progress to targets and immaterial revisions to PSAs for FY 2020
4. **2020 Board and Committee Meeting Schedule** – approval of 2020 regular meeting schedule for the Board and its Committees
5. **Position Descriptions** – approval of revised position descriptions for Mackey Dykes (i.e., Financing Programs) and Selya Price (i.e., Incentive Programs) to be consistent with Comprehensive Plan for FY 2020 and Beyond (i.e., page 10)
6. **C-PACE Project** – extension of timeline for a project

Lonnie Reed
Welcome

Appointed as Chair of the Connecticut Green Bank by Governor Ned Lamont

Board of Directors

Agenda Item #4ai

Audit, Compliance and Governance Committee

Comprehensive Annual Financial Report (CAFR)

FY 2019 CAFR
Audit Results

Audit of financial statements, notes and required supplementary information preformed by Blum Shapiro.

- Unmodified “clean” audit opinion will be issued.
- Report on internal control and compliance at the Financial Statement level will be issued to the Board.
- No material weaknesses or significant deficiencies in internal controls were identified.
- No instances of noncompliance with internal controls over financial reporting were identified.

FY 2019 CAFR
Audit Results (continued)

A report will be issued to the Board with required Auditor Communications.

- No transactions were entered into during the year for which there is a lack of authoritative guidance or consensus.
- All significant transactions have been recognized in the financial statements in the proper period.

Significant management estimates included in the financial statements:

- ✓ Loan Loss Reserves
- ✓ Swap fair value calculation
- ✓ Net pension and OPEB liabilities
- ✓ Asset retirement obligation for solar facilities under lease

FY 2019 CAFR

Audit Results (continued)

- Blum Shapiro informed the ACG Committee that they did not encounter significant difficulties in dealing with management in performing and completing the audit.
- No uncorrected misstatements were identified in connection with the audit of the financial statements for the fiscal year ended June 30, 2019.
- No disagreements between the auditors and management regarding financial accounting, reporting or auditing that would be significant to the financial statements were encountered.
- Blum Shapiro did not inform the ACG of any other audit findings or issues that required their attention.

FY 2019 CAFR
Audit Team Contact Information

Ronald W. Nossek, CPA – Engagement Partner
(401) 330-2743
rnossek@blumshapiro.com

Jessica Aniskoff, CPA – Engagement Manager
(860) 570-6451
janiskoff@blumshapiro.com

Dan Smith, CPA – Engagement Supervisor
(860) 561-6845
dsmith@blumshapiro.com

Board of Directors

Agenda Item #4aii

Audit, Compliance and Governance Committee

APA Recommendations and Staff Responses

APA Response to Findings

1. CGB should strengthen controls over payroll to include a reconciliation between internal and Core- CT records.

Action (Accounting):

Green Bank will annually reconcile and revisiting for FY18. FY19 is complete with follow-up items relating to retiree health still to be addressed. The FY18 reconciliation has not yet been performed. The staff will report out to the ACG Committee on FY18 and FY19 when complete.

2. CGB should revise its bylaws to require separation agreements be approved by its Board based on the recommendations of the Budget & Operations Committee.

Action (Legal):

All severance agreements will be approved by the Board and these changes will be reflected in revised policy procedures that will be brought through ACG Committee this Fall.

APA Response to Findings

3. CGB should consider requiring a refundable application fee that would cover costs related to the review of potential C-PACE projects.

Action (CI&I):

In 2018, we revised CPACE contract structure and pricing model with our outside vendor SRS eliminating project cancellation fees. CGB is charging all third-party C-PACE capital providers a program administration fee to offset the administrative costs of the program.

3 (cont'd). CGB should consider requiring a refundable application fee that would cover costs related to the review of potential C-PACE projects..

Action (CI&I):

As part of the revisions that occurred in 2018 described above, CGB is charging all third-party C-PACE capital providers a program administration fee to offset the administrative costs of the program.

APA Response to Findings

4. CGB should strengthen controls to ensure compliance with reporting requirements as prescribed by Statute.

Action (Accounting):

CGB will (1) meet with the appropriate reporting authorities (e.g., OFA, OLR, etc.), including the APA, to determine the appropriate deadline schedule, (2) prioritize timely reporting as a performance goal for senior staff, (3) establish automated reminders to staff at the beginning of each fiscal year, and (4) report out status twice a year to the ACG Committee.

5. CGB should strengthen internal controls by ensuring that applications are properly completed prior to the execution of a financing agreement.

Action (Finance and Program Teams):

All strategic selections will be through an application process that tracks our strategic selection criteria. C-PACE team will also ensure all applications are complete.

APA Response to Findings

6. CGB should strengthen controls by ensuring that RSIP inspection reports are properly documented and contain the date and time of the inspections.

Action (RSIP Team):

Inspection reports updated with time and dates.

7. CGB should strengthen controls to ensure compliance with the General Statutes. If the CGB determines that any of its statutes are impractical or outdated, it should request a legislative change.

Action (Legal):

Legislative fix will be sought out (again) next legislative session (success here is somewhat out of our control.)

Board of Directors

Agenda Item #4aiii

Audit, Compliance and Governance Committee

Proposed Revisions to Severance Agreement Policy

Proposed Revisions to Severance Agreement Policy

Revised to address a finding of the FY16-17 Audit Report and the enactment of PA 18-137.

1. BOD must approve all severance agreements;

2. Additional restrictions and analysis will apply on severance agreements over $50,000;

3. Revised Severance Policy (past agreements already had these protections) includes explicit protections regarding whistleblowers.

Board of Directors

Agenda Item #4aiv

Audit, Compliance and Governance Committee

Board of Director Meeting Attendance

APA Response to Findings

9. **CGB did not have adequate procedures in place to ensure that it followed board membership and attendance requirements.**

Action (President and Legal):

An annual letter from the Chair of ACG will be issued to Board members to ensure and improve attendance to scheduled meetings. After missing 3 consecutive meetings, the Board member would receive a letter of notice to improve attendance. CGB will also strive to ensure less Special meetings are scheduled.

Board of Directors

Agenda Item #5a

Financing Programs Recommendation

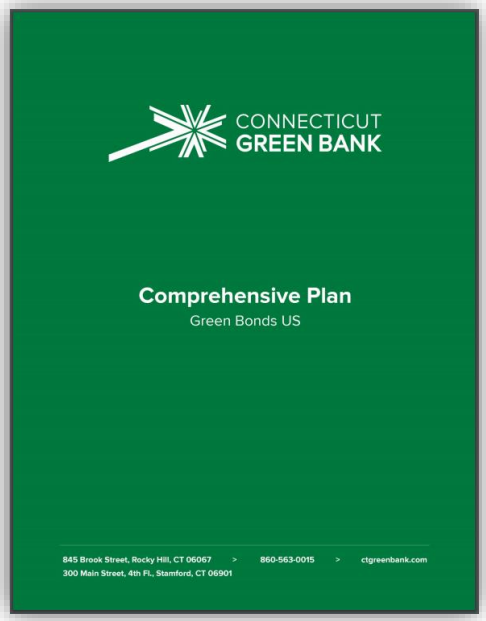
Hampshire Foundation Impact Investment

Sustainable CT

Hampshire Foundation Impact Investment

CGB Comprehensive Plan:

Sustainable CT and Green Bank partnership focuses on:



- 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 (e.g., through grant-providing platforms such as IOBY, administered by Sustainable CT) ***to investment (e.g., through approaches such as green bonds, issued by the Green Bank)***;

Sustainable CT

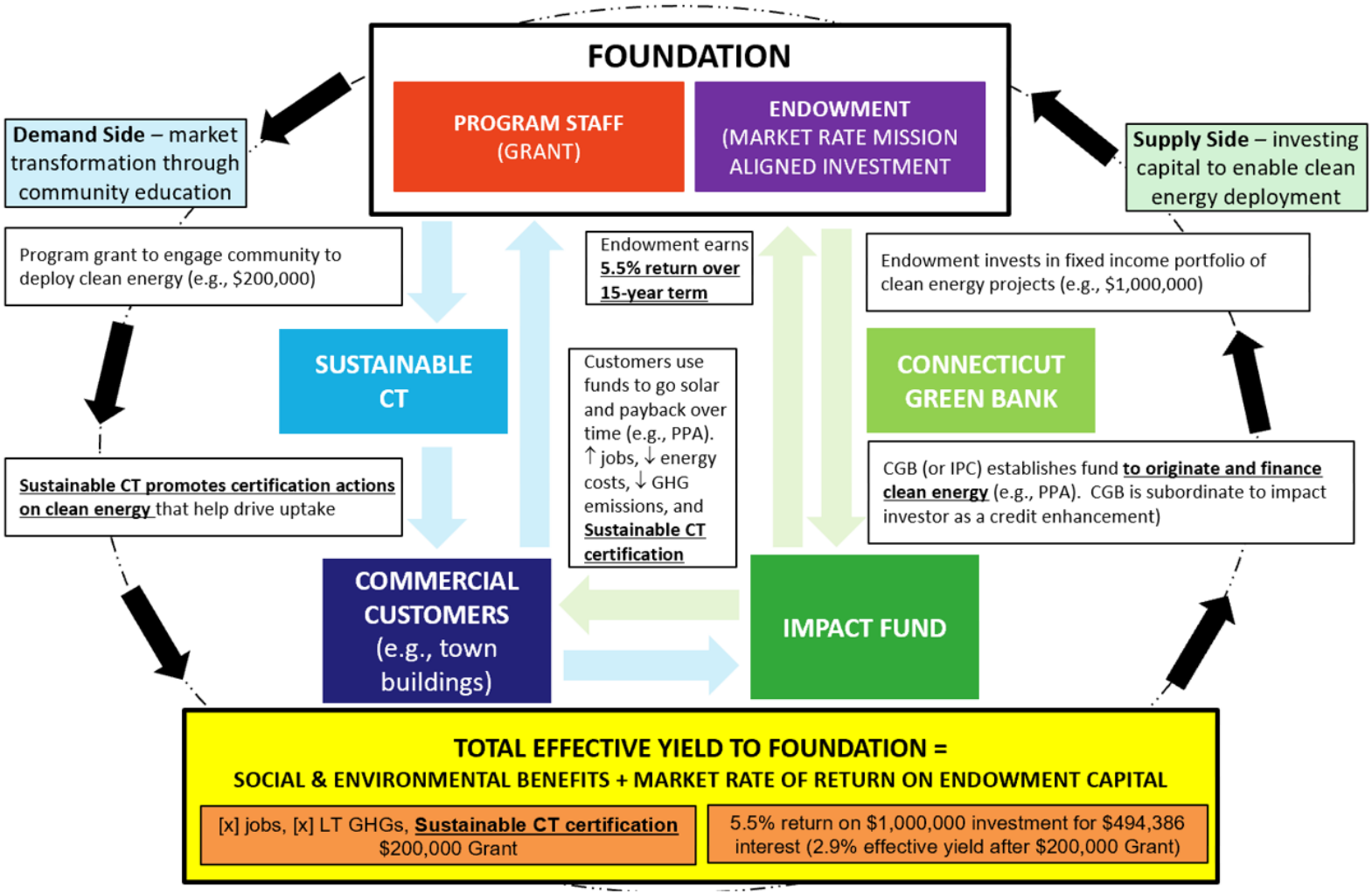
Hampshire Foundation Impact Investment

- Pilot impact investment with Hampshire Foundation
- $1,000,000-$1,500,000 for a 3 to 10 year investment period
- Using returns generated from Green Bank portfolio investments
- **GOAL**: Test a means to
  - deliver acceptable PRI (program related investment) returns to investors in return for
  - a recurring source of foundation funding for Sustainable CT operations and the IOBY platform (i.e., a matching crowd-fund platform for local sustainability matching grants)

Sustainable CT

Hampshire Foundation Impact Investment

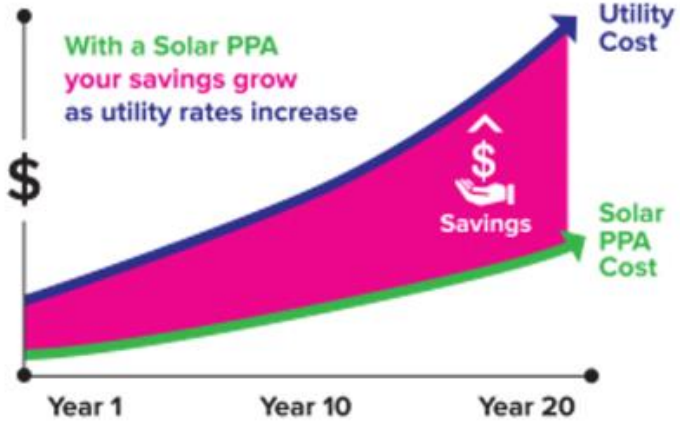
Figure 1. Impact Investment Foundation Model - Financial and Social-Environmental Returns



Sustainable CT

Hampshire Foundation Impact Investment

green bank solar ppa



Amortization Schedule - $1MM Investment

Year	Payment	Principal	Interest	Remaining Balance
1	$99,625.60	$44,625.60	$55,000.00	$955,374.40
2	$99,625.60	$47,080.01	$52,545.59	$908,294.39
3	$99,625.60	$49,669.41	$49,956.19	$858,624.98
4	$99,625.60	$52,401.23	$47,224.37	$806,223.76
5	$99,625.60	$55,283.29	$44,342.31	$750,940.46
6	$99,625.60	$58,323.87	$41,301.73	$692,616.59
7	$99,625.60	$61,531.69	$38,093.91	$631,084.90
8	$99,625.60	$64,915.93	$34,709.67	$566,168.97
9	$99,625.60	$68,486.31	$31,139.29	$497,682.67
10	$99,625.60	$72,253.05	$27,372.55	$425,429.61
11	$99,625.60	$76,226.97	$23,398.63	$349,202.64
12	$99,625.60	$80,419.45	$19,206.15	$268,783.19
13	$99,625.60	$84,842.52	$14,783.08	$183,940.66
14	$99,625.60	$89,508.86	$10,116.74	$94,431.80
15	$99,625.60	$94,431.80	$5,193.75	$0.00
Total	**$1,494,384.00**	**$1,000,000.00**	**$494,383.95**	

Sustainable CT

Hampshire Foundation Impact Investment

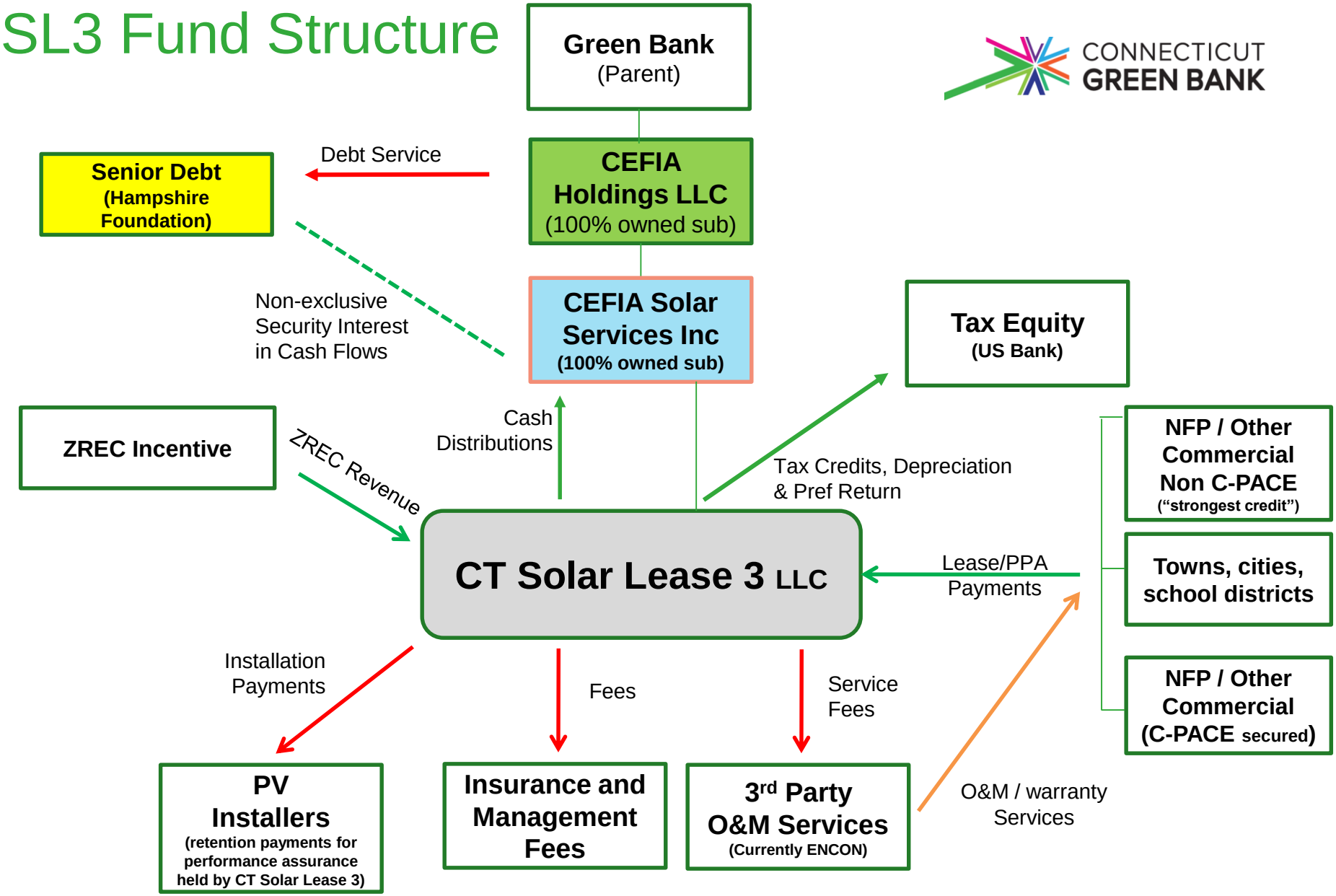
15 Year Investment

[redacted]

3 Year Investment

[redacted]

SL3 Fund Structure



Sustainable CT

Hampshire Foundation Impact Investment

Strategic Selection

- (1) Uniqueness - The Green Bank has yet to arrange an impact investment with a foundation whereby the investment can be directed by the goals of Green Bank rather than by the foundation.
- (2) Strategic Importance - At the strategic meetings earlier this year, it was agreed that Green Bank needed to diversify funding sources to include foundations and other impact investors, including green bonds.
- (3) Urgency and Timeliness - Sustainable CT urgently needs funding to continue its promising work with towns and cities throughout the State of Connecticut. Moving quickly, Green Bank can secure this impact investment and use it to test the interest of other impact investors.

Sustainable CT

Hampshire Foundation Impact Investment

RESOLVED, that the Board approves Green Bank (or one of its wholly-owned SPEs on behalf of Green Bank and, if necessary, with a guarantee of the Green Bank) to enter into the Hampshire Foundation Impact Investment as a strategic selection;

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 Hampshire Foundation Impact Investment 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 #5b

Financing Programs Recommendation

Sustainable CT – Partnership in Citizen Engagement

Sustainable CT Grant
Citizen Engagement

CGB Comprehensive Plan:

Sustainable CT and Green Bank partnership focuses on:

- 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 (e.g., through grant-providing platforms such as IOBY, administered by Sustainable CT) to investment (e.g., through approaches such as green bonds, issued by the Green Bank);
- Developing a business model that **covers the cost** of the program; and
- Creating a **measurable impact**, both qualitative and quantitative.

Sustainable CT Grant
Increasing CGB Impact

$100,000 Grant

- $50,000 matching grant for Sustainable CT Fellows Program
- $25,000 matching grants for projects through crowdfunding platform
- $25,000 organizational support

Leveraging IAGA Grant for "Sparking the Green Bank Movement"

- Regranting $75,000 of $100,000 of grant proceeds "to increase the impact of the green bank model"
- **Awareness**: as more towns become registered in the SCT program, they learn how CGB programs enable them to take action on sustainability projects
- **Measurable Impact**
  - Solar PPA: no less than 3 SCT campaigns, 10 leads, 25% of leads become projects
  - C-PACE: no less than 5 workshop events
  - Solar for All: no less than two campaigns, 25-30 projects
- **Lessons Learned:** sharing best practices to accelerate clean energy uptake

Sustainable CT Grant
Citizen Engagement

- Launched in 2018 at annual CCM convention
- 10 areas of voluntary action areas
- 50% of CT towns registered and 22 towns certified in first year of program

- Each cohort consists of 15-20 students from Connecticut colleges and universities
- Full-time work providing direct support to local communities by creating much-needed capacity at the local level
- #1 factor impacting town certification

Sustainable CT Grant
Strategic Selection

- **Special Capabilities:** Sustainable CT has exceptional experience and expertise in community engagement and ability to further the CGB model

- **Uniqueness:** unique opportunity to leverage IAGA grant to highly visible community-based initiative across the state

- **Strategic Importance:** CGB renewed emphasis on community engagement and public awareness is put into action through SCT program's broad reach

- **Multiphase; Follow-on Investment:** grant bolsters SCT capabilities' to support municipalities' participation in CGB incentive and investment programs

- **Urgency and Timeliness:** opportunity to regrant IAGA funds is time-sensitive

Board of Directors

Agenda Item #5c

Financing Programs Recommendation

State of Connecticut and Solar PV – Lead by Example

Lead By Example

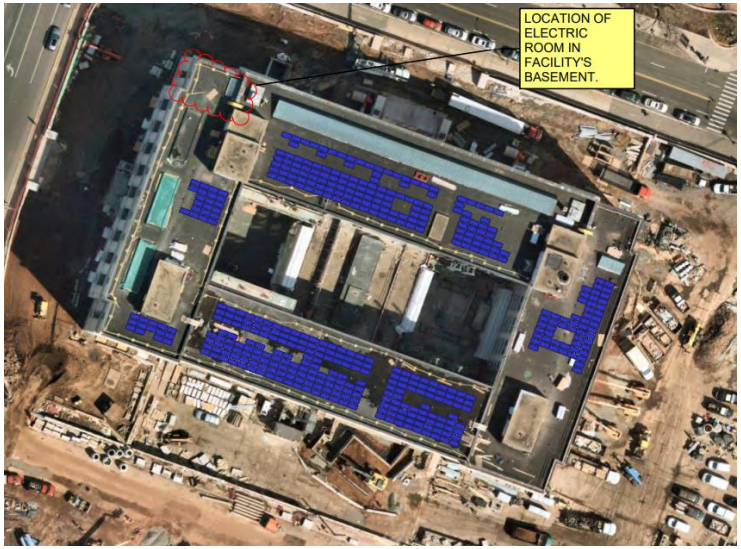
Solar Pilot

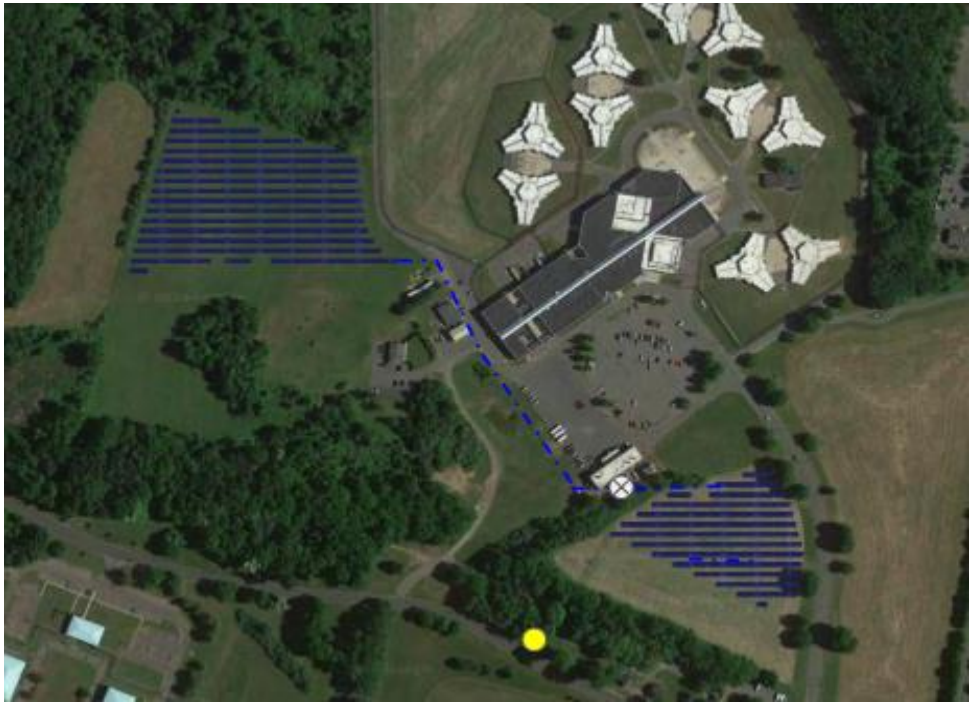
CONNECTICUT GREEN BANK

Project ID	Site Name	Property Address	Project Type	System Size (kW DC)
DOC_Cybulski_47	Cybulski	264 Bilton Rd, Somers, CT 06071	Ground	1073.25
DOC_Enfield_56	Enfield	289 Shaker Road, Enfield CT 06082	Ground	391.5
DOC_MansonYI_99	Manson Youth Institute	176 Jarvis St, Cheshire, CT 06410	Ground	2700
DOC_Obsorn_64	Osborn	100 Bilton Rd, Somers, CT 06071	Ground	2700
DOC_Robinson_22	Robinson A	289 Shaker Rd, Enfield, CT 06082	Ground	189
DOC_Robinson_61	Robinson B	289 Shaker Rd, Enfield, CT 06082	Ground	336.15
DOC_Robinson_70	Robinson C	285 Shaker Rd, Enfield, CT 06082	Ground	1350
DOC_Robinson_85	Robinson D	285 Shaker Rd, Enfield, CT 06082	Ground	630.45
DOC_Willard_50	Willard	391 Shaker Rd, Enfield, CT 06082	Ground	932.85
DOC_Cheshire_ Maloney_Webster	Maloney and Webster (Cheshire Correctional)	Jarvis St, Cheshire, CT 06410	Ground	2700
165_Capitol	State Office Building	165 Capitol Ave, Hartford, CT 06106	Roof	166
DEEP_Hatchery	Kensington Hatchery	120 Old Hatchery Rd, Kensington, CT 06037	Ground	135

Lead By Example

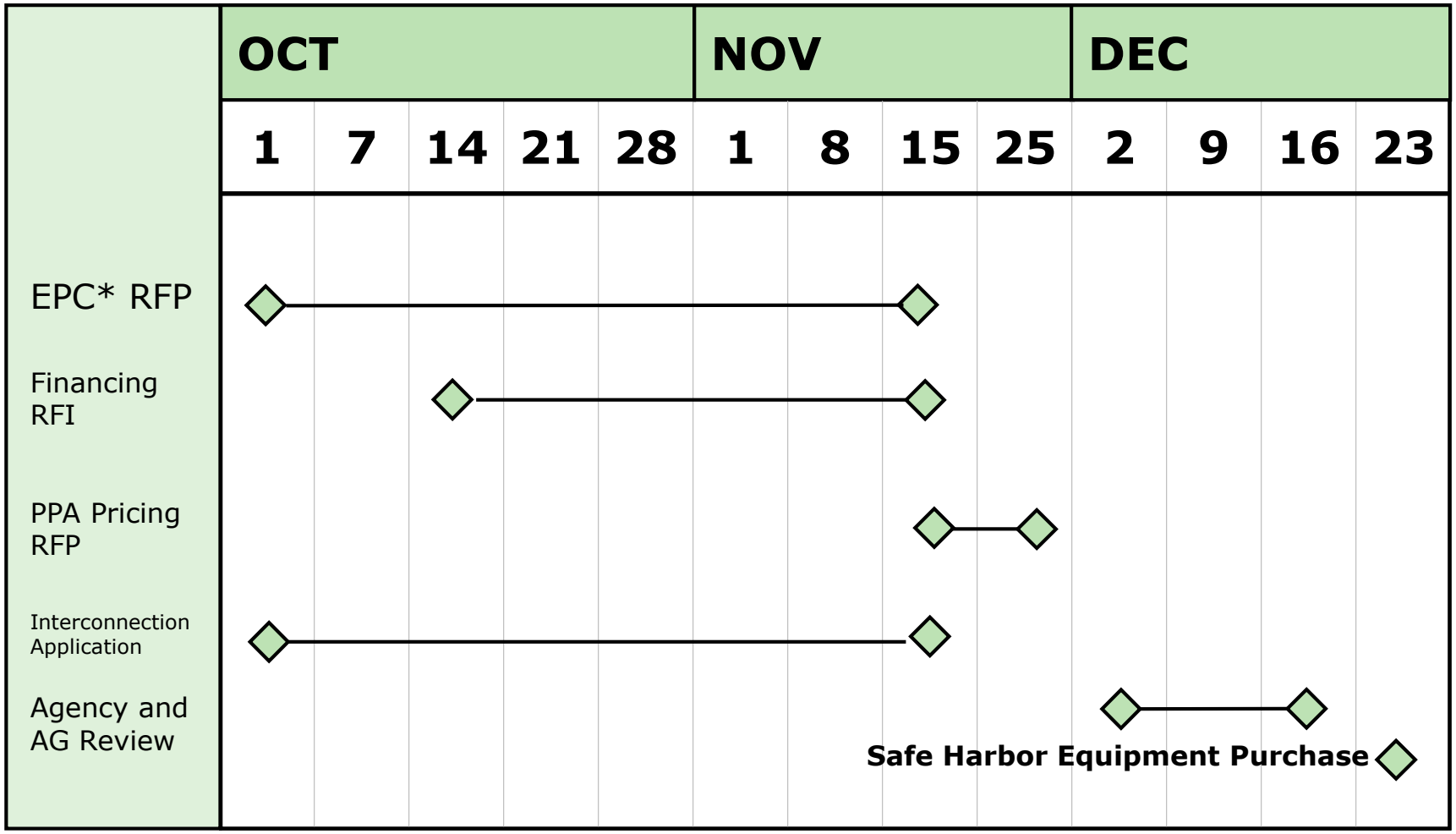
Solar Pilot





Lead By Example

Solar Pilot - Timeline



Lead By Example
Solar Pilot - Request

- To enter PPAs with the State;
- To enter into EPC contracts with RFP winner(s);
- To enter into a debt term sheet with financing RFP winner, subject to subsequent Board approval of specific debt terms prior to execution;
- Assign such PPA, EPC contracts and other associated contracts and assets to financing RFP winner;
- Create one or more CGB subsidiary to facilitate the structure outline above, including to potentially safe harbor Pilot Projects for 2019 Investment Tax Credit;
- To provide development capital and construction financing in a total not-to-exceed amount of $5 million in new credit, subject to budget constraints;
- To enter into any other contracts or agreements ancillary to the foregoing.

Board of Directors

Agenda Item #5d

Financing Programs Recommendation

FuelCell Energy – US Navy Submarine Base

FuelCell Energy

US Navy Submarine Base – Construction Loan

- **Project**: 7.4 MW FuelCell Energy (“FCE”) plant located on U.S. Navy Submarine Base in Groton, CT;
- **Project Cashflows**: 20-year PPA with CMEEC and Class I RECs;
- **Green Bank Participation**: (i.) Advisor on raising 3rd party capital, (ii.) $5.0 million Term Lender, and (iii.) $3.0 million construction lender (proposed)
- **Private Capital Leverage**: $18 million Construction Debt (Fifth Third Bank) and $18 million Senior Term Debt (Liberty Bank & Amalgamated Bank) relative to $5 million Green Bank debt (~7x leverage ratio)
- **Green Bank [Term] Exposure**: $5 million secured Term Loan, subordinated to $18 million of senior debt, fully amortizing across 15-year Term (approved October 2018);
- **Green Bank [Construction] Exposure**: $3.0 million, structured as a “supplement” to the Board approved (April 2019) and closed (May 2019) “Project Assurance Facility Loan” to FCE at the “parent” level for the Bridgeport Project acquisition facility closed in May 2019
- Takes advantage of >$36M of excess cash flow in the Bridgeport Project as added security.
- **Green Bank Strategic Selection**: Project meets criteria of all 5 Strategic Selection categories: Special Capabilities, Uniqueness, Strategic Importance, Urgency and Timeliness, and Multiphase Project.

FuelCell Energy

Company Update – strong liquidity outlook

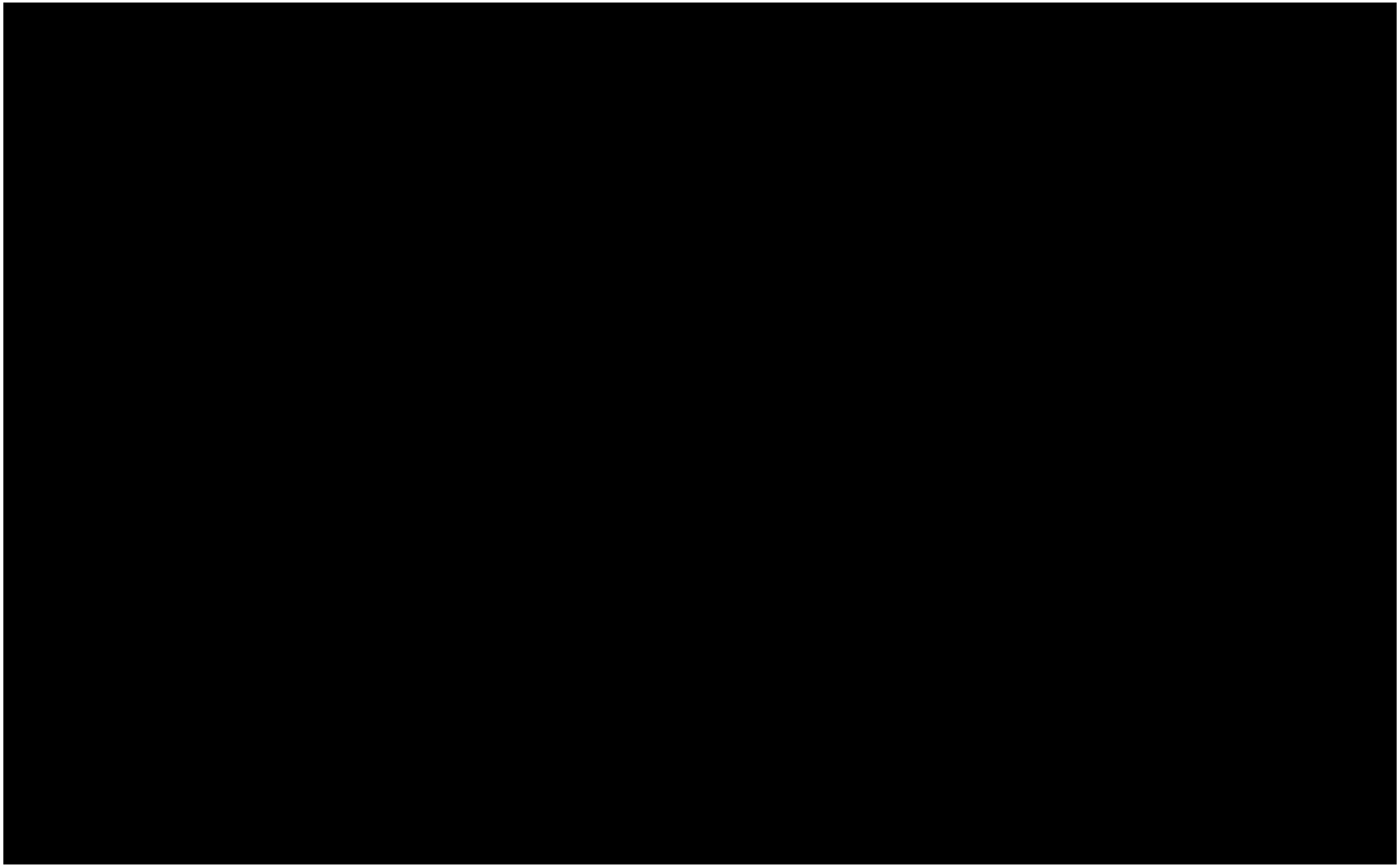
Company has a strong liquidity forecast going forward reflecting:

- **Significantly leaner operating structure (already implemented)**
- **Execution of the new Joint Development Agreement with Exxon (targeted by the end of October)**
- **Sale of 10 modules to POSCO needed for POSCO to satisfy service obligations to GGE Fuel Cell Park (Korea)**
- **Continued Execution of projects in backlog CT / NY / CA: 85 mW under contract or award**
- **Groton CMEEC Spend / Financing paced by COD requirements**
- **Long Island Power Authority / Other spend to be paced by project level financing. Assumes access to a new facility begins in December 2019 (in discussions with NY Green Bank and other lenders)**
- **Plan for New Corporate Credit Facility in December 2019**
- **FCE will opportunistically raise equity to support working capital / project investments (recently filed a new "At the Market" prospectus to potentially sell up to 38 million shares as necessary)**

FuelCell Energy
Company Update

CONNECTICUT GREEN BANK

FCE Projects Under Development



FuelCell Energy
Company Update

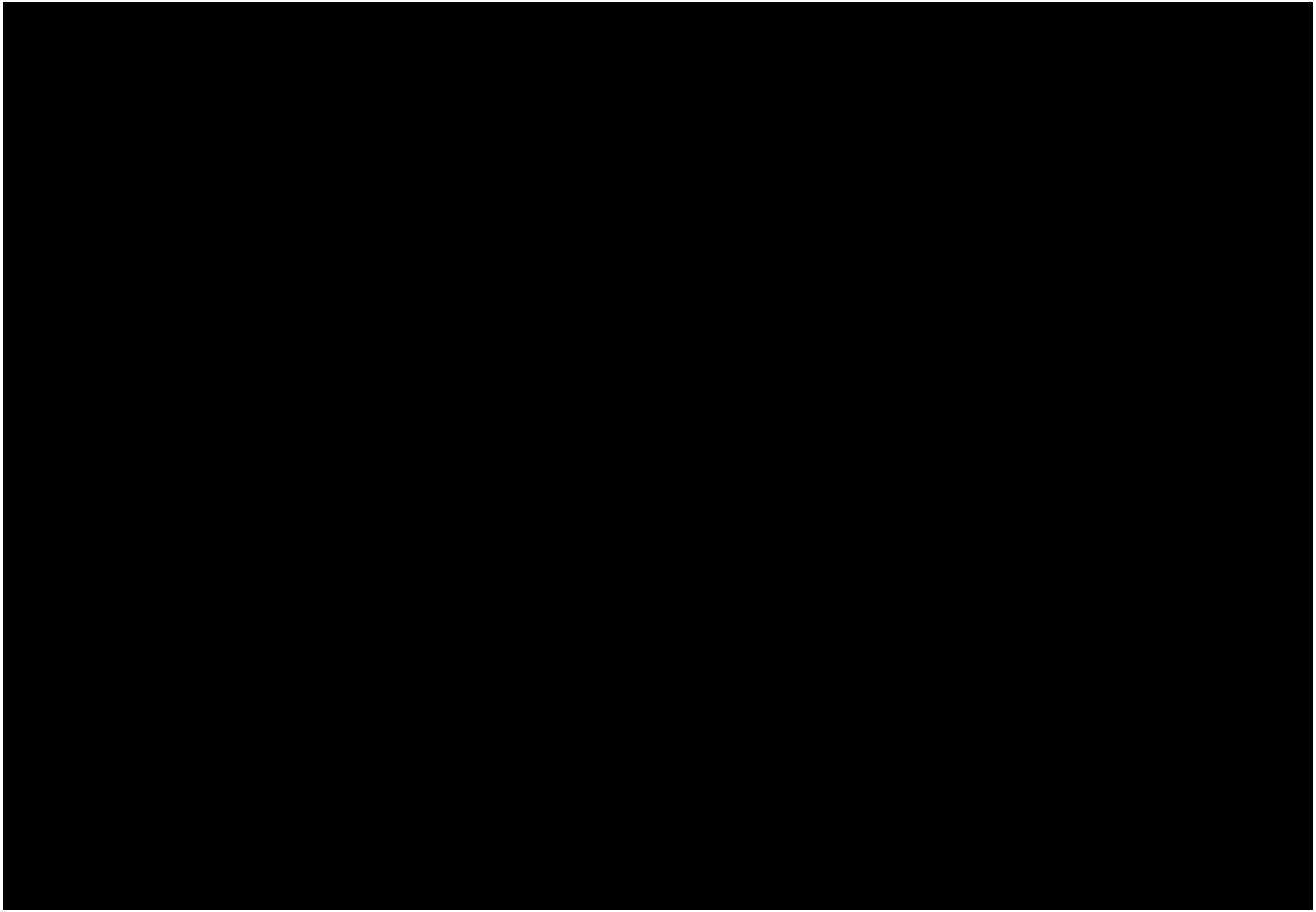
FCE – New Leadership

Jason Few – Former member of the Board of Directors

Mr. Few was appointed President and Chief Executive Officer in August 2019. Prior to FuelCellEnergy, Mr. Few served as President of SustaynAnalytics LLC, a cloud-based software waste and recycling optimization company. Mr. Few has over 30 years of experience increasing enterprise value for Global Fortune 500 and privately held technology, telecommunication, and energy firms. Mr. Few has overseen transformational opportunities across the technology and industrial energy sectors.

FCE US Navy Submarine Base

Progress to Date - equipment



FCE US Navy Submarine Base

Progress to Date – site development

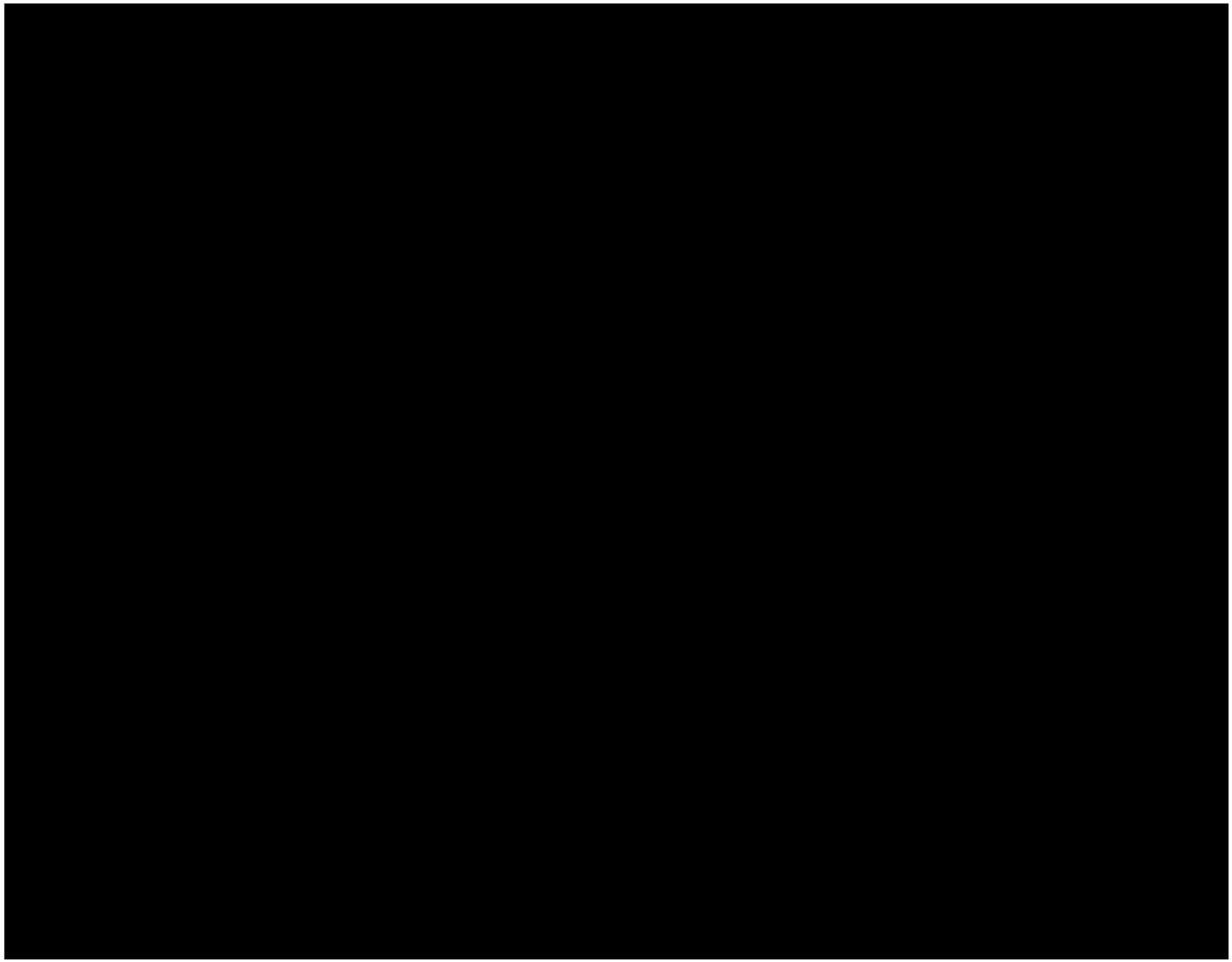
Groton Project Site
Existing storage area, substation to the center left

Groton Project Site
Rendering showing two fuel cell plants on former storage area

FCE US Navy Submarine Base

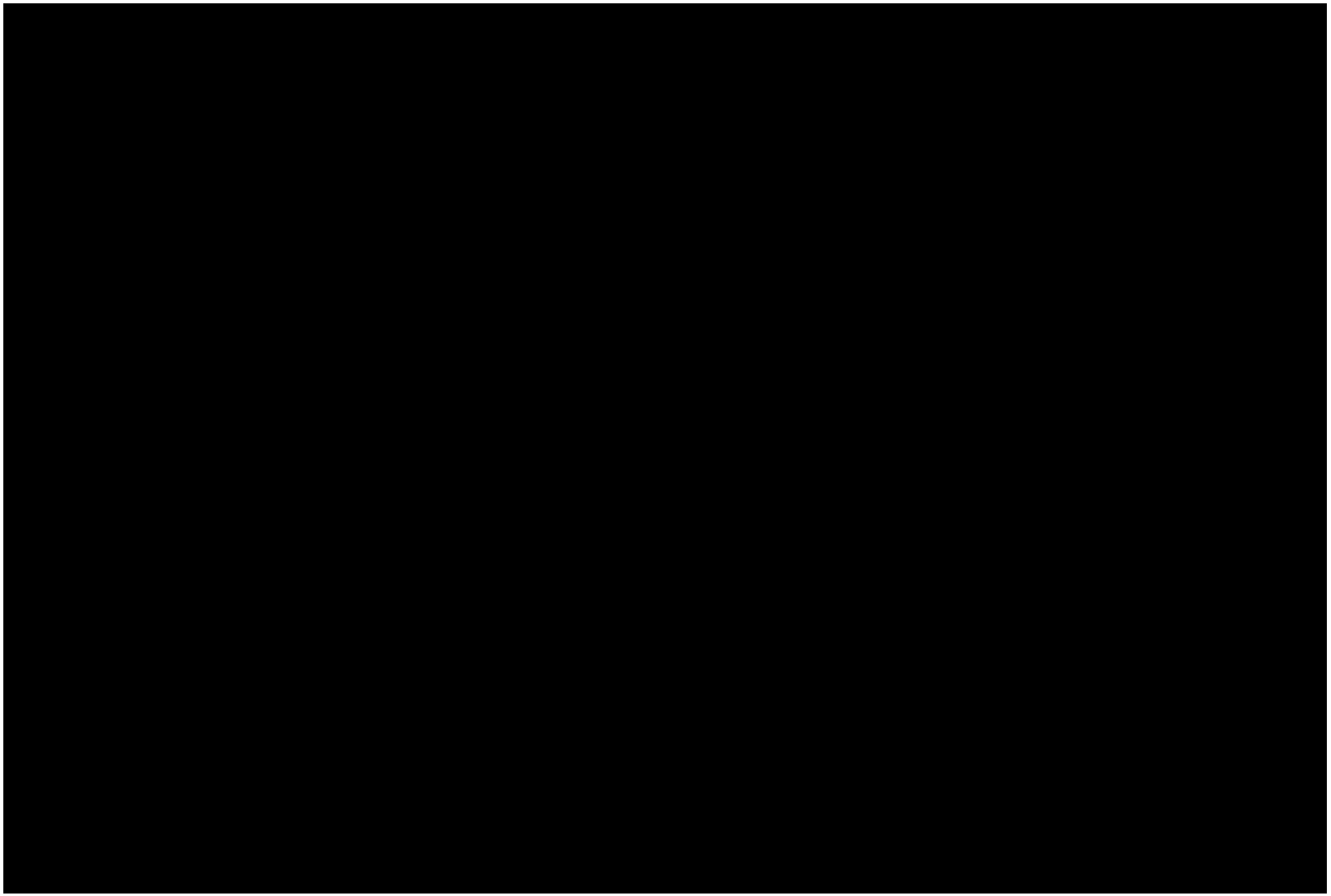
Progress to Date – timeline & funding

CONNECTICUT GREEN BANK



FCE US Navy Submarine Base

Structure Diagram – Construction Loan



FCE Groton Project

Construction Loan – Key Structural Elements

- Use the existing Project Assurance Financing Facility
- Loan outstanding increases from $1.8 million to $4.8 million
- [redacted]
- Existing and incremental loan benefits from parent level resources
- Additional security in the excess cash flow in Bridgeport Project (> $36m)
- $3.0 million loan is converted at completion of the Navy Project into the subordinated term loan already approved by the Board

FCE Groton Project

Resolutions

- **RESOLVED**, that the Green Bank Board of Directors hereby approves the Construction Loan in an amount not to exceed $3,000,000 for the Navy Project, as a strategic selection and award pursuant to Green Bank Operating Procedures Section XII; and

- **RESOLVED**, that the President of the Green Bank and any other duly authorized officer is authorized to take appropriate actions to provide the Construction Loan to FCE in an amount not to exceed $3,000,000 with terms and conditions consistent with the memorandum submitted to the Board dated October 18, 2019, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 180 days from the date of authorization by the Board of Directors; and

- **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 Construction Loan.

Board of Directors

Agenda Item #5e

Financing Programs Recommendation

Capital for Change LIME Loan

Capital for Change

Increase in Capitalization for LIME Program

$6.5 million facility for LIME Loan Program

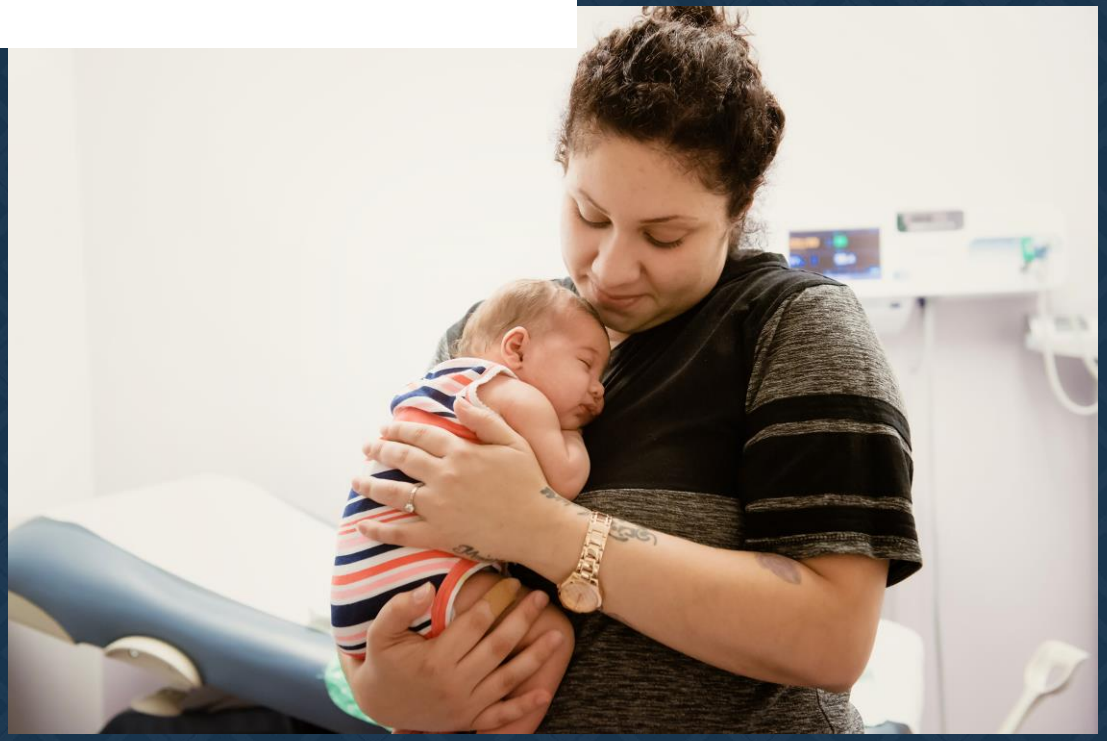
(Increase from $3.5m to $6.5m)

CONNECTICUT GREEN BANK

There will be more healthy, affordable housing created and maintained.

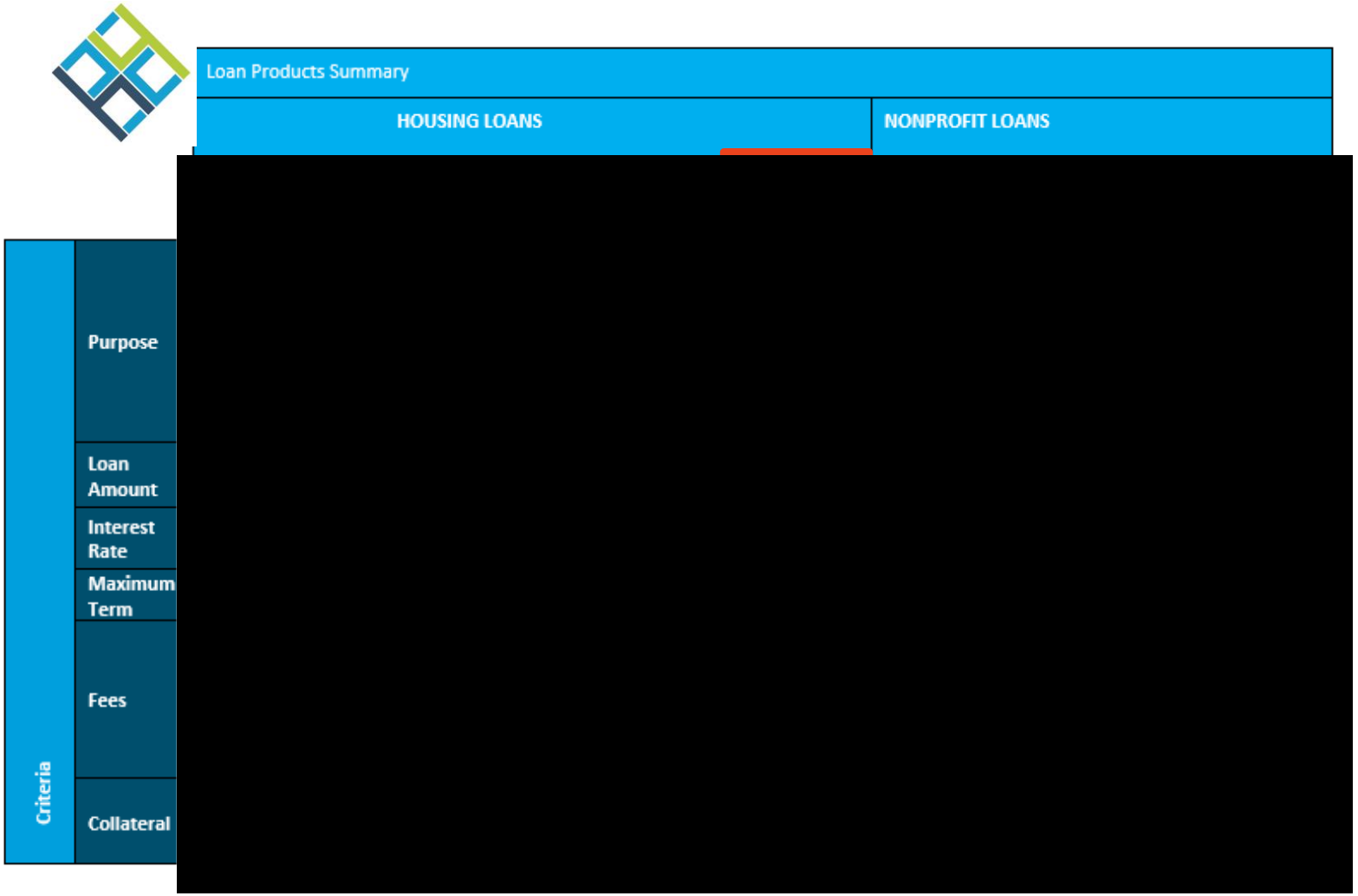
There will be environmentally conscious investment and development

There will be more businesses and nonprofits that create or maintain economic opportunity and well being.



There will be more communities with diverse stakeholders included that are informed, committed and engaged.

CONNECTICUT GREEN BANK



Before

After

- Beautifies streetscape and enhances walkability
- Builds on community assets/encourages further investments
- Enhances safety and wellness
- Promotes economic activity

LIME Program Highlights

- **LIME** = **L**oans **I**mproving **M**ultifamily **E**nergy
- Program Hallmarks:
  - Loan terms dictated by savings projections
  - Incorporation of utility and O/M savings
  - Conservative, verifiable projections
    - Heavy reliance on utility rebate contracts
    - Independent third-party audit/review process
  - Big cushion for shortfalls in performance
    - 1.30X minimum DSCR for EE savings
    - 1.10X minimum for solar PV
  - Term length based on useful life of measures to be installed
  - Mandatory utility cost monitoring/verification, with lender portal to data
  - 25% allowance for health/safety measures
  - Most loans require no equity contribution from borrower
  - Included costs:
    - Lender legal fees
    - Origination fee @ 2.00%
    - M/V contract - $5.80 per unit per year
    - Third-party audit/review fees
    - Take-out of existing pre-development financing
  - Security: 1% second mortgages; 73% guarantees; 25% income assignments; 1% UCC-1 (unsecured)

Program Start Date:	December 5, 2013
Number of Loans Closed:	29
Smallest Loan Amount:	$25,000
Largest Loan Amount:	$2,600,000
Average Loan Amount:	$348,042
Total Originations:	$10,093,223
Total Cost of Funded Projects:	$13,481,528
Total Utility Incentives:	$1,155,197
Utility Incentive Leverage Ratio (Loans):	9:1
Utility Incentive Leverage Ratio (Total):	12:1
Total Units Improved:	1,973
Average Project Cost per Unit:	$6,833
Average Utility Incentive per Unit:	$586

LIME Capitalization

Background

- Originally (April 2014) developed as $3M Low Income Multifamily Energy Loan Program (including **$1M Green Bank Program Loan** & $300K ARRA-SEP LLR)
- Feb 2017: Board approved additional **$2.5M Program Loan**
- Program Statistics to-date:

	Closed
No. of Projects	29
$ Financing	$10.1M
No. of Units	1,973

Request

Additional $3.0M of Green Bank capital to lend to C4C to support pipeline

- Loan terms: 3%, up to 20 years
  - Existing Loans: $3.5M @ 3%, up to 20 years
  - New Loans: **$2.0M @ 3%** + **$1.0M @5%**
- Use of funds: LIME loans, same terms as previously approved by Board

LIME Capitalization
Resolutions

RESOLVED, that the Board approves the LIME Loan Facility to C4C in an amount of up to $6.5 million in capital from the Green Bank balance sheet in support of the LIME Program;

RESOLVED, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the LIME Loan Facility on such terms and conditions as are materially consistent with the memorandum submitted to the Board on October 21, 2019; 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 effect the above-mentioned legal instrument.

Board of Directors

Agenda Item #5f

Financing Programs Recommendation

Momentum Solar (Update)

Momentum Solar

Pending LMI Partner

CONNECTICUT GREEN BANK

[redacted]

Top North American Solar Contractor, ranked 204 in 2016, 93 in 2017 & 50 in 2018

2017: Ranked 67 on list for fastest-growing private companies in the nation

#25 fastest growing Energy Company in the nation

#1 in NJ

CEO Arthur Souritzidis named Forbes 30 under 30 Energy Entrepreneur

CEO Arthur Souritzidis named a 2018 Finalist

Momentum Solar
Pending LMI Partner

CONNECTICUT GREEN BANK

Our Service
LOCATIONS

Stamford, Connecticut	2018
Pennsylvania	2018
Fort Lauderdale, Florida	2018
South Plainfield, NJ (New Headquarters)	2018
San Antonio, Texas	2018
Austin, Texas	2018
Tampa, Florida	2018
Orlando, Florida	2017
Orange, California	2017
Long Island, New York	2017
Cherry Hill, New Jersey	2016
Metuchen, New Jersey	2016

Momentum Solar

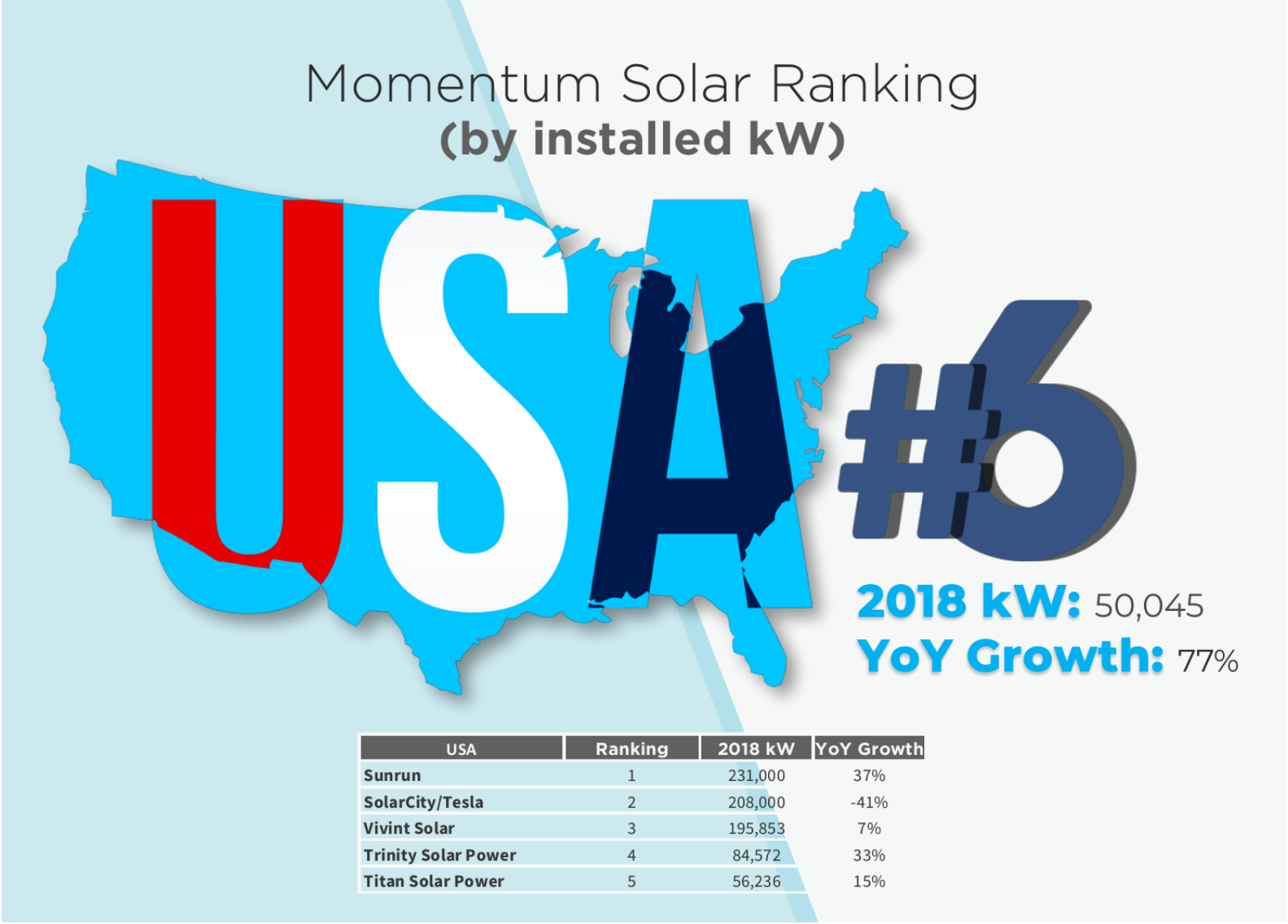
Pending LMI Partner

CONNECTICUT GREEN BANK

New Markets Case Study
Connecticut

Momentum Solar
Pending LMI Partner

CONNECTICUT GREEN BANK



USA	Ranking	2018 kW	YoY Growth
Sunrun	1	231,000	37%
SolarCity/Tesla	2	208,000	-41%
Vivint Solar	3	195,853	7%
Trinity Solar Power	4	84,572	33%
Titan Solar Power	5	56,236	15%

Board of Directors

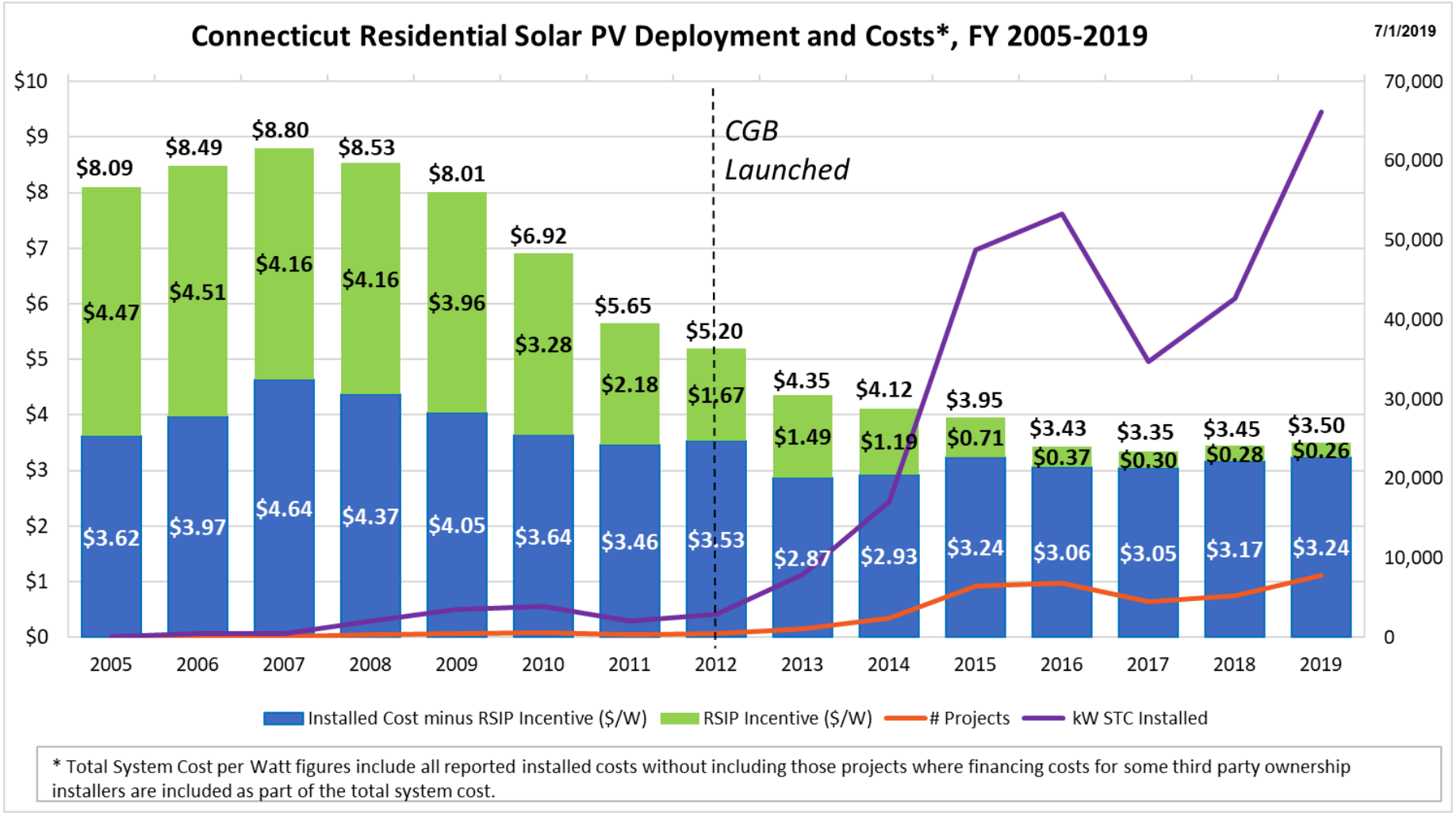
Agenda Item #6a

Incentive Programs Recommendation

Step 15 – RSIP

RSIP Status

293 MW out of 350 MW *(as of 10/14/19)*



* 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.

REFERENCES: Residential Solar Investment Program (RSIP) Data by Fiscal Year as of July 1, 2019; and RSIP data extract on 10/14/19

RSIP Step 15
Proposed Incentive

Step 15 reduced from Step 14 as follows:

- 10% for EPBB (8% reduction for capacity ≤10 kW, 18% for capacity >10 kW)
- 15% for PBI
- 10% for LMI PBI

	EPBB ($/W)		PBI ($/kWh)	LMI PBI * ($/kWh)	
	≤10 kW	>10 kW, ≤20 kW	≤20 kW	≤10 kW	>10 kW, ≤20 kW
Step 14 *(9/28/2018)*	$0.463	$0.400	$0.035	$0.090	$0.045
Step 15 *(1/15/2020)*	$0.426	$0.328	$0.030	$0.081	$0.041

*** Continue to support LMI while transitioning to post-RSIP market:**

- Anticipate growth in FY20 through municipal campaigns and a new LMI contractor
- Develop financing RFP to attract additional low-cost capital providers to the LMI market
- Support development of new Shared Clean Energy Facility (SCEF) program that requires participation by LMI customers

Board of Directors

Agenda Item #7

Executive Session

Personnel Related Matters

Board of Directors

Agenda Item #8

Adjourn

Board of Directors of the Connecticut Green Bank Meeting Minutes

Thursday, September 12, 2019
11:30 a.m. to 1:00 p.m.

A special meeting of the Board of Directors of the **Connecticut Green Bank (the "Green Bank")** was held on Thursday, September 12, 2019 at the office of the Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT, in the Colonel Albert Pope Board Room.

Note – In the absence of a new Chairperson yet to be assigned by Governor Lamont, Mr. Garcia, President & CEO, acted as Chair for today's meeting with the agreement of the Board members present.

1. Call to order

Mr. Garcia called the meeting to order at 11:34 a.m.

Board members participating: Bettina Bronisz (by phone), Eric Brown, Binu Chandy (by phone), Betsy Crum (by phone), John Harrity, Mary Sotos, Matt Ranelli (by phone), Kevin Walsh (by phone)

Members Absent: Thomas M. Flynn

Staff Attending: Emily Basham, Craig Connolly, Mackey Dykes, Brian Farnen, Bryan Garcia, Bert Hunter, Jane Murphy, Cheryl Samuels, Selya Price, Eric Shrago, Mike Yu (by phone), Nick Zuba (by phone)

Others Attending: None

2. Public Comments

None

3. Consent Agenda

a. Meeting Minutes from July 18, 2019

Resolution #1

Motion to approve the meeting minutes of the Board of Directors for July 18, 2019.

b. Approval of Transactions Under $500,000 but No More in Aggregate than $1,000,000

Resolution #2

WHEREAS, in January 18, 2013, the Connecticut Green Bank (the "Green Bank") Board of Directors (the "Board") authorized the Green Bank staff to evaluate and approve funding requests less than $300,000 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 $500,000 from the date of the last Deployment Committee meeting, on July 18, 2014 the Board increased the aggregate not to exceed limit to $1,000,000 ("Staff Approval Policy for Projects Under $300,000"), on October 20, 2017 the Board increased the finding requests to less than $500,000 ("Staff Approval Policy for Projects Under $500,000"); and

WHEREAS, Green Bank staff seeks Board review and approval of the funding requests listed in the Memo to the Board dated September 12, 2019 which were approved by Green Bank staff since the last Deployment Committee meeting and which are consistent with the Staff Approval Policy for Projects Under $500,000;

NOW, therefore be it:

RESOLVED, that the Board approves the funding requests listed in the Memo to the Board dated September 12, 2016 which were approved by Green Bank staff since the last Deployment Committee meeting. The Board authorizes Green Bank staff to approve funding requests in accordance with the Staff Approval Policy for Projects Under $500,000 in an aggregate amount to exceed $1,000,000 from the date of this Board meeting until the next Deployment Committee meeting.

Upon a motion made by Matt Ranelli and seconded by John Harrity, the Board voted to approve Resolution 1 and Resolution 2. Motions approved unanimously.

4. Committee Recommendations and Updates

Agenda item moved to end of meeting

a. Audit, Compliance and Governance Committee

i. APA Recommendations and Staff Responses
ii. Board of Director Meeting Attendance

5. Financing Programs Recommendations

a. C-PACE Transaction – East Windsor
TR Associates I, LLC is the property owner of 3 Thompson Road, East Windsor, CT project location. Mr. Yu related the due diligence completed on the project. Though company has negative net income, company is strong on paper with sound credit regarding property value. Mr. Harrity asked how many people were employed by KTI but it was not known at the time; Mr. Garcia stated they will follow-up with that information. Mr. Walsh asked if there is a mortgage on property? Yes, there is; mortgage is held by KTI on property (over $180k) and C-PACE debt would be senior to that mortgage. Project would not be funded 100% by C-PACE but receive a portion of support from Energy on the Line. There were no further questions.

Resolution #3

WHEREAS, pursuant to Section 157 of Public Act No. 12-2 of the June 12, 2012 Special Session of the Connecticut General Assembly and as amended (the "Act"), the Connecticut Green Bank (Green Bank) is directed to, amongst other things, establish a commercial sustainable energy program for Connecticut, known as Commercial Property Assessed Clean Energy ("C-PACE");

WHEREAS, the Green Bank Board of Directors (the "Board") has approved a $40,000,000 C-PACE construction and term loan program;

WHEREAS, the Green Bank seeks to provide a $609,282 construction and (potentially) term loan under the C-PACE program to TR Associates I,LLC., the building owner of 3 Thompson Road, East Windsor, Connecticut (the "Loan"), to finance the construction of specified clean energy measures in line with the State's Comprehensive Energy Strategy and the Green Bank's Strategic Plan; and

WHEREAS, the Green Bank may also provide a short-term unsecured loan (the "Feasibility Study Loan") from a portion of the Loan amount, to finance the feasibility study or energy audit required by the C-PACE authorizing statute, and such Feasibility Study Loan would become part of the Loan and be repaid to the Green Bank upon the execution of the Loan documents;

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 Loan and, if applicable, a Feasibility Study Loan in an amount not to be greater than one hundred ten percent of the Loan amount with terms and conditions consistent with the memorandum submitted to the Committee dated September 5, 2019, 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 authorization by the Board of Directors;

RESOLVED, that before executing the Loan, the President of the Green Bank and any other duly authorized officer of the Green Bank shall receive confirmation that the C-PACE transaction meets the statutory obligations of the Act, including but not limited to the savings to investment ratio and lender consent requirements; and

RESOLVED, that the proper the 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 legal instruments.

Upon a motion made by John Harrity and seconded by Eric Brown, the Board voted to approve Resolution 3. Motion approved unanimously.

b. C-PACE Credit Enhancement RFP – Third-Party Financier Investment
With a goal to increase third-party volume in the market, an RFP was issued for construction and industrial financing. One proposal was received from Greenworks Holdings (GWH). Mr. Yu presented the proposed structure in an attached chart. With 95% of financing covered by Greenworks Lending and 5% by CarVal—which are starter funds and not C-PACE. Green Bank to take over some higher risk lending with 6½% capital. Mr. Ranelli and Ms. Bronisz had questions about how this system of lending will encourage others to join financing. With CT margins lower than in other parts of the country how will this program incentivize projects or encourage funds from private investors? The strategic benefits to the GWL proposal are to; 1) spur market growth by reducing the cost of capital for GWL in Connecticut; 2) allow GWL to provide highly competitive financing to Connecticut based businesses and property developers and 3) more interest income for the Green Bank to meet financial sustainability goals.

Discussion continued with confirmation that GWL was the only response to Green Bank's RFP and, per Mr. Dykes, GWL is the most active lender in the state. Staff made a concerted effort to reach other private capital providers to make them aware of the RFP and all that are associated with the Green Bank's C-PACE program were contacted. GWL handles primarily retrofit, no new construction and handles smaller projects. In the past the RFP has remained open for C-PACE but is not open now. Mr. Harrity voiced concern about if/where/how funds are disbursed under the same scrutiny and due diligence as our own projects would go through. Mr. Yu shared that projects would be subject to an agreed loan underwriting process which will be regularly verified with GWL. Mr. Garcia also shared that projects in future may include bond funding which is along the same lines and Mr. Dykes added that funding will not be used for non-energy related projects.

Resolution #4

WHEREAS, per Section 157 of Public Act No. 12-2 of the June 12, 2012 Special Session of the Connecticut General Assembly and as amended (the "Act"), the Connecticut Green Bank is directed to, amongst other things, establish a commercial sustainable energy program for Connecticut, known as Commercial Property Assessed Clean Energy ("C-PACE");

WHEREAS, to further its goal of building a robust and competitive C-PACE market in Connecticut, the Green Bank issued a Request for Proposals ("RFP") on May 20, 2019 to develop a capital provider-owned capital facility with the goal of accelerating market growth.

WHEREAS, the Green Bank seeks to enter into a financing arrangement with the winner of the RFP: Greenworks Lending Holdings LLC and its affiliate entities (together being "GWL") to provide a $5,000,000 senior secured loan to support the deployment of third-party C-PACE financing;

NOW, therefore be it:

RESOLVED, that the President of the Green Bank and any other duly authorized officer of the Connecticut Green Bank, is authorized to execute a loan agreement, intercreditor

agreement, guaranty agreement and any other ancillary documentation with GWL with terms and conditions materially consistent with those presented in the memorandum dated September 5, 2019.

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 legal instruments.

Upon a motion made by Matt Ranelli and seconded by John Harrity, the Board voted to approve Resolution 4. Motion approved unanimously.

c. PosiGen – Adjustment within Existing Credit Limit
There is existing Green Bank Board authorization for funding to PosiGen the most recent being an approval of "not to exceed $15Mil" limit for both PosiGen global back-leverage facility and the PBI/LMI-PBI funding facility pending participation by Inclusive Prosperity Capital (IPC). The request for an adjustment to this existing credit limit is related to PosiGen's plans to invest in and expand the existing call center/operations hub located in Bridgeport, CT and for additional capital for working capital needs in Connecticut. PosiGen came to the Green Bank regarding this expansion and they plan to retain 69 current employees and add 51 more. The Green Bank can provide about half of the funding for the expansion and Mr. Hunter reviewed the adjustment to enable the additional funding; (1) relaxation of overcollateralization constraint, (2) raise the Advance Rate against the Net Present Value (NPV) of future PBI and LMI-PBI cash flows from 90% to 95%, (3) hold constant the Discount Rate to determine the NPV of future PBI and LMI-PBI cash flows at 6.75% vs. higher facility interest rate at 7.5%, (4) permit additional advances against additional systems installed by PosiGen, (5) IPC and CT Green Bank to "co-lend" which is permitted in current agreement, (6) IPC participation to remain "Fixed" and "Amortizing", (7) incremental capital from Green Bank to be repaid in the "waterfall" on a period by period basis AFTER IPC scheduled payments (i.e., subordinate to IPC), (8) allows PosiGen to "pay down" facility to recover the lower (existing) facility interest rate. The Green Bank would only have $15 million exposure and PosiGen would paydown facility as if the Green Bank did not relax the constraints (in order to restore the lower interest rate to the facility).

PosiGen is currently struggling with liquidity and has had unforeseen delays with other facilities (including the LibreMax facility which is related to the Green Bank's overall $15m exposure as well as tax equity facilities from investors who benefit from the solar PV tax benefits) causing cash constraints. PosiGen is in the process of obtaining a bridge loan for existing projects and an additional facility from McKnight Foundation is in the process of being closed. Both of these facilities are expected to deal with PosiGen's liquidity issues. Mr. Harrity asked if PosiGen would have the ability to move the call/operations center out of Connecticut? Technically, yes per Mr. Hunter but this effort is to help them stay in Connecticut. Mr. Garcia added that PosiGen had been reviewing other tri-state area locations that did not work out at this time and feels that Connecticut is where they want to be. Mr. Harrity's concern is that the Green Bank fund the expansion effort and then have PosiGen move the call center not just out of state but out of the country. Specific verbiage about staying in Connecticut would be added to loan agreement or terms would change. Ms. Sotos had a question regarding PosiGen's major lender, LeibreMax, and ensuring patience with the lending process so a domino effect is not started. Mr. Brown asked if any aspect of this project is attached to the Green Bank mission to which Mr. Garcia responded that PosiGen

contributes to LMI energy improvements so even though the loan would be for an expansion (economic development), it is permissible to loan funds to PosiGen to keep "green energy" jobs in Connecticut. Mr. Farnen read from the CT Statute and that there is a direct nexus to clean energy resources in CT and is acceptable for the Green Bank to be involved. Mr. Brown stated his concern with the scrutiny of other lenders and companies that the Green Bank has "favorites", that we ensure the Green Bank act in a totally impartial manner. Mr. Hunter stated the Green Bank made efforts to communicate the availability of these incentives to everyone and Ms. Crum shared about lending often to LMI vendors and not having comments about being "fair." Mr. Walsh expressed concern about subordination and asked if the Green Bank was being sufficiently compensated – which in his experience is typically a combination of additional yield and equity. Mr. Hunter responded that the effective yield for the Green Bank is approximately 10%, or 325 basis points higher than the yield IPC receives in its senior position. Mr. Hunter added that in the past the Green Bank has obtained warrants for equity in PosiGen but Mr. Walsh didn't consider that an appropriate remedy to the equity matter he raised. Mr. Harrity sees PosiGen as a strategic partner with a positive example and social mission and if there are comments or questions, those are the reasons why.

Resolution #5

WHEREAS, the Connecticut Green Bank ("Green Bank") has an existing and successful partnership with PosiGen, Inc. (together with its affiliates and subsidiaries, "PosiGen") to support PosiGen in delivering a solar lease and energy efficiency financing offering to LMI households in Connecticut;

WHEREAS, the Green Bank Board of Directors ("Board") previously authorized the Green Bank's participation in a credit facility (the "BL Facility") encompassing all of PosiGen's solar PV system and energy efficiency leases in the United States as part of the company's strategic growth plan, in an amount not to exceed $15 million;

WHEREAS, that prior authorization for the BL Facility excluded financing by the Green Bank under a PBI-only financing facility, in order to provide financing for PosiGen against Performance Based Incentive ("PBI") payments due to PosiGen under the Residential Solar Investment Program ("RSIP"), as such financing was expected to be provided by Inclusive Prosperity Capital, Inc. ("IPC"); and

WHEREAS, in anticipation of IPC being able to participate in a PBI-only financing facility to provide loans against PBI payments due to PosiGen under the RSIP, the Green Bank Board previously authorized the extension of credit by the Green Bank under such separate PBI-only facility to PosiGen in additional to the BL Facility, provided that Green Bank capital outstanding between such PBI-only facility and the BL Facility would not exceed the previously authorized $15 million total;

WHEREAS, IPC has loaned approximately $4m of its capital to PosiGen under a participation agreement with the Green Bank whereby IPC is providing (currently) approximately $3.9m in financing under the PBI-only financing facility;

WHEREAS, in order to loan additional funds to support the economic development investment by PosiGen in a regional call center being located within the State of Connecticut and

the Green Bank Staff seeks permission to loan additional funds under the PBI-only facility as further explained in a memorandum to the Board dated September 5, 2019; and

WHEREAS, such additional loans to PosiGen via such PBI-only facility and together with any existing and incremental loans advanced by the Green Bank to PosiGen under the BL Facility would not exceed the previously authorized $15 million limit;

NOW, therefore be it:

RESOLVED, that the Green Bank Board authorizes the Green Bank to lend additional funds to PosiGen under the separate PBI-only facility in addition to the BL Facility, provided that Green Bank capital outstanding between such PBI-only facility and the BL Facility does not exceed the previously authorized $15 million total;

RESOLVED, that the Green Bank shall be permitted to co-lend with IPC to PosiGen under the PBI-only facility by the Green Bank selling down its position in the PBI-only facility to IPC on either the same terms as will exist between Green Bank and PosiGen or with Green Bank subordinated to IPC as explained in a memorandum to the Board dated September 5, 2019 as determined by Green Bank Staff; and

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

Upon a motion made by John Harrity and seconded by Matt Ranelli, Board members Bronisz, Chandy, Crum, Harrity, Sotos and Ranelli **voted to approve Resolution 5 with Eric Brown and Kevin Walsh voting no. Motion approved.**

d. Fort Hill Farm Waste to Energy AD Project – Adjustment from Guaranty to Loan within Existing Credit Limit
This proposed project was submitted by Fort Hill Ag-Grid, LLC a Special Purpose Entity (SPE) wholly owned by both Fort Hill Farms and Ag-Grid Energy, LLC. Project would be a 450kW farm based Anaerobic Digester facility with system located on a 1,000-acre multi-generation family owned and operated farm in Thompson, CT. Digester will process manure and other organic materials to produce manure and other organics, electricity to be used by the farm and biogas.
Christopher Magalhaes of Inclusive Prosperity Capital walked the board through the proposal.

Resolution #6

WHEREAS, in early 2013, Green Bank released a rolling Request for Proposals in the third round of solicitations for anaerobic digestion projects to participate in a statutorily mandated AD Pilot program, an initiative aimed at reducing landfill waste through the recycling of organics and helping to promote sustainable practices and economic prosperity of Connecticut farms and other businesses by using organic waste with on-site anaerobic digestion facilities to generate electricity and recoverable heat;

WHEREAS, Ag-Grid Energy, LLC submitted the Fort Hill Ag-Grid Anaerobic Digestion Facility proposal to develop in the City of Thompson a 450 kW anaerobic digestion project and,

after a thorough review, was selected as a project that is consistent with the AD Pilot Program, Green Bank Comprehensive Plan and in the best interests of ratepayers;

NOW, therefore be it:

RESOLVED, that the President of the Green Bank and any other duly authorized officer of Green Bank is authorized to execute and deliver definitive documentation materially based on the term sheet set forth in this due diligence package for financial support in the form of up to $850,000 of a loan guaranty or, alternatively a funded loan, as he or she shall deem to be in the interests of Green Bank and the ratepayers;

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; and

RESOLVED, that the Board's approval is conditioned upon the completion of Green Bank staff's due diligence review, including Green Bank's review and reasonable satisfaction with all project documentation that Green Bank is and is not a party to.

Upon a motion made by Binu Chandy and seconded by Betsy Crum, the Board voted to approve Resolution 6. Motion approved unanimously. Matt Ranelli abstained.

e. Capital for Change (C4C) Smart-E Funding Facility with Amalgamated
C4C joined Smart-E in late 2016 and is the largest Smart-E lender with loan growth exceeding expectations and reasonable credit losses (at approx. 1.75%). Issue is with the current funding line; Webster Bank line of credit is amortizing 5 yrs vs. 10 yrs for program loans which, consequently with program loan growth, are draining CEEFCo liquidity and stressing resources. If issue is unaddressed, C4C would need to stop originating loans until current loans are refinanced.
Bert Hunter presented the loan. Kevin Walsh questioned the rate at which funds were to be leant in that the incremental margin for being in the subordinate position (25 basis points) is quite small. Bettina Bronisz emphasized the aligned mission between the Green Bank and C4C. Betsy Crum expressed her appreciation of the LMI focus of C4C. Matt Ranelli enquired about the timeline and need for expediency. Bert explained the urgency as the bridge loan the Board approved was supposed to be replaced by the Amalgamated Bank and Green Bank permanent loan in July, but the approval process for Amalgamated Bank took longer than expected. Eric Brown asked why the Green Bank was willing to take a subordinated position and the return. Mr. Hunter explained that the Green Bank is familiar with the loan performance of the C4C residential loan portfolio and is satisfied that based on historical performance that the loans will perform as well going forward. John Harrity encouraged the board to move forward. Kevin Walsh stated that he is not blind to C4C's mission or role but felt that 25 basis points is too low of a premium for subordinated debt. Mr. Hunter commented that he would seek to obtain a larger margin with the borrower (C4C) and appreciated the Board's willingness to consider the resolution today.

Resolution #7

WHEREAS, the Connecticut Green Bank ("Green Bank") entered into a Smart-E Loan program financing agreement with Capital for Change ("C4C");

WHEREAS, C4C is the largest and fastest growing Smart-E lender on the Green Bank Smart-E platform;

WHEREAS, C4C and Green Bank have substantially completed negotiations with Amalgamated Bank for a medium-term loan facility to fund C4C's Smart-E Loan and other residential energy efficiency loan portfolio growth; and

WHEREAS, Green Bank staff recommend final approval by the Green Bank Board of Directors (the "Board") for a secured and subordinated medium term revolving loan facility for CEEFCo (the "CEEFCo Revolving Loan") in order to fund CEEFCo's residential energy efficiency and Smart-E Loan portfolio in partnership with Amalgamated Bank.

NOW, therefore be it:

RESOLVED, that the Board approves the CEEFCo Revolving Loan in an amount of up to $4.5 million in capital from the Green Bank balance sheet in support of energy efficiency and Smart-E Loans in partnership with Amalgamated Bank generally consistent with the memorandum submitted to the Board on September 5, 2019;

RESOLVED, that the President of the Green Bank, and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the CEEFCo Revolving Loan on such terms and conditions as are materially consistent with the memorandum submitted to the Board on September 5, 2019; 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 effect the above-mentioned legal instrument.

Upon a motion made by John Harrity and seconded by Binu Chandy, the Board voted to approve Resolution 7 with Eric Brown abstaining.

6. Incentive Program Recommendations

a. SHREC Green Bond RFP & SHREC Warehouse Resolution Adjustments
Resolutions to the SHREC Warehouse are; (1) more specificity and references to final documentation as requested by lender's Counsel, (2) substantively similar, and (3) reviewed and approved by Green Bank and external counsel.

SHREC Monetization includes (1) taxable municipal bonds (super sinker or serial) with Green Bank as issuer. Leverages high advance rate and low cost of capital collateralized by the Solar Home Renewable Energy Credits from Tranche 3 and a rating from either S&P and/or Kroll. The next steps are to consider underwriter(s) Ramirez and/or Stifel and to increase Green Bank awareness throughout Connecticut to bring investment opportunities to individuals as well as environmental and social investors.
Mike Yu presented the proposed plan for using two underwriters for the second SHREC issuance. Bryan Garcia underscored how excited the organization is to move forward with this transaction.

Resolution #10

WHEREAS, Connecticut Green Bank ("Green Bank") staff has submitted to the Green Bank Board of Directors ("Board") proposal(s) for Green Bank to proceed with agreements with Ramirez & Co., Stifel, Nicolaus & Company, Inc., or both as co-managers, (individually or collectively ("Underwriters") whereby Underwriters would structure, arrange and secure funding in accordance with a proposed permanent taxable municipal bond securitization ("MBS") financing of Tranche 3 of the Solar Home Renewable Energy Credit ("SHREC") program as described in the Confidential Memorandum to the Board of Directors dated September 5, 2019.

WHEREAS, Underwriters were selected pursuant to a Request for Proposal process as set forth in the Operating Procedures of the Green Bank; and

WHEREAS, any bond or note issuance associated with the SHREC MBS financing will be subject to definitive documentation which will require approval by the Board.

NOW, therefore be it:

RESOLVED, that the Board approves Green Bank to enter into a Professional Services Agreement(s) with the Underwriters or either Underwriter for the purpose of having Underwriters (or either Underwriter) structure, arrange and secure funding in accordance with a proposed permanent MBS financing of Tranche 3 of the SHREC program substantially as set forth in the Confidential Memorandum to the Board of Directors dated September 5, 2019;

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 engagement of Underwriters (or either Underwriter) for the SHREC Revolving Credit Facility, SHREC MBS, and to establish the SPV 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; and

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.

SHREC Warehouse

All of the members of the Board of Directors (the "**Board**") of the Connecticut Green Bank, a quasi-governmental agency of the State of Connecticut (the "**Green Bank**"), which is the sole member of SHREC Warehouse 1 LLC, Connecticut limited liability company (the "**Company**"), hereby consent to and adopt the following resolutions for and on behalf of the Green Bank and, in the Green Bank's capacity as the sole member of the Company, for and on behalf of the Company:

WHEREAS, on July 31, 2019, based on prior approvals obtained from the Board, the Company entered into a Credit Agreement (the "**Credit Agreement**") with Webster Bank, National Association ("**Webster**"), as Administrative Agent (in such capacity, as "**Agent**") and as a lender and Liberty Bank, as Lead Arranger and as a lender (Webster and Liberty Bank, in their capacities as lenders, are referenced to herein collectively as, "**Webster-Liberty**"), whereby Webster-Liberty have made available to the Company a Fourteen Million and 00/100

Dollar ($14,000,000.00) secured revolving line of credit ("**Loan**") for the purpose of financing the Tranche 3-2019 (as defined in the Credit Agreement) Solar Home Renewable Energy Credit program ("**Tranche 3-2019 SHRECs**"); and

WHEREAS, a true, correct and complete copy of the Credit Agreement is attached hereto as Exhibit A; and

WHEREAS, to induce Webster-Liberty to make the Loan to the Company, Green Bank guaranteed the Loan pursuant to the Guaranty (as defined herein); and

WHEREAS, along with a general repayment obligation by the Company, Agent and/or Webster-Liberty are secured by, and the Company and the Green Bank are authorized to secure the Loan and the Guaranty by, among other things, granting to Agent and/or Webster-Liberty (i) a first priority security interest in all assets of the Company, (ii) a collateral assignment of and security interest in all of the Company's and the Green Bank's right, title and interest in the Tranche 3-2019 SHRECs and all rights and obligations relating thereunder under those certain Master Purchase Agreements for the Purchase and Sale of Solar Home Renewable Energy Credits by and between the Green Bank and each of The Connecticut Light & Power Company d/b/a Eversource Energy and The United Illuminating Company each dated February 7, 2017, each as amended by those certain First Amendments, dated July 30, 2018 (as amended, the "**MPA's**"), which collateral assignment and security interest shall include any and all rights to payment of money under the MPA's with respect to Tranche 3-2019 and those other attributes and rights associated with the Tranche 3-2019 SHRECs, (iii) a collateral assignment of all of the right, title and interest in that certain Sale and Contribution Agreement by and between Green Bank and the Company, dated as of the date hereof including without limitation, any security interest created under Section 2.2(b) of the Sale and Contribution Agreement, and (iv) a security interest in the MPA Collection Account, the Webster Interest Reserve Account and the Liberty Interest Reserve Account (together, the "**SHREC Collateral**"); and

WHEREAS, Webster-Liberty has requested, and the staff of Green Bank has recommended that the Board provide additional resolutions ratifying and approving the Loan and the Green Bank's guarantee thereof in accordance with the terms of the Loan Documents.

NOW, therefore be it:

RESOLVED, that the Green Bank hereby ratifies and approves the formation and organization of the Company and the filing of its Certificate of Organization with the Secretary of State of the State of Connecticut; and be it further

RESOLVED, that the Green Bank hereby ratifies and approves the Loan from Liberty-Webster to the Company pursuant to the terms of the Credit Agreement and the other Loan Documents (as defined in the Credit Agreement); and be it further

RESOLVED, that each of the Company and the Green Bank be and it hereby is, at the time it entered into the Loan and/or the Guaranty was, authorized to secure the Loan and the Guaranty by, among other things, granting to Agent and/or Webster-Liberty a first priority security interest in and to its property, including, without limitation the SHREC Collateral; and be it further

RESOLVED, that the Board hereby authorizes, directs, ratifies and approves the Green Bank's entering into that certain (i) Collateral Assignment of Master Purchase Agreements and

Other Loan Documents ("**Collateral Assignment**"), (ii) Pledge and Security Agreement ("**Pledge**"), which constitutes a first priority pledge and security interest to Agent of Green Bank's 100% membership interest in the Company, and (iii) Guaranty Agreement ("**Guaranty**"; and together with the Collateral Assignment and the Pledge, the "**Guaranty Documents**"); and be it further

RESOLVED, that the Board hereby authorizes, directs, ratifies and approves (i) the Green Bank's execution, delivery and performance of the Guaranty Documents and all of the Green Bank's obligations under the Guaranty Documents and (ii) the Company's execution, delivery and performance of the Credit Agreement and the other Loan Documents and all of the Company's obligations under the Credit Agreement and the other Loan Documents; and be it further

RESOLVED, that the actions of Bryan Garcia in his capacity as the President and Chief Executive Officer of Green Bank ("**Garcia**"), Roberto Hunter in his capacity as the Chief Investment Officer of Green Bank ("**Hunter**") and Brian Farnen in his capacity as General Counsel and Chief Legal Officer of Green Bank ("**Farnen**"; and together with Garcia and Hunter, each an "**Authorized Signatory**"), are hereby ratified and approved with regard to the negotiation, finalization, execution and delivery, on behalf of Green Bank and the Company, of the Guaranty Documents, the Credit Agreement and the other Loan Documents and any other agreements that they deemed necessary and appropriate to carry out the foregoing objectives of Green Bank and/or the Company, and any other agreements, contracts, legal instruments or documents as they deemed necessary or appropriate and in the interests of Green Bank and/or the Company in order to carry out the intent and accomplish the purpose of the foregoing resolutions are hereby ratified and approved; and be it further

RESOLVED, that the Authorized Signatories be, hereby are, and at the time of the execution of the Guaranty Documents, the Credit Agreement and the other Loan Documents were, authorized, empowered and directed, for and on behalf of the Green Bank and the Company (in the Green Bank's capacity as the sole member of the Company), to execute and deliver the Guaranty Documents, the Credit Agreement and the other Loan Documents; and be it further

RESOLVED, that any other actions taken by any Authorized Signatory are hereby approved and ratified to the extent that such Authorized Signatory or Authorized Signatories have deemed such actions necessary, appropriate and desirable to effect the above-mentioned legal instrument or instruments.

Upon a motion made by Bettina Bronisz and seconded by Mary Sotos, the Board voted to approve Resolutions 10 and 11. Motion approved unanimously.

4. Committee Recommendations and Updates

a. Audit, Compliance and Governance Committee

i. APA Recommendations and Staff Responses
ii. Board of Director Meeting Attendance

7. Adjourn

Upon a motion made by John Harrity and seconded by Mary Sotos, the meeting was

adjourned at 1:15 pm.

Respectfully submitted,

_____,
Mary Sotos, Senior Policy Advisor of Energy

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

CONNECTICUT GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank

From: Lucy Charpentier, Bryan Garcia, Selya Price, and Eric Shrago

CC: Mackey Dykes, Brian Farnen, and Bert Hunter

Date: October 25, 2019

Re: Infrastructure Sector Programs – Program Performance towards Targets for FY 2019 - Restated

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Overview

Public Act 11-80, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future*, requires that the Connecticut Green Bank (Green Bank) develop and implement several programs to support the deployment of solar photovoltaic (PV), combined heat and power (CHP), and anaerobic digester (AD) technologies. Alongside this act, through the Comprehensive Energy Strategy (CES) released by the Department of Energy and Environmental Protection (DEEP), there is the goal of delivering cleaner, cheaper and more reliable sources of energy through the deployment of in-state renewable energy sources. Due to the Connecticut General Assembly's reappropriation of monies from the Clean Energy Fund and RGGI to the General Fund, the Green Bank has had to scale back its programs including the termination of the CHP and AD pilots. Thus, FY 2019 Infrastructure Sector Program targets and performance are focused on the Residential Solar Investment Program (RSIP) and related activities.

For a description of the programs and the TAM and SAM, please see the Comprehensive Plan for Fiscal Years 2017 through 2019.

Performance Targets and Progress

With respect to the Comprehensive Plan approved by the Board of Directors of the Green Bank on July 21, 2017 and revised on July 28, 2018,[1] the following are the performance targets for FY 2019 and progress made to targets for the Infrastructure Sector Programs (see Table 1) as of June 30, 2019, all attributable to RSIP.

[1] For mid-year revisions to budget and targets, see the "Proposed updates to FY2019 Targets and Budget" memo of December 11 2018 ; see: https://ctgreenbank.com/about-us/governance/connecticut-grboard-meetings/2018-meetings/.

Table 1. Program Performance Targets and Progress Made to the Comprehensive Plan for FY 2019

Key Metrics	Program Performance Original Targets (as of 07/01/18)	Program Performance Revised Targets (12/11/18)	Program Progress[2]	% of Goal
Capital Deployed[3]	$168,000,000	$203,000,000	$229,643,988	113 %
Investment at Risk[4]			$17,460,024	
Private Capital[5]			$212,183,964	
Deployed (MW)	48.0	58.0	65.1	112%
# of Loans/Projects	6,000	7,250	7,657	106%
Leverage Ratio			13.2	

In summary, for Infrastructure Sector Programs in FY 2019, there were 7,657 projects (achieving 106% of the goal) requiring $229.6 M of investment (achieving 113% of the goal) that led to the deployment of 65.1 MW of clean energy deployed (achieving 112% of the goal), that delivered a leverage ratio of about 13:2:1 for private to public funds invested.

Executive Summary for the Infrastructure Sector Programs

The following is an executive summary of the Infrastructure Sector Programs:

- Project volume and capacity in FY19 were the highest since inception of RSIP in FY12, with FY19 approvals of 46% more project volume and 52% more capacity than the 5,241 projects and 42.7 MW approved in FY18, and 12% higher by volume and 22% higher by capacity than the previous program high of 6,807 projects and 53.4 MW approved in FY16.[6] Approved projects in FY19 are approximately 20% EPBB and 80% PBI.
- Overall RSIP milestones as of the end of FY19 are:
  - Approximately 272 MW or 34,352 projects have been approved through RSIP since FY12, with nearly 235 MW or 30,000 projects completed, or approximately 78% approved and 67% completed toward the updated 350 MW public policy target.
  - Approved projects since FY12 to date are approximately 26% EPBB and 74% PBI.
  - Total investment in RSIP has topped $1 billion, with Green Bank leveraging nearly $930 million in private capital by investing nearly $130 million, a ratio of over 8.1.
- The Green Bank team has maintained a collaborative dialogue with contractors and system owners to support the sustained orderly transition of the residential solar PV industry to a post-RSIP (and post-ITC) market.

[2] Includes only closed transactions, including projects in approved and completed statuses.

[3] Capital Deployed is used to measure Investment actuals to targets and it includes fees related to financing costs and adjustments for Fair Market Value which are not included in the Gross System Cost. It represents: the Fair Market Value for Commercial/Residential Leases, the Amount Financed or Gross System Cost (whichever is greater) for CPACE, the Amount Financed for Residential financing products and the Gross System Cost for all other programs.

[4] Includes funds from the Clean Energy Fund, RGGI allowance revenue, repurposed ARRA-SEP funds, and other resources that are managed by the Green Bank that are committed and invested in subsidies, credit enhancements, and loans and leases.

[5] Private Investment is based on the Gross System Cost.

[6] Note that project volume and capacity approved in prior fiscal years may have changed since previously reported due to project cancellations that may happen before projects reach completion.

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- The team provided input into PURA dockets pertaining to Section 7 of PA 18-50 that was scheduled to end net metering when RSIP reached 300 MW and begin implementation of a tariff-based compensation structure for solar PV.
- The team provided input into legislation impacting the residential solar PV market, including PA 19-35[7] (House Bill 5002) which extended RSIP to 350 MW, extended net metering through 2021 and added a monthly netting option to possible residential tariff structures under Section 7 of PA 18-50.
- The federal Department of Energy (DOE) grant, "State Strategies for Solar Adoption in Low-and-Moderate Income Communities," awarded in FY18 for three years has continued to support Green Bank efforts to encourage adoption of solar PV among LMI households and communities of color.
- A new DOE grant application, also led by the Clean Energy States Alliance, was awarded in late FY 2019, and will provide funding to help accelerate widespread adoption of a residential rooftop solar PV deployment model among LMI single-family homes – the Green Bank in partnership with Inclusive Prosperity Capital (IPC) will provide advisory support on this project.
- The Green Bank continues solar PV soft cost reduction efforts through its leadership in Sustainable CT and also participates in activities that better enable the integration of solar PV into the grid such as through participation in distributed system planning dockets at PURA and a collaboration with United Illuminating (Avangrid) on a pilot project, "Localized Targeting of Distributed Energy Resources (DERs)."
- With support from an EM&V partner, Navigant Consulting, the team submitted a Partner and Technology Application to PURA's Electric Efficiency Partners Program (EEPP) to seek funding for a battery storage incentive program to complement deployment of residential solar PV and to contribute to the state's peak load reduction goals. The lessons learned from the application process have facilitated a stronger understanding of the benefits of battery storage in combination with solar PV that have informed future battery storage incentive design, potentially within and/or beyond RSIP.

Infrastructure Sector Programs

The following are overviews of the Infrastructure Sector Programs being implemented and the contributions towards the achievement of the targets noted in the Comprehensive Plan.

- **Residential Solar Investment Program** – $17.5 million in subsidies[8] from the Green Bank has attracted $212.2 million of funds from other sources.

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Table 2. RSIP Overview for FY 2019

Program Data	Submitted but not Closed[9]	Closed[10]	Total
Projects	104	7,657	7,761

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[7] PA 19-35: https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf, "An Act Concerning a Green Economy and Environmental Protection."

[8] Note the distribution of EPBB and PBI and the 6-year payout of the PBI.

[9] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

[10] Approximately 85% of projects approved result in project completions.

Program Data	Submitted but not Closed[9]	Closed[10]	Total
Installed Capacity (MW)	0.8	65.1	65.9
Lifetime Clean Energy Produced (MWh)	23,420	1,854,220	1,877,639
Annual Combined Energy Generated & Saved (MMBtu)	3,196	253,064	256,260
Subsidies ($'s)	$256,189	$17,460,024	$17,716,212
Credit Enhancement ($'s)	$0	$0	$0
Loans or Leases ($'s)	$0	$0	$0
Total Green Bank Investment ($'s)	$256,189	$17,460,024	$17,716,212
Private Capital ($'s)	$2,874,610	$212,183,964	$215,058,575
Direct Job Years	12	896	908
Indirect & Induced Job Years	16	1,171	1,187
Lifetime Tons of CO2 Emissions	12,618	998,986	1,011,604

Figure 1 provides historical perspective on Connecticut's residential solar PV market from fiscal year (FY) 2005 through FY 2019, based on projects incentivized through RSIP from FY 2012 through FY 2019 and before that through the Connecticut Clean Energy Fund (CCEF), the Green Bank's predecessor organization. The average RSIP incentive was reduced steeply as shown by the upper/green portion of the bars in the chart, while the average installed cost minus the RSIP incentive shown in the lower/blue portion of the bars has stayed roughly stable, between $3.00-3.25/W. Comparing FY 2005 to FY 2019, the average installed cost decreased 57% from $8.09/W to $3.50/W and the average RSIP incentive decreased 94% from $4.47/W to $0.26/W, while deployment increased over 50,000% from 122 kW in FY 2005 to 65.1 MW in FY 2019. Incentives were reduced most steeply with the inception of the Green Bank in FY 2012, 84% from $1.67/W in FY 2012 to $0.26/W in FY 2019 (as compared to 51% from FY 2005 to FY 2011). As a percentage of installed cost, incentives have decreased from 35% on average in FY12 to 8% in FY19. Since FY 2012, installed costs have decreased 33% from $5.20/W to $3.50/W and deployment grew over 2200% from 2.8 MW in FY 2012 to 65.1 MW in FY 2019.

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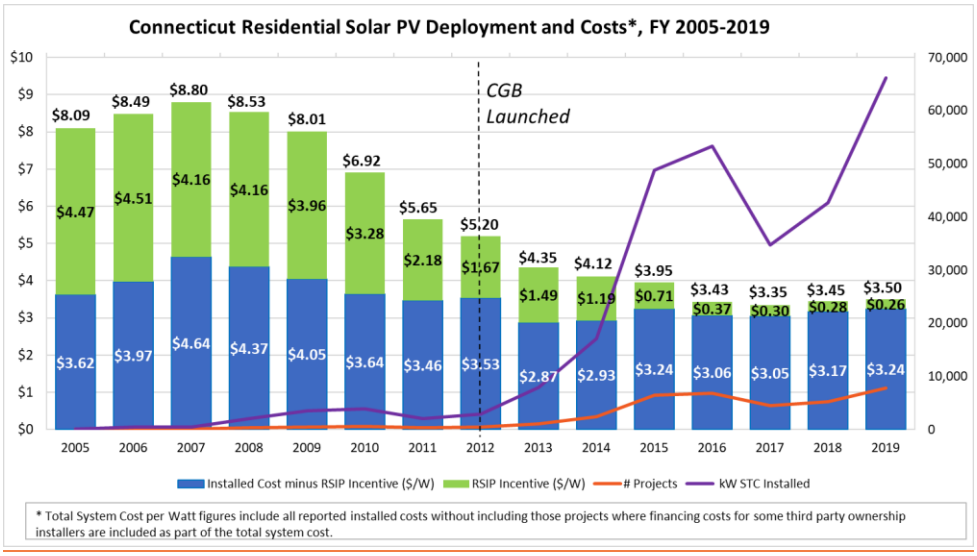
Figure 1. RSIP Historical Installed Costs, Incentives, Net Customer Cost, Installed Capacity, FY 2005-2019



Project approvals for all incentive types – EPBB, PBI and LMI-PBI were strong in FY19, with an especially high volume of PBI projects including contributions from new installers, as well as increased volume across the program. Several factors contributed to high activity in the market including:

- A push to get projects approved before RSIP reached its target of 300 MW - it was not until the end of legislative session that PA 19-35[11] passed (and was later signed by Governor Lamont on June 28, 2019) extending RSIP to 350 MW.
- RSIP incentive levels have been maintained at Step 14 since September 2018, providing market continuity.
- The anticipated end of net metering, which had been scheduled to take place at the end of RSIP, but which was delayed until December 31, 2021 by PA 19-35.
- General policy uncertainty around the structure, incentive levels, timing and implementation aspects for the tariff-based compensation structure put forth in Section 7 of PA 18-50 that was to replace net metering.
- The scheduled step-down in the Federal Investment Tax Credit (ITC) from 30% to 26% starting in 2020, which will be followed by a step down to 22% in 2021, and a final step down to 0% for homeowner-owned projects and 10% for third-party owned projects in 2022.
- An unseasonably mild winter which allowed for higher activity and less slow down than usual.
- While import tariffs affected the solar PV industry broadly, the impact on the residential market was the most diluted, with installed costs having some volatility over the past few years, but overall increasing only slightly from approximately $3.35/W on average in FY17 to $3.45/W in

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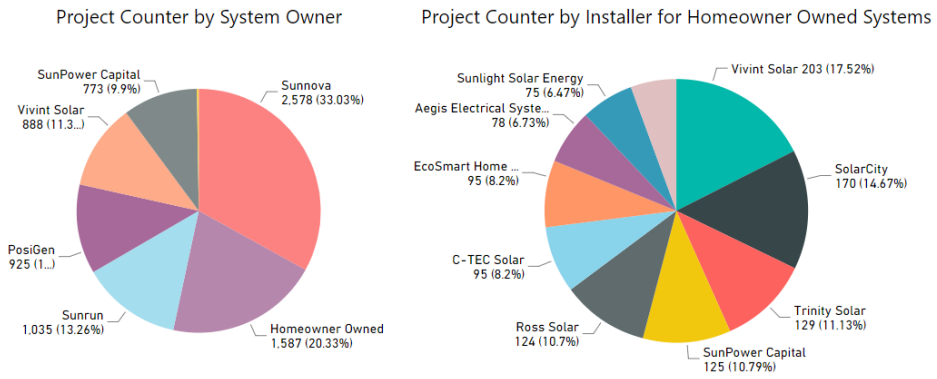
[11] PA 19-35: https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf, "An Act Concerning a Green Economy and Environmental Protection."

FY18, and almost leveling off to $3.50/W in FY19. Associated with the import tariffs has also been a stockpiling of PV modules across the industry.

RSIP is estimated to reach 350 MW in the summer or fall of 2020, after which time only net metering (and the federal ITC) would be available to support the solar PV market through December 31, 2021. Beginning January 1, 2022, production based (per kWh) tariff compensation is anticipated to be offered to solar PV customers, based on the requirements stipulated by Section 7 in PA 18-50, amended by PA 19-35, and as developed and determined by PURA and stakeholders through continued docket processes[12]. The proposed Step 15 incentive levels are anticipated to allow for a sustained transition from RSIP to a net metering plus ITC supported market to a market compensated via a tariff (that has the ability to factor in ITC reductions).[13]

Third party owned (TPO) companies deployed nearly 80% of RSIP projects by volume in FY19, led by Sunnova with approximately one-third of RSIP market share, following by Sunrun (13 %), PosiGen (12%), Vivint (11%), and SunPower (10%), as shown in Figure 2. The highest volume installers of homeowner-owned projects collectively deployed approximately 20% of RSIP volume in FY19 and included Vivint, SolarCity, Trinity Solar, SunPower, Ross Solar (a ConEd Solutions Company), C-TEC Solar, EcoSmart, Aegis, and Sunlight Solar. Trinity Solar was RSIP's highest volume participant in FY19, having installed nearly 36% of RSIP projects in FY19, 95% using third party financing and 5% homeowner owned.

Figure 2. FY19 RSIP Projects and Market Share by Third Party System Owner and by Installer



The RSIP continues to be successful in reaching low-and-moderate income (LMI) households. Adoption has largely been driven by the Green Bank's Solar for All partnership with PosiGen and complemented by efforts supported by a Department of Energy grant, "State Strategies for Solar Adoption in Low-and-Moderate Income Communities." Of the nearly 34,400 projects approved under RSIP through FY19, the Green Bank has in recent years made progress with respect to

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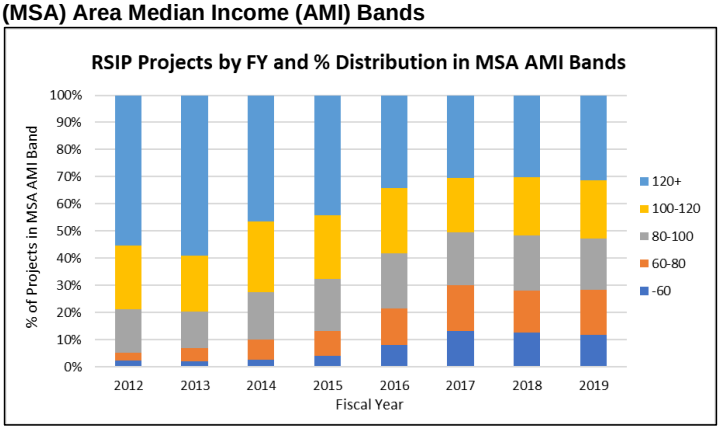
[12] Green Bank participated in multiple dockets in FY19 to provide input into the development of the Section 7 tariff compensation structure put forth in PA 18-50.
[13] The federal ITC is scheduled to step down from 30% through calendar year 2019 to 26% in 2020, 22% in 2021, and starting in 2022, 10% for third party owned projects and 0% for homeowner-owned projects. Tariff based compensation (in lieu of net metering) could factor in the ITC reduction by calculating a tariff rate that factors in higher net customer costs as the ITC steps down.

increased distribution of RSIP projects in LMI census tracks. Figure 3 shows approved RSIP projects by FY and Metropolitan Statistical Area (MSA) Area Median Income (AMI) Band. Nearly 50% of RSIP projects in FY17-19 were deployed in low-to-moderate income (LMI) census tracts (AMI<100%), having increased from just over 20% in FY12.

Figure 3. Distribution of Approved RSIP Projects by FY and by Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands



For a breakdown of RSIP project volume and investment by census tracts categorized by Area Median Income (AMI) bands and Distressed Communities as designated by DECD, see Tables 3 and 4, respectively. It should be noted that RSIP is not an income targeted program.

Table 3 illustrates that RSIP has reached and slightly exceeded parity with respect to deployment among LMI census tracts. For example, while the <60% AMI Band represents only 7% of 1-4 unit owner-occupied households (OOH), the <60% AMI Band represents 9% of approved RSIP projects. Similarly, 13% of RSIP projects are deployed in the 60-80% AMI Band while only 11% of OOH are in the 60-80% band. The 80-100% AMI Band has about 18% of projects, slightly less than the % of OOH. The 100-120% AMI Band is slightly overrepresented in RSIP versus OOH, while the highest income band, 120%+ has proportionately lower RSIP deployment levels relative to their representation among OOH. Table 4 shows that RSIP deployment is well represented in distressed communities in which 30% of all RSIP projects are installed, while distressed communities account for 32% of OOH.

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Table 3. RSIP Closed Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands

MSA AMI Band	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019
<60%	60,769	7%	96
60%-80%	99,220	12%	1,30
80%-100%	165,331	19%	1,46
100%-120%	187,463	22%	1,66
>120%	345,311	40%	2,41
Total	858,094	100%	7,80

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MSA AMI Band	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
<60%	62,815	7%	879	11%	2,993	9%	47.6	$75,283,406	7%
60%-80%	97,136	11%	1,201	16%	4,446	13%	45.8	$117,924,213	11%
80%-100%	155,105	18%	1,440	19%	6,367	19%	41.0	$187,647,031	18%
100%-120%	209,914	24%	1,883	25%	8,232	24%	39.2	$259,208,979	25%
>120%	340,374	39%	2,254	29%	12,310	36%	36.2	$412,819,769	39%
Total	865,344	100%	7,657	100%	34,348	100%	39.7	$1,052,883,398	100%

Table 4. RSIP Closed Activity in Distressed Communities

Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
Distressed	438,710	32%	2,775	36%	10,239	30%	23.3	$280,712,206	27%
Not Distressed	916,003	68%	4,882	64%	24,109	70%	26.3	$772,171,192	73%
Total	1,354,713	100%	7,657	100%	34,348	100%	25.4	$1,052,883,398	100%

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Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for F 2019
Distressed	438,710	32%	2,8
Not Distressed	916,003	68%	4,9
Total	1,354,713	100%	7,8

While the RSIP has been effective in reaching LMI households, in FY19 Green Bank also investigated whether the RSIP has been successful in reaching communities of color (i.e., Black and Hispanic households). When examining solar deployment by the racial and ethnic makeup of the census tract, the analysis demonstrated that RSIP has been very successful in reaching communities of color. To date, on a per OOH basis, there are 86% more RSIP installations in majority Black neighborhoods, 18% more in majority Hispanic neighborhoods, and 20% more in No Majority race neighborhoods as compared to majority White neighborhoods – see Table 4 to compare % OOH vs % of RSIP for AMI Bands of <100%. A report on this analysis titled "Sharing Solar Benefits" was published in May 2019.[14]

Table 5. Owner-Occupied Housing and RSIP Distribution by Race/Ethnicity and Income

Census Tract Income Level (AMI Band)	Majority Hispanic		Majority Black		Majority White		No Majority Race	
	% of OO Homes	% of RSIP	% of OO Homes	% of RSIP	% of OO Homes	% of RSIP	% of OO Homes	% of RSIP
<60%	30.3%	24.91%	12.8%	22.41%	18.8%	14.58%	38.0%	38.09%
60%-80%	10.8%	13.04%	5.7%	7.68%	62.7%	56.04%	20.7%	23.24%
80%-100%	1.2%	1.57%	2.9%	4.48%	89.7%	87.94%	6.3%	6.01%
100%-120%	--	--	--	--	95.0%	95.04%	5.0%	4.96%
>120%	--	--	--	--	96.1%	95.14%	3.9%	4.86%
Grand Total	3.6%	4.11%	2.1%	3.77%	85.3%	81.81%	9.0%	10.31%

An emerging market is residential solar PV plus battery storage. Approximately 175 RSIP projects have included battery storage thus far including roughly half of these approved recently, in FY19. The Tesla PowerWall and sonnenBatterie eco are the most prevalent battery storage equipment installed with solar PV in RSIP thus far. As previously noted, the Green Bank applied to the Electric Efficiency Partners

[14] ctgreenbank.com/wp-content/uploads/2019/05/Sharing-Solar-Benefits-May2019.pdf

Program (EEPP) in FY19 to seek funding for a battery storage incentive program and hopes to support deployment of battery storage in combination with solar PV either through EEPP or RSIP.

As a requirement to receive the RSIP incentive, all residential solar PV customers must have an energy audit performed on their home, preferably the utility-administered Home Energy Solutions (HES) audit, but with other options if needed. RSIP-wide, an estimated 87% of audits performed were either HES audits or DOE Home Energy Scores (HES). In FY19, 94% of audits were either HES or DOE HES. Non-HES audits were performed by Building Performance Institute (BPI) certified auditors, Home Energy Rating System (HERS) raters, other certified energy managers or were exempt due to being new construction or having a health and safety exemption. The energy audit requirement encourages adoption of energy efficiency measures along with solar PV.

An area of ongoing importance for the long-term sustainability of the solar PV industry is reduction of costs, in particular non-hardware or soft costs. Building off of work conducted under several U.S. Department of Energy (DOE) funding opportunities over the past seven years, the Green Bank continues to be active in initiatives that can expand solar PV access at reduced costs. In FY19 Green Bank participated in PURA docket 17-12-03 ("PURA Investigation into Distribution System Planning of the Electric Distribution Companies"). Discussions as part of this docket led to an expansion of the maximum allowable voltage variation for residential solar PV interconnection from +3% to +5%, significantly expanding the opportunity for residential solar PV customers to interconnect a system without incurring infrastructure improvement costs. Green Bank is also partnering with United Illuminating (an Avangrid Company) on a grid-side enhancement demonstration project that aims to solve a for a substation constraint via non-wires alternatives, primarily the installation of distributed energy resources (DERs) on two distribution circuits forecasted to exceed capacity in a five-year planning horizon. With federal grant support, Green Bank has participated in the National Renewable Energy Laboratory's Solar Energy Innovation Network (SEIN) a national initiative that researches solutions to real-world challenges associated with solar energy adoption. Participation in the SEIN network has significantly increased Green Bank's institutional knowledge around quantifying the value of combining solar and other DERs, such as storage, for grid flexibility, reliability, and resiliency. These lessons learned will continue to serve Green Bank as it explores future opportunities to enhance the value residential solar and other DERs can provide to the grid.

In addition, the Green Bank has incorporated soft cost reduction strategies into other statewide programs, including Sustainable CT. A statewide voluntary certification program for municipalities, Sustainable CT offers resources and training to participating towns to become more sustainable and earn credit in the program. Towns have access to the resources the Green Bank developed through the DOE SunShot grant work as well as staff who provide technical assistance in streamlining permitting processes for solar installations. This support has helped 21 towns earn over 250 points in the first round of the program certifications. The Green Bank continues to provide ongoing assistance to towns, especially as changing policies continue to impact solar soft costs.

For a breakdown of the use of Green Bank resources for Infrastructure Sector Programs (see Table 6).

Table 6. Distribution of Green Bank Funds Invested in Projects and Programs through Subsidies, Credit Enhancements, and Loans and Leases for FY 2019[15]

Program	Subsidies		Credit Enhancements		Loans and Leases		Total
RSIP	$17,460,024	100%	$0	0%	$0	0%	$17,460,024

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[15] Includes only closed transactions

Of these programs, the following is a breakdown of their contributions made thus far towards the performance target and the human resources required to implement them (see Table 6):

Table 7. Program Progress Made in FY 2019[16]

Key Metrics	RSIP	Total Program Progress
Date of Program Approval	Feb-2012	
Date of Program Launch	Mar-2012	
Ratepayer Capital at Risk	$17,460,024	$17,460,024
Private Capital	$212,183,964	$212,183,964
Deployed (MW)	65.1	65.1
# of Loans/Installations	7,657	7,657
Lifetime Production (MWh)	1,854,220	1,854,220
Annual Combined Energy Generated & Saved (MMBtu)	253,064	253,064

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"Top 5" Headlines

The following are the "Top 5" headlines for Infrastructure Sector Programs for FY 2019:

1. Solar policy fight re-energizes in CT[17]

The Middletown Press (February 5, 2019)

No fewer than four pieces of legislation — half from Republicans, half from Democrats — have been filed to at least slow down, if not repeal, the process started through Public Act 18-50, which effectively gets rid of net-metering, making Connecticut one of the first blue states to do so. Because of the complex upgrades needed to physically implement some of the changes PURA is considering, Eversource has told PURA it would take "at least 24 months" to complete them. United Illuminating estimates it would take them six to nine months. The original mandate for RSIP was to lower incentives as it progressed and ensure the sustained orderly development of a local solar industry.

2. Connecticut Green Bank Monetizes Solar Renewable Energy Certificates in a Rated Securitization[18]

Tax Equity Times (March 18, 2019)

The Connecticut Green Bank is monetizing solar renewable energy credits (SHRECs) generated under its Solar Home Renewable Energy Program and sold to Connecticut Light and Power (d/b/a Eversource Energy) and United Illuminating (UI). The utility SHREC buyers pay $50 for the SHRECs generated by the first 6788 PV systems in so-called "tranche 1" and $49 for each generated SHREC for the next 7250 PV systems in "tranche 2" over a fifteen-year term.

[16] Includes only closed transactions
[17] https://www.middletownpress.com/local/article/Solar-policy-fight-re-energizes-in-CT-13590316.php
[18] https://www.taxequitytimes.com/2019/03/connecticut-green-bank-monetizes-solar-renewable-energy-certificates-in-a-rated-securitization/?utm_source=Mondaq&utm_medium=syndication&utm_campaign=View-Original

3. Connecticut Green Bank monetizes USD 38.6m of solar credits[19]

Renewables Now (April 10, 2019)

The Connecticut Green Bank announced on Tuesday a first-of-a-kind issuance through which it monetizes USD 38.6 million worth of solar home renewable energy credits (SHRECs). The bank said it is selling investment-grade rated ABS notes involving SHRECs generated through the Residential Solar Investment Program (RSIP) by about 14,000 residential solar photovoltaic systems with a combined capacity exceeding 105 MW. The SHRECs were sold in annual tranches to investor-owned utilities Eversource Energy and United Illuminating Company, at a fixed, predetermined price over 15 years. The bank noted that the sale proceeds will recover the costs of administering and managing the RSIP, including the incentives offered to residential participants.

4. Cool thing: Connecticut Green Bank makes intentional effort to boost solar energy in communities of color[20]

Solar Builder (May 22, 2019)

Today, on a per owner-occupied household basis, there are 86 percent more RSIP installations in majority Black neighborhoods, 18 percent more in majority Hispanic neighborhoods, and 20 percent more in No Majority race neighborhoods as compared to majority White neighborhoods. The rise is due to Green Bank's successful efforts to make solar energy more accessible and affordable for homeowners in communities of color and low-to-moderate income (LMI) households by intentionally engaging these traditionally underserved communities, bucking a national trend of disparity.

5. Connecticut net metering is safe until after 2021 due to law reversal[21]

Solar Power World (June 5, 2019)

The 2018 Connecticut state law that would have ended net metering was reversed before it had a chance to take effect. On June 4, the Connecticut Senate voted 32-1 to pass HB 5002, which rescinds a 2018 state law that called for sunsetting net metering this fall. The bill delays action on net metering until after 2021 and extends incentives for an additional 50 MW of home solar through the Residential Solar Investment Program.

Lessons Learned

Based on the implementation of the Infrastructure Sector Programs through FY19, the following are the key lessons learned:

- **The policy and regulatory landscape in Connecticut has been in tremendous flux** in the past fiscal year and will continue to evolve over the near term. The Green Bank can focus on the levers it does have to provide stability for residential solar PV and other sectors of the industry that it has the most ability to affect, while continuing to provide informed input into legislative and regulatory forums that provide the opportunity to communicate the benefits of clean energy to the state of Connecticut – in particular grid benefits such as peak load reduction, reliability benefits, carbon dioxide reduction and local economic development benefits.

[19] https://renewablesnow.com/news/connecticut-green-bank-monetises-usd-386m-of-solar-credits-650181/
[20] https://solarbuildermag.com/news/cool-thing-connecticut-green-bank-makes-intentional-effort-to-boost-solar-energy-in-communities-of-color/
[21] https://www.solarpowerworldonline.com/2019/06/connecticut-net-metering-safe-for-now/

- **With the extension of RSIP to 350 MW by PA 19-35, the Green Bank will now have approximately one additional year to support the residential solar PV market in its transition to a post-RSIP market.** The focus of FY20 will be helping to provide a sustained orderly transition for the residential solar industry in the context of RSIP ending as well as broader state policy and regulatory changes (i.e., the transition when net metering ends December 31, 2021 to tariff-based compensation starting in 2022). This context also includes the phasing out of the federal ITC. This transition will involve understanding the economics and other drivers of solar PV for residential customers in CT as well as strategies for supporting adoption of solar PV aside from providing incentives. Providing information to customers such as through Gosolarct.com, continuing to collaborate with the Department of Consumer Protection, and continuing to work toward soft cost reduction (such as through Sustainable CT) and grid integration strategies for solar PV (including through support of battery storage deployment) can all support this process.
- **Working closely with RSIP contractors and system owners has been valuable in FY19 and will continue to be important in FY20.** With respect to solar PV policy, regulation, administration of incentive programs and in supporting the solar PV industry through upcoming market transitions, it will continue to be critical to have ongoing dialogue with and input from solar companies as to how best support the industry.
- **Continue to support the LMI market while developing a strategy to prepare for the end of RSIP** – While RSIP has successfully deployed PV to the LMI market over the past few years, the LMI PBI is almost 3 times the level of incentive as the regular PBI which could result in an incentive cliff for the LMI market when RSIP ends. Green Bank staff will need to develop a strategy to reduce the LMI PBI and/or implement other solutions to support the post-RSIP LMI market.
- **The RSIP team will need to continue improving administrative processes to make the most efficient use of resources and staff time as the program begins to wind down** in what will likely be approximately one final year of RSIP approvals, followed by another year (or more) needed for projects to reach completion and be fully processed through the program – including review and clean-up of documentation and data, and follow-through on REC certifications and tranching. Improvement of processes will continue to rely on data and monitoring platforms to capture and process data reliably, along with integration of data into the Green Bank's data warehouse, and solutions to help ensure reporting of PV production data and trouble-shooting of system issues. Time spent working with the operations team to streamline processes going forward will help provide more efficient asset management in the long term. Ongoing coordination with operations, finance and accounting on REC monetization processes will continue to be critical. Lastly, staff flexibility and growth will be important as roles evolve to facilitate program transition and close-out in FY20 and beyond.

Infrastructure Sector Programs FY 2020 Targets

Of the programs being implemented in the Infrastructure Sector Programs, the following is a breakdown of the key targets for each program (see Table 7):

Table 7. Number of Projects, Capital Deployed, and Clean Energy Deployed (MW)

Program	# of Projects	Capital Deployed	Clean Energy Deployed (MW)

RSIP	7,059	$214,200,000	60.0
Battery Storage	500	$5,500,000	2.0
Total	**7,559**	**$219,700,000**	**60.0**

For Infrastructure Sector Programs, there are approximately 9 full time equivalent staff members supporting one program, RSIP.

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

CONNECTICUT GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank

From: Lucy Charpentier, Bryan Garcia, Kerry O'Neill, and Eric Shrago

Cc Mackey Dykes, Brian Farnen, and Bert Hunter

Date: October 25, 2019

Re: Residential Sector Programs – Program Performance towards Targets for FY 2019 - Restated

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Overview

Public Act 11-80 (PA 11-80), *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future*, requires that the Connecticut Green Bank (Green Bank) develop and implement several programs to finance and otherwise support clean energy investment in residential projects to promote deep energy efficiency retrofits, renewable energy deployment, and fuel and equipment conversions in single-family and multifamily homes across the state.

For a description of the programs and the TAM and SAM, please see the Comprehensive Plan for Fiscal Years 2017 through 2019.

Performance Targets and Progress

With respect to the Comprehensive Plan approved by the Board of Directors of the Green Bank on July 21, 2017 and revised on January 26, 2018,[1] the following are the performance targets for FY 2019 and progress made to targets for the Residential Sector Programs (see Table 1) as of June 30, 2019.

Table 1. Program Performance Targets and Progress Made to the Comprehensive Plan for FY 2019

Key Metrics	Program Performance Original Targets (as of 07/01/18)	Program Performance Revised Targets (as of 07/01/18)	Program Progress[2][3]	% of Goal
Capital Deployed[4]	$26,910,855	$26,910,855	$71.222.116	265%

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[1] For mid-year revisions to budget and targets, see "Q2 Progress to Targets" memo of January 19, 2018 on page 74 – click here

[2] Includes only closed transactions.

[3] Includes $106,950 in Capital Deployed, $106,950 in CGB Investment, and $25,500 in Private Capital for 4 Multifamily Predevelopment financings.

[4] Capital Deployed is used to measure Investment actuals to targets and it includes fees related to financing costs and adjustments for Fair Market Value which are not included in the Gross System Cost. It represents: the Fair Market Value for Commercial/Residential Leases, the Amount Financed or Gross System Cost (whichever is greater) for CPACE, the Amount Financed for Residential financing products and the Gross System Cost for all other programs.

Key Metrics	Program Performance Original Targets (as of 07/01/18)	Program Performance Revised Targets (as of 07/01/18)	Program Progress[23]	% of Goal
Investment at Risk[5]			$7,294,170	
Private Capital[6]			$63,185,212	
Deployed (MW)	5.0	5.0	7.2	144%
# of Loans/Projects	1,145	1,145	1,704	149%
Leverage Ratio			9.7	

In summary, for Residential Sector Programs in FY 2019, there were 1,704 projects (achieving 149% of the goal) requiring $71.2MM of investment (achieving 265% of the goal) that led to the deployment of 7.2 MW of clean energy deployed (achieving 144% of the goal), that delivered a leverage ratio of nearly 9:7 for private to public funds invested.

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Executive Summary for the Residential Sector Programs

The following is a bulleted executive summary of the Residential Sector Programs:

- Exceeded targets for all programs – for the sector, exceeded capital deployed, # of loans/projects, MW deployed and leverage ratio.
- The PosiGen Solar for All partnership closes its strongest fiscal year performance since program launch with 801 installations, helping the state's solar industry reach parity in deployment across income levels and beyond parity in expanding solar to communities of color.
- The Smart-E Loan program encouraged contractors at the beginning of the fiscal year to partner directly with lenders to provide their customers with contractor funded Interest Rate Buy Downs. This offer is popular with mid to larger sized HVAC and solar contractors as it similar to, but cheaper than the manufacturer financing they were offering previously.
- In partnership with Michigan Saves, Inclusive Prosperity Capital ("IPC") competed and one a $250,000 grant from Hewlett foundation to support development of a new online platform for Smart-E Loan contractors and lenders that will launch in the beginning of fiscal year 2020. This new platform will be made available to other similar programs around the country by IPC. Green Bank contributed budget to the development of the program and will share in any eventual license fee revenue on a pro rata basis.
- The number of credit-challenged Smart-E loans remains low due to the inability to promote the offer broadly after the marketing budget was eliminated due to the legislative sweeps, however the gap is closing in terms of uptake across the income bands.

[5] Includes funds from the Clean Energy Fund, RGGI allowance revenue, repurposed ARRA-SEP funds, and other resources that are managed by Green Bank that are committed and invested in subsidies, credit enhancements, and loans and leases. Does not include commitments for the $600,000 guarantee for Connecticut Housing Investment Fund (now called Capital for Change) to support their recapitalization from Webster Bank for residential 1-4 energy lending, including Smart-E lending, or the $5,000,000 guarantee to Housing Development Fund for the repayment of the MacArthur Foundation program related investment.

[6] Private Investment is based on the Gross System Cost and includes adjustments related to financing costs or Fair Market Value.

- The Green and Healthy Homes project kicked off the second phase of the project doing a CT-specific Medicaid ROI analysis (one of 2 states to do this), and convening stakeholders from the health, housing, and energy sectors on pilot design.
- Achieved and exceeded Multifamily program goals. Met the project count goal, closing 19 projects, and catalyzed $3.3M in energy capital deployed, exceeding our target of $2.57M by 1.3X.
- Successfully began deploying the EnergizeCT Health and Safety Revolving Loan Fund for multifamily properties using $1.5 million from DEEP after a slow start in FY'18 due to challenges in this market. Closed $235,000 in loans, touching 950 units, with a pipeline building behind these.
- Completed an in-depth customer survey and focus groups to identify pain points and opportunities for customer facing improvements. This information learned is informing real time program adjustments and improvements.
- Developed and approved underwriting for the LIME Loan program to serve **ALL** multifamily properties in CT, including market rate properties and those with tenant paid utilities. (A marketing campaign will be launched in FY'20 once LIME is adequately capitalized.)
- Multifamily team was invited by several prominent national housing institutions develop and deliver training, using our programs and projects as case studies, which recognizes the leadership role we are playing locally and nationally in "cracking the multifamily nut" to deploy clean energy financing.

Residential Sector Programs – Single Family

The following are brief descriptions of the progress made under the Comprehensive Plan for FY 2019 in the Residential Sector Programs:

- **Energize CT Smart-E Loan** – a credit enhancement program that in part uses repurposed ARRA-SEP funds as a loan loss reserve to attract private capital from local credit unions and community banks. The product provides low interest (i.e. 4.49-6.99%) unsecured loans at long terms (i.e. between 5 to 20 years) for technologies that are consistent with the goals of the Comprehensive Energy Strategy. In FY19, several program contractors elected to buy down the interest rate on certain Smart-E Loans to be more competitive in the market.

Table 2. Energize CT Smart-E Loan Overview for FY 2019

Program Data	Approved[7]	Closed	Total
Projects	258	838	1,096
Installed Capacity (MW)	0.1	0.9	1.0
Lifetime Clean Energy Produced (MWh)	6,874	59,268	66,142
Annual Combined Energy Generated & Saved (MMBtu)	1,272	12,153	13,425
Subsidies ($'s)	$0	$0	$0

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[7] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

Credit Enhancement ($'s)[8]	$0	($1,354,092)	($1,354,092)
Loans or Leases ($'s)	$0	$0	$0
Total Green Bank Investment ($'s)	$0	($1,354,092)	($1,354,092)
Private Capital ($'s)	$3,738,672	$11,408,338	$15,147,010
Direct Job Years	23	58	82
Indirect & Induced Job Years	32	76	108
Lifetime Tons of CO2 Emissions	3,677	31,609	35,286

Table 3. Energize CT Smart-E Loans by Channel

Smart-E Loan Channel	Closed	% of All Loans
EV	1	0%
Home Performance	69	8%
HVAC	652	78%
Solar	93	11%
Unknown[9]	23	3%
Total	838	100%

For a breakdown of Smart-E loan volume by credit score band, see Table 4.

Table 4. Energize CT Smart-E Credit Scores

Credit Ranges									
Unknown	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
3	6	34	93	122	95	104	187	194	838
0%	1%	4%	11%	15%	11%	12%	22%	23%	100%

For a breakdown of Smart-E loan volume and investment by census tracts categorized by Area Median Income (AMI) bands and Distressed Communities as designated by DECD, see Tables 5 and 6. It should be noted that Smart-E is not an income targeted program and only in the second half of FY18 began offering the expanded credit-challenged version of the program, opening new opportunities to partner with mission-oriented lenders focused on reaching consumers in underserved lower income markets.

Table 5. Smart-E Loan Closed Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands

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MSA AMI Band	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019
<60%	60,769	7%	52
60%-80%	99,220	12%	111
80%-100%	165,331	19%	159
100%-120%	187,463	22%	194
>120%	345,311	40%	321
Total	858,094	100%	837

[8] The Credit Enhancements for FY2019 show a negative number to reflect a decrease in the loan loss reserves provided due to updated methodologies that require less of a reserve be set aside in the case of a loss for the Smart-E loan program. This is reflective of a greater comfort with energy lending by the program partners and demonstrates a decrease in reliance on public funds for the program.

[9] Channel not known due to trailing documentation/timing of data pull.

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MSA AMI Band	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
<60%	62,815	7%	61	7%	254	7%	4.0	$3,282,670	6%
60%-80%	97,136	11%	97	12%	406	11%	4.2	$4,928,615	8%
80%-100%	155,105	18%	153	18%	661	17%	4.3	$9,440,010	16%
100%-120%	209,914	24%	207	25%	906	24%	4.3	$14,182,659	24%
>120%	340,374	39%	319	38%	1,573	41%	4.6	$27,388,778	46%
Total	865,344	100%	837	100%	3,800	100%	4.4	$59,222,732	100%

Table 6. Smart-E Loan Closed Activity in Distressed Communities

Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
Distressed	438,710	32%	192	23%	814	21%	1.9	$10,784,494	18%
Not Distressed	916,003	68%	646	77%	2,988	79%	3.3	$48,500,212	82%
Total	1,354,713	100%	838	100%	3,802	100%	2.8	$59,284,705	100%

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Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019
Distressed	438,710	32%	192
Not Distressed	916,003	68%	646
Total	1,354,713	100%	838

- **PosiGen Solar for All** – a solar PV lease and energy efficiency ESA financing program that focuses on the low to moderate income (LMI) market segment. Supported by $15 million subordinated debt investment from the Green Bank, into a total fund of $90 million to support over 2,400 homes, 801 homes in FY19 alone, with a focus on the low-to-moderate income market segment utilizing alternative underwriting approaches that examine factors such as bill payment history and bad debt and bank databases (see Table 8). 93% of projects include light weatherization and efficiency provided by HES or HES-IE and 66% of customers received deeper measures through PosiGen's energy efficiency agreement. The Solar for All program has been successful at reaching the LMI market segment with 59% of homes verified as low incomes. An independent survey of PosiGen customers has been conducted that found high levels of satisfaction with the product and with their savings.

Table 7. PosiGen Solar for All Overview for FY 2019

Program Data	Approved[10]	Closed	Total
Projects	50	847	897
Installed Capacity (MW)	0.3	6.0	6.3
Lifetime Clean Energy Produced (MWh)	14,902	262,407	277,309
Annual Combined Energy	2,108	35,743	37,852

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[10] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

Generated & Saved (MMBtu)[11]			
Subsidies ($'s)	$0	$0	$0
Credit Enhancement ($'s)	$0	$0	$0
Loans or Leases ($'s)	450,000	$7,623,000	$8,073,000
Total Green Bank Investment ($'s)	$450,000	$7,623,000	$8,073,000
Private Capital ($'s)	$830,942	$17,082,404	$17,913,342
Direct Job Years	4	65	68
Indirect & Induced Job Years	5	84	89
Lifetime Tons of CO2 Emissions	8,029	141,404	149,433

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For a breakdown of PosiGen Solar for All volume and investment by census tracts categorized by Area Median Income bands and Distressed Communities as designated by DECD, see Tables 8 and 9. As an income-targeted program, this table illustrates the degree to which the goal of serving consumers in lower income communities is being met.

Table 8. PosiGen Closed Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands

MSA AMI Band	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
<60%	62,815	7%	226	27%	825	33%	13.1	$22,220,544	31%
60%-80%	97,136	11%	215	25%	584	23%	6.0	$16,055,916	23%
80%-100%	155,105	18%	127	15%	436	17%	2.8	$12,582,005	18%
100%-120%	209,914	24%	145	17%	320	13%	1.5	$9,542,112	13%
>120%	340,374	39%	134	16%	339	14%	1.0	$10,486,481	15%
Total	865,344	100%	847	100%	2,504	100%	2.9	$70,887,057	100%

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MSA AMI Band	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019
<60%	60,769	7%	244
60%-80%	99,220	12%	191
80%-100%	165,331	19%	128
100%-120%	187,463	22%	105
>120%	345,311	40%	133
Total	858,094	100%	801

Table 9. PosiGen Closed Activity in Distressed Communities

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Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019
Distressed	438,710	32%	45
Not Distressed	916,003	68%	34
Total	1,354,713	100%	80

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[11] Includes an additional 15.0 MMBtu for each project for the HES audit. [12] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
Distressed	438,710	32%	471	56%	1,487	59%	3.4	$41,087,114	58%
Not Distressed	916,003	68%	376	44%	1,017	41%	1.1	$29,799,943	42%
Total	1,354,713	100%	847	100%	2,504	100%	1.8	$70,887,057	100%

Residential Sector Programs – Multifamily

The following are brief descriptions of the progress made under the Comprehensive Plan for FY 2019 in the Residential Sector Programs for Multifamily properties:

- **Multifamily** – offerings for both the affordable and market rate multifamily segments include pre-development and term loan programs that enable property owners to assess, design, fund and implement energy measures and remediate related health and safety measures. Pre-development loan programs were funded by the $5 million program-related investment from the MacArthur Foundation through the Housing Development Fund (HDF), backed by a Green Bank repayment guaranty (see Table 12). Term loan programs include the Low Income Multifamily Energy (LIME) loan, Solar PPA program, and the ECT Health & Safety Revolving Loan program (ECT H&S RLF). LIME is offered by Capital for Change and supported by $3,500,000 of seed capital and $625,000 of ARRA-SEP and Green Bank funds for a loss reserve. Solar PPA options leverage the C&I sector programs (see Table 11). The ECT H&S RLF is supported by grant from DEEP. During FY'19 the DEEP H&S funds were transferred from Green Bank to IPC where this program is now administered. Limited Catalyst Loan Funds for flexible gap financing to support term loans using MacArthur Foundation funds were also available, but not used for this purpose in FY'19.

Table 10. Multifamily Term Financing Overview for FY 2019

Program Data	Approved[12]	Closed	Total
Projects	4	14	18
Installed Capacity (MW)	0.1	0.3	0.4
Lifetime Clean Energy Produced (MWh)	2,426	9,784	12,209
Annual Combined Energy Generated & Saved (MMBtu)	376	299,001	299,377
Subsidies ($'s)	$0	$0	$0
Credit Enhancement ($'s)[13]	$0	$12,574[14]	$12,574
Loans or Leases ($'s)	$0	$982,313	$982,313
Total Green Bank Investment ($'s)	$0	$1,009,886	$1,009,886
Private Capital ($'s)[15]	$3,637,726	$34,446,598[16]	$38,084,324

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[12] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

[13] This is the actual loan loss reserve position of the LIME loan as of 6/30/2017

[14] Loan Loss Reserve to be finalized as part of the FY2019 year-end accounting close

[15] This number includes energy and health and safety capital deployed.

[16] Energy and Health & Safety Capital Deployed is $2,948,967

Direct Job Years	20	215	234
Indirect & Induced Job Years	26	290	316
Lifetime Tons of CO2 Emissions	1,307	5,271	6,578

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Table 11. Multifamily Pre-Development Financing Overview for FY 2019

Program Data	Approved	Closed	Total
Projects	37	5	42
Installed Capacity (MW)	-	-	-
Lifetime Clean Energy Produced (MWh)	-	-	-
Annual Combined Energy Generated & Saved (MMBtu)	-	-	-
Subsidies ($'s)	$0	$0	$0
Credit Enhancement ($'s)	$0	$0	$0
Loans or Leases ($'s)	$64,540	$15,375	$79,915
Total Green Bank Investment ($'s)	$64,540	$15,375	$79,915
Private Capital ($'s)	$504,120	$247,875	$751,995
Direct Job Years	3	1	5
Indirect & Induced Job Years	4	2	6
Lifetime Tons of CO2 Emissions	-	-	-

Table 12. Multifamily Number of Units

	Approved[17]	Closed	Total
Affordable	1,491	2,225	3,716
Market Rate	811	-	811
Total # of Multifamily Units	2,302	2,225	4,527

For a breakdown of Multifamily volume and investment by census tracts categorized by Area Median Income bands and Distressed Communities as designated by DECD, see Tables 13 and 14. As a program predominantly focused on properties that serve low-to-moderate income residents, this table doesn't reflect the degree to which the goal of serving lower income residents is being met. The program is equally focused on affordable housing properties located in more affluent communities and census tracts that are housing families of lower incomes as it is on affordable housing properties in lower income census tracts.

Table 13. Multifamily Closed Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands

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MSA AMI Band	Total Owner/Rental Occupied 5+ Unit Households	% of Total HHs	# Project Units for FY 2019
<60%	86,225	37%	1,396
60%-80%	45,398	19%	104
80%-100%	49,125	21%	566
100%-120%	30,753	13%	60
>120%	22,618	10%	31
Total	234,119	100%	2,157

[17] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

MSA AMI Band	Total Owner/Rental Occupied 5+ Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
<60%	86,272	37%	1,396	65%	4,049	53%	46.9	$89,884,059	$1,041.87
60%-80%	43,920	19%	280	13%	925	12%	21.1	$10,664,008	$242.81
80%-100%	51,444	22%	390	18%	1,456	19%	28.3	$11,546,571	$224.45
100%-120%	32,673	14%	60	3%	747	10%	22.9	$8,556,412	$261.88
>120%	21,018	9%	31	1%	393	5%	18.7	$6,039,844	$287.37
Total	235,327	100%	2,157	100%	7,570	100%	32.2	$126,690,894	$538.36

Table 14. Multifamily Closed Activity in Distressed Communities

Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs	Cumulative Capital Deployed	Cumulative Capital Deployed / HHs
Distressed	438,710	32%	471	56%	1,487	59%	3.4	$41,087,114	58%
Not Distressed	916,003	68%	376	44%	1,017	41%	1.1	$29,799,943	42%
Total	1,354,713	100%	847	100%	2,504	100%	1.8	$70,887,057	100%

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Distressed Designation	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019
Distressed	438,710	32%	2,02
Not Distressed	916,003	68%	20
Total	1,354,713	100%	2,22

For a breakdown of the use of Green Bank resources for Residential Programs – see Table 15.

Table 15. Distribution of Green Bank Funds Invested in Projects and Programs through Subsidies, Credit Enhancements, and Loans and Leases for FY 2019[18]

Program	Subsidies		Credit Enhancements		Loans and Leases		Total
Smart-E Loan	$0	0%	($1,354,092)	100%	$0	0%	($1,354,092)
PosiGen	$0	0%	$0	0%	$7,623,000	100%	$7,623,000
Multifamily Term	$0	0%	$1,129	0%	$982,313	100%	$1,009,886
Multifamily Pre-Development	$0	0%	$0	0%	$15,375	100%	$15,375
Total	$0	0%	($1,352,963)	-18%	$8,620,688	120%	$7,294,170

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Of these programs, the following is a breakdown of their contributions made thus far towards the performance target and the human resources required to implement them (see Table 16):

Table 16. Program Progress Made for FY 2019[19]

Key Metrics	Smart-E	PosiGen	Multifamily Term[20]	Multifamily Pre-Dev	Total Program Progress
Date of Program Approval	Nov 2012	Jun 2015	Oct 2013 – Jan 2017	Oct 2013 – Oct 2015	

[18] Includes only closed transactions
[19] Includes only closed transactions
[20] Multifamily is a collection of individual programs, each with their own approval and launch dates.

Date of Program Launch	Nov 2013	Jul 2015	Oct 2013 – Jan 2017	Oct 2013 – Oct 2015
Ratepayer Capital at Risk	($1,354,092)	$7,623,000	$1,009,886	
Private Capital	$11,408,338	$17,082,404	$34,446,598	
Deployed (MW)	0.9	6.0	0.3	
# of Loans/Installations	838	847	14	
Lifetime Production (MWh)	59,268	262,407	9,784	
Annual Combined Energy Generated & Saved (MMBtu)	12,153	35,743	299,001	

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"Top 5" Headlines

The following are the "Top 5" headlines for Residential Sector Programs for FY 2019:

1. PosiGen $90M credit facility means more solar in CT credit

   Hartford Business Journal

   Together the Connecticut Green Bank, Inclusive Prosperity Capital, and asset manager LibreMax Capital provide $90 million, three-year credit facility to help continue its work leasing solar panels to low-and-moderate households in Connecticut.

2. Connecticut Green Bank makes intentional effort to boost solar energy in communities of color

   Solar Builder

   Connecticut is bucking a national trend of disparity when it comes to solar adoption among communities of color, according to figures released today by the Connecticut Green Bank. A primary driver of democratized access to solar energy in the state has been the Green Bank and PosiGen's Solar for All program. The Solar for All program has been even more successful than the overall RSIP program in reaching communities of color. PosiGen has more projects per home in majority Black (1275%), Hispanic (408%) and No Majority race (427%) neighborhoods than in majority White neighborhoods.

3. Duncklee Receives Top Performer Award from Connecticut Green Bank Providing customers with loans for high-efficiency HVAC equipment

   ACHR News

   Duncklee Inc. received the Top Performer award from Connecticut Green Bank (CGB).Duncklee and CGB teamed up with Core Plus Credit Union to offer consumers efficient heating and cooling systems with low-interest financing.

4. Solar for All? Removing Financial Obstacles to Green Energy

More than a dozen states are investing in programs to make clean energy available to low- and moderate-income households

NBC News

Connecticut has a program in which solar panels are leased to low- and moderate-income families through a non-profit organization called Inclusive Prosperity Capital, which was spun off from the Connecticut Green Bank and PosiGen Solar and Energy Efficiency. PosiGen started in New Orleans as the city rebuilt after Hurricane Katrina and found that thousands of homeowners who wanted to install solar panels and make their homes more energy efficient but could not.

5. Hartford Habitat for Humanity Celebrates its 30th Anniversary with Unveiling of First Zero Energy Ready Home

   North American Clean Energy

   Hartford Area Habitat for Humanity and partners Eversource, Home Energy Technologies, PosiGen and Connecticut Green Bank recently celebrated the construction of Habitat's first Zero Energy Ready Home, located at 153 Roosevelt Street in Hartford.

   Unveiled during a dedication ceremony on May 31, the Roosevelt Street home was built to U.S. Department of Energy Zero Energy Ready home standards, and is so energy efficient it can offset all or most of its energy consumption.

Lessons Learned

Based on the implementation of the Residential Sector Programs thus far, the following are the key lessons learned:

Residential 1-4

- **Despite competition in the market, contractors continued using Smart-E.** The solar financing market has blossomed in the last twelve months which has drawn local solar installers away from local products like the Smart-E Loan and to bigger national financing options though several preferred the Smart-E Loan due to the contractor funded IRB option, no additional contractor fees, and the timeliness and transparency on payments they are owed. HVAC and home performance contractors and their customers prefer that Smart-E has no down payment requirement and that the loan has flexibility in eligible measures and underwriting criteria.

- **Smart-E Lender mix is susceptible to mergers and lender changes in strategy.** Smart-E lost two lenders in FY 2019 due to strategic changes on those institutions. Staff has learned how to deal with these events in ways that don't impact the overall program, and expects that this will happen periodically. One of the more active community banks was acquired by a larger regional bank that does not offer unsecured personal loans. Smart-E's longest participating lender left the program after their loan committee

approved an increase in interest rates across all unsecured loan products, exceeding the Smart-E not to exceed rates. This lender is still taking limited applications from their top two performing contractors at the agreed upon not to exceed rates.

- **PosiGen is driving expansion of solar to communities of color because of green jobs.** PosiGen is the primary driver in eliminating the income and racial disparity in solar adoption in Connecticut, contrasting national trends. The company's community-driven marketing approach has been successful at reaching underserved customer segments. Similarly, their hiring approach has been to hire within the communities they are active, including their headquarters in Bridgeport and the newly opened second office in Hartford. PosiGen's commitment to market and hire within diverse communities underpins the trends we are seeing in solar deployment.

Multi-Family

Steady (and significant) progress continues to be made against heavy trade winds… Despite the challenges of this sector, since inception in 2014, the Green Bank's multifamily loan programs have touched about 4.5% of all multifamily units in CT that serve low- and moderate-income residents (approx. 6,600 units).

- **FY'19 has been a Year of Transition & Evolution.** FY'19 has been a year of transition and evolution for the multifamily team. In response to the deep budget cuts at Green Bank in response to the legislative sweeps, we must find more effective ways to juggle the dynamic tension between delivering "inclusive prosperity" to the low-income multifamily sector that often requires: subsidized debt/ low returns, costly technical assistance, and high risk while ensuring that our programs evolve to become financially sustainable in the next 3 to 4 years. During FY'19 we critically evaluated how we run the business, our customers' experience (through in-depth surveys) as well as what is working well and what is not. The insights described below reflect our learnings and the ways we are responding/ adjusting. The second significant, and related, transition has been the transfer of Green Bank's multifamily programs to Inclusive Prosperity Capital. This transfer will be completed when Green Bank's Director of Multifamily Housing moves over to IPC in August of 2109.

- **Multifamily Pipeline Continues to Progress Steadily.** We continue to provide pre-development loans, term financing for energy and related health and safety measures, and solar PPA's. The 19 multifamily loans closed in FY'19 represent an even mix of pre-development loans, LIME and Health and Safety loans and solar PPAs. Four (4) of the 19 projects received pre-development loans and technical assistance from Green Bank, but funded implementation from other sources including CHFA, DOH, private banks and reserves. One of these projects, Columbus Commons, located in downtown New Britain is CT's first passive house mixed-income development. Projects continue to take a year or more to close after initial inquiry and many of our projects continue to require significant technical assistance to nurture through the application, project development and closing process. We continue to support several distressed coops – enabling preservation of this important affordable housing resource through our programs. Deal volume remains steady. We expect to close on a similar number of projects in FY'20.

- **Customer Journey Analysis Provides Direction for Improvement.** In January 2019, the Multifamily team embarked on an introspective evaluation of the customer

experience with the goal of identifying pain points and opportunities for improvement. The survey contained more than 30 questions focusing on their organization and property, program experience, barriers and opportunities, and psychographics. The resulting analysis uncovered several areas for improvement, including examining our program guidelines, documentation and messaging (particularly our solar PPA program) with an eye towards clarity and consistency, and the importance of continuing to create a more customer-centric approach throughout the process.

- **Products Continue to Evolve Based on Customer and Other Market Feedback.** At the request of the utility companies and others, we are expanding the LIME Loan program to serve all multifamily properties in CT including market rate properties as well as properties with tenant paid utilities. Adjustments have been made to the underwriting process that specifically address the split incentive issues presented by properties with tenant paid utilities. We will launch a marketing campaign for the new program in FY'20 once the LIME Loan program is adequately capitalized.

  The Sherpa Loan Program is being discontinued as of July 1, 2019. Although the concept of a one-stop, trusted professional to support owners through the project analysis, design, funding and implementation process is needed in the multifamily sector, Sherpa has proven to be complex, cumbersome, and expensive to execute. We will continue to offer the Navigator Pre-Development Loan program and integrate key elements of the Sherpa Program in where possible.

Residential Sector Programs FY 2020 Targets

Of the 4 program areas being implemented in the Residential Sector Programs, the following is a breakdown of the key targets for each program (see Table 17):

Table 17. Number of Projects, Capital Deployed, and Clean Energy Deployed (MW)

Program	# of Projects	Capital Deployed	Clean Energy Deployed (MW)
Smart-E Loan	540	$7,182,000	0.5
PosiGen Solar for All	615	$17,202,165	4.2
Multifamily Term Loans	9	$1,493,000	0.3
Multifamily Predevelopment Loans	2	$140,000	-
Multifamily Health & Safety	2	$110,000	-
Total	**1,168**	**$26,127,165**	**5.0**

For Residential Sector Programs, there are 13.2 full time equivalent staff members supporting four (4) different products and programs. In addition, staff also support ongoing asset management operations of closed programs CT Solar Lease and CT Solar Loan.

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

CONNECTICUT GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank

From: Lucy Charpentier, Mackey Dykes, Bryan Garcia, Eric Shrago, and Nicholas Zuba

Cc Brian Farnen and Bert Hunter

Date: October 15, 2019

Re: Commercial, Industrial and Institutional Sector Programs – Program Performance towards Targets for FY 2018 - Restated

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Overview

Pursuant to Public Act 12-2, the Connecticut Green Bank ("Green Bank") launched the Commercial and Industrial Property Assessed Clean Energy (C-PACE) program in January 2013. C-PACE is a statutorily mandated program that was the primary commercial and industrial (C&I) financing product in the comprehensive plan and budget for fiscal years 2017 through 2019. In addition to C-PACE, the Green Bank invests in and helps develop C,I,&I solar Power Purchase Agreement projects and, this year, sourced capital to enable the utility-run, Small Business Energy Advantage program to operate at a lower cost to ratepayers.

For program descriptions and information on the Total Addressable Market and Serviceable Addressable Market (SAM), please see the FY 2017 through FY 2019 Comprehensive Plan.

Performance Targets and Progress

With respect to the Comprehensive Plan approved by the Board of Directors of the Green Bank on July 21, 2017 and revised on July 28, 2018,[1] the following are the performance targets for FY 2019 and progress made to targets for the Commercial, Industrial and Institutional Sector Programs (see Table 1) as of June 30, 2019.

Table 1. Program Performance Targets and Progress Made to the Comprehensive Plan for FY 2019

Key Metrics	Program Performance Original Targets (as of 07/01/18)	Program Performance Revised Targets (of 07/01/18)	Program Progress[2]	% of Goal
Capital Deployed[3]	$33,082,500	$33,082,500	$79,021,879	239%

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[1] For mid-year revisions to budget and targets, see "Q2 Progress to Targets" memo of January 19, 2018 on page 74 – click here

[2] Includes only closed transactions

[3] Capital Deployed is used to measure Investment actuals to targets and it includes fees related to financing costs and adjustments for Fair Market Value which are not included in the Gross System Cost. It represents: the Fair Market Value for Commercial/Residential Leases, the Amount Financed or Gross System Cost (whichever is greater) for CPACE, the Amount Financed for Residential financing products and the Gross System Cost for all other programs.

Investment at Risk[4]			$16,960,360	
Private Capital[5]			$62,061,159	
Deployed (MW)	10.6	10.6	8.1	77%
# of Loans/Projects	73	73	4,389	6012%
Leverage Ratio			4.7	

In summary, for Commercial, Industrial and Institutional Sector Programs in FY 2019, there were 4,389 projects (achieving over 6,000% of the goal) requiring $79.0M of investment (achieving 239% of the goal) that led to the deployment of 8.1 MW of clean energy (achieving 77% of the goal), that delivered a leverage ratio of 4:7 for private to public funds invested.

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Executive Summary for the CI&I Sector Programs

The following is a bulleted executive summary of the Infrastructure Sector Programs:

- Increased outreach and awareness of C-PACE for New Construction, building and cultivating new architect, developer, and project management relationships to build pipeline for FY20
- Higher activity from 3rd party capital providers than in any other fiscal year, with five new capital providers added in FY19 and a new capital provider closed on their first transactions in FY19.
- 13% of the C-PACE project in FY19 included efficiency, falling below the overall program average of 26%
- Surpassed the Green Bank capital deployed goal for C-PACE. Continuing to meet this goal and build revenue-producing assets for Green Bank is a key component of the sustainability goal.
- Deployed Onyx tax equity funds to support Commercial and Institutional Lease program, successfully closing a large new PPA project using these funds in FY19
- Completed a back-leveraged asset sale of six PPA projects to a new commercial and industrial solar market partner, Sunwealth, obtaining a development fee, utilizing Green Bank debt and retaining 10% of residual cashflows from the projects.
- Advanced negotiations with another new partner, Bright Community Capital, for the sale of fourteen PPA projects in exchange for a development fee, revenue from asset management support services, and interest income from the deployment of Green Bank debt in the transaction.
- 6 of the 8 Connecticut State Colleges & Universities (CSCU) solar PPA projects went into commercial operation in FY19. The CSCU portfolio is 4.6 MW in size and makes use of Clean Renewable Energy Bonds that were purchased by Banc of America Leasing & Capital.
- Closed on a $50m facility with Amalgamated bank to reduce the cost and expand the availability of capital for Eversource's Small Business Energy Advantage Program (SBEA).

[4] Includes funds from the Clean Energy Fund, RGGI allowance revenue, repurposed ARRA-SEP funds, and other resources that are managed by the Connecticut Green Bank that are committed and invested in subsidies, credit enhancements, and loans and leases.

[5] Private Investment is based on the Gross System Cost and includes adjustments related to financing costs or Fair Market Value.

- Closed on the first two loan purchases for the SBEA for a total of around 4,000 loans and nearly $41m in funding

---

Commercial, Industrial and Institutional Sector Programs

The following are brief descriptions of the progress made under the last comprehensive plan in the Commercial, Industrial and Institutional Sector Programs:

- **C-PACE** – Commercial Property Assessed Clean Energy (C-PACE) is an innovative financing program that is helping commercial, industrial and multi-family property owners access affordable, long-term financing for smart energy upgrades to their buildings (see Table 2).

Table 2. C-PACE Overview for FY 2019

Program Data	Approved[6]	Closed	Total
Projects	10	38	48
Installed Capacity (MW)	2.5	5.4	7.9
Lifetime Clean Energy Produced (MWh)	69,865	208,605	278,469
Annual Combined Energy Generated & Saved (MMBtu)	11,114	21,290	32,404
Subsidies ($'s)	$0	$0	$0
Credit Enhancement ($'s)	$0	$0	$0
Loans or Leases ($'s)	$4,387,753	$8,291,517	$12,679,270
Total Green Bank Investment ($'s)	$4,387,753	$8,291,517	$12,679,270
Private Capital ($'s)	$6,175,290	$14,336,972	$20,512,262
Direct Job Years	41	64	105
Indirect & Induced Job Years	53	82	136
Lifetime Tons of CO2 Emissions	37,641	73,689	111,330

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C-PACE has been used to fund projects in economically diverse locations across the state as reflected by Table 3 for Metropolitan Statistical Area (MSA) Area Median Income (AMI) and Table 4 for Distressed Communities as designated by DECD. It should be noted that C-PACE is not an income targeted program.

[6] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

Table 3. C-PACE Closed Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands

MSA AMI Band	Total Population	% of Total Population	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 People	Cumulative Capital Deployed	Cumulative Capital Deployed / Population
<60%	663,181	18%	14	38%	63	24%	0.1	$36,522,036	$55.07
60%-80%	488,396	14%	3	8%	33	13%	0.1	$13,049,782	$26.72
80%-100%	612,043	17%	9	24%	44	17%	0.1	$33,649,332	$54.98
100%-120%	722,803	20%	8	22%	53	20%	0.1	$27,054,137	$37.43
>120%	1,099,277	31%	3	8%	68	26%	0.1	$42,898,274	$39.02
Total	3,585,700	100%	37	100%	261	100%	0.1	$153,173,561	$42.72

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MSA AMI Band	Total Population	% of Total Population	# Project Units for FY 2019
<60%	649,617	18%	13
60%-80%	509,088	14%	5
80%-100%	641,084	18%	7
100%-120%	653,309	18%	5
>120%	1,126,543	31%	5
Total	3,579,641	100%	36

Table 4. C-PACE Closed Activity in Distressed Communities

Distressed Designation	Total Population	% of Total Population	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 People	Cumulative Capital Deployed	Cumulative Capital Deployed / Population
Distressed	1,162,653	32%	18	47%	94	35%	0.1	$69,923,921	$60.14
Not Distressed	2,425,917	68%	20	53%	176	65%	0.1	$88,607,248	$36.53
Total	3,588,570	100%	38	100%	270	100%	0.1	$158,531,169	$44.18

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Distressed Designation	Total Population	% of Total Population	# Project Units for FY 2019
Distressed	1,162,653	32%	16
Not Distressed	2,425,917	68%	20
Total	3,588,570	100%	36

- **CT Solar Lease (Commercial)** – a third-party ownership offering that combines public and private funding through the Connecticut Solar Lease Program to provide Power Purchase Agreements (PPAs) for solar PV to creditworthy commercial and industrial, as well as nonprofit, municipal, and multifamily housing, end-users of electricity (see Table 5). This program supports solar PV projects between 50 kW - 2 MW in size – with an average size of 200 kW. Following a strategic decision not to enter into a new tax equity funding structure after the CT Solar Lease 3 fund closed in September 2018, Green Bank will continue to serve the market with our PPA product through Inclusive Prosperity Capital.

Table 5. CT Solar Lease Overview for FY 2019

Program Data	Approved[7]	Closed	Total
Projects	-	20	20
Installed Capacity (MW)	-	4.1	4.1
Lifetime Clean Energy Produced (MWh)	-	117,840	117,540
Annual Combined Energy Generated & Saved (MMBtu)	-	10,453	10,453
Subsidies ($'s)	$0	$0	$0
Credit Enhancement ($'s)	$0	$0	$0
PPAs ($'s)	$0	$8,069,003	$8,069,003
Total Green Bank Investment ($'s)	$0	$8,069,003	$8,069,003

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[7] This represents projects that are currently approved in FY19 but not closed. It does not include projects that were approved but have since closed.

Private Capital ($'s)	$0	$5,352,342	$5,352,342
Direct Job Years	-	16	16
Indirect & Induced Job Years	-	20	20
Lifetime Tons of CO2 Emissions	-	63,488	63,488

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The CT Solar Lease program has been used to fund projects in economically diverse locations across the state as reflected by Table 6 for Metropolitan Statistical Area (MSA) Area Median Income (AMI) and Table 7 for Distressed Communities as designated by DECD. It should be noted that C-PACE is not an income targeted program.

Table 6. CT Solar Lease Closed Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands

MSA AMI Band	Total Population	% of Total Population	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 People	Cumulative Capital Deployed	Cumulative Capital Deployed / Population
<60%	663,181	18%	6	30%	16	13%	0.0	$10,420,142	$15.71
60%-80%	488,396	14%	1	5%	11	9%	0.0	$9,062,853	$18.56
80%-100%	612,043	17%	3	15%	18	15%	0.0	$22,328,371	$36.48
100%-120%	722,803	20%	4	20%	29	24%	0.0	$20,235,931	$28.00
>120%	1,099,277	31%	6	30%	49	40%	0.0	$40,549,309	$36.89
Total	3,585,700	100%	20	100%	123	100%	0.0	$102,596,605	$28.61

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MSA AMI Band	Total Population	% of Total Population	# Project Units for FY 2019
<60%	649,617	18%	6
60%-80%	509,088	14%	1
80%-100%	641,084	18%	3
100%-120%	653,309	18%	3
>120%	1,126,543	31%	7
Total	3,579,641	100%	20

Table 7. CT Solar Lease Closed Activity in Distressed Communities

Distressed Designation	Total Population	% of Total Population	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 People	Cumulative Capital Deployed	Cumulative Capital Deployed / Population
Distressed	1,162,653	32%	6	30%	23	19%	0.0	$26,629,971	$22.90
Not Distressed	2,425,917	68%	14	70%	100	81%	0.0	$75,966,634	$31.31
Total	3,588,570	100%	20	100%	123	100%	0.0	$102,596,605	$28.59

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Distressed Designation	Total Population	% of Total Population	# Project Units for FY 2019
Distressed	1,162,653	32%	6
Not Distressed	2,425,917	68%	14
Total	3,588,570	100%	20

For a breakdown of the use of the Green Bank resources for Commercial, Industrial and Institutional Programs, see table 8 below.

Table 8. SBEA Overview for FY 2019

Program Data	Approved	Closed	Total
Projects	-	4,339	4,339
Loans or Leases ($'s)	$0	$4.486.648	$4.486.648
Total Green Bank Investment ($'s)	$0	$4.486.648	$4.486.648

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Of these programs, the following is a breakdown of their contributions made thus far towards the performance target and the human resources required to implement them (see Table 9):

Table 9. Distribution of Green Bank Funds Invested in Projects and Programs through Subsidies, Credit Enhancements, and Loans and Leases for FY 2019

Program	Subsidies		Credit Enhancements		Loans and Leases		Total[8]
C-PACE	$0	0%	$0	0%	$8,291,517	100 %	$8,291,517
CT Solar Lease	$0	0%	$0	0%	$8,069,003	100 %	$8,069,003
SBEA	$0	0%	$0	0%	$4.486.648	100 %	$4.486.648
Total*	$0	0%	$0	0%	$16,960,630	100 %	$16,960,630

Table 10. Program Progress Made in FY 2019[9]

Key Metrics	C-PACE	Commercial Lease	SBEA	Total Program Progress[10]
Date of Program Approval	Sep-2012	Jun-2013		
Date of Program Launch	Jan-2013	Sep-2013		
Ratepayer Capital at Risk	$8,291,517	$8,069,003	$4,486,648	$16,960,630
Private Capital	$14,336,972	$5,352,342	$43,194,557	$62,061,159
Deployed (MW)	5.4	4.1	-	8.1
# of Loans/Installations	38	20	-	4,389
Lifetime Production (MWh)	208,605	117,840	0	285,191
Annual Combined Energy Generated &	21,290	10,453	0	31,743

[8] Totals are adjusted to remove projects that overlap programs.
[9] Includes only closed transactions
[10] Totals are adjusted to remove projects that overlap programs.

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"Top 5" Headlines
The following are the "Top 5" headlines for Commercial, Industrial and Institutional Sector Programs for FY 2018:

1. **Connecticut net metering is safe until after 2021 due to law reversal** 6/5/19
   SOLAR POWER WORLD
   The 2018 Connecticut state law that would have ended net metering was reversed before it had a chance to take effect. On June 4, the Connecticut Senate voted 32-1 to pass HB 5002, which rescinds a 2018 state law that called for sunsetting net metering this fall.

2. **Connecticut Green Bank Presents 2018 PACEsetter Awards** 3/27/19
   BOSTON HERALD
   The Connecticut Green Bank has announced the winners of the 2018 PACEsetter Awards. The Connecticut Green Bank created the PACEsetter Awards to acknowledge contractors, building owners and other stakeholders who are advancing the green energy movement through C-PACE

3. **Middlesex Community College Unveils New Solar Energy System** 11/9/18
   PATCH
   The new energy system will reduce MxCC's reliance on utility-generated power and is expected to offset about 8.5 percent of the annual electricity consumption on campus, saving an average of $11,000 per year over the next 20 years.

4. **Southington company fully powered by solar** 11/16/18
   MYRECORDJOURNAL.COM
   year. Sign Pro used the state's C-PACE program with the **Connecticut Green Bank** and was financed by Greenworks, a Darien company. Greenworks...

5. **American Cities Climate Challenge PACE Roundtable in NYC** **6/5/19**
   NRDC BLOG
   Riding a strong tailwind from recent climate and sustainability legislative successes, earlier this month, the Bloomberg American Cities Climate Challenge brought its PACE (Property Assessed Clean Energy) Financing Cohort to New York for an intensive, dialogue-driven Roundtable with the four cities pursuing PACE—Atlanta, Columbus, Pittsburgh and San Antonio—and a collection of senior professionals and industry luminaries, including: New York City Energy Efficiency Corporation, PACENation, the Connecticut Green Bank, Inclusive Prosperity Capital, Energize NY, Greenworks Lending and PACE Financing Services.

Lessons Learned

Based on the implementation of the Commercial, Industrial and Institutional Sector Programs thus far, the following are the key lessons learned:

- **Contractors are vital to improving the C-PACE Program** – While contractors remained to be a key component to the growth of C-PACE in FY19, they also played an important role in helping improve the development of the program. In December 2018,

contractors were solicited to provide vital feedback on improving the C-PACE Program through a series of scheduled focus groups. This included providing helpful ideas on improving the C-PACE process, proposing campaign ideas, and how Green Bank can be better partners and a resource to contractors in the field. The C-PACE team took their feedback and have used this to begin developing the first major changes to the program's process in a number of years and developing new campaign ideas that will be unveiled in FY20.

- **Open Market** – Connecticut's open market platform continues to attract capital providers to Connecticut, seeing the largest single fiscal year growth of new lenders in the program's history (five capital providers registered in FY19). One of these new lenders closed on their first C-PACE transactions in Connecticut (Twain Financial Partners) in FY19. The influx of new capital providers in the program, along with these same new lenders closing on and building pipeline of their own C-PACE transactions, builds momentum to scale up and grow the C-PACE Program in FY20 and beyond. In an effort to also improve the program's financial sustainability, a new capital provider fee structure was created in FY19 (with implementation beginning in FY20) to better recover Green Bank-incurred costs on third party capital provider-funded projects.

- **Portfolio owners are a key component to scaling C-PACE** – The Green Bank has been doing more projects with portfolio property owners and are pursuing opportunities to attract other portfolio owners into the program. For example, in FY19, the Green Bank closed on multiple C-PACE projects with a national CRE firm both headquartered and with a large portfolio of buildings in Connecticut, who had closed on their first C-PACE transaction in FY18. Bringing in portfolio owners for a first good C-PACE experience could translate into opportunities for them to use C-PACE for other properties they own in Connecticut. Partnering with these firms and having this level of success could scale up the growth of the C-PACE Program in years to come.

- **Green Bank Solar PPA** – As this product has grown, it has become increasingly clear that a hands-on approach to the development and financing of commercial-scale PPA projects is a key to the Green Bank's success with this program. From credit underwriting to document negotiation to contractor management, these projects do best when the Green Bank can bring a combination of programmatic discipline and market-driven flexibility to solve problems and bring projects across the finish line. While we need to continue to streamline our processes to achieve scale and enhance our asset management capabilities as program volume has grown, the Green Bank PPA remains a popular product in an underserved market and a source of positive net cash flow for the organization.
  Green Bank continues to make progress on using the PPA to open up the state building portfolio for solar. Green Bank is working with the Department of Corrections and DEEP on a pilot portfolio of approximately 7 MWs. Green Bank also began offering similar assistance to municipalities and is currently working with several to aggregate projects for an RFP for EPC services that will result in projects financed by Green Bank.

Commercial, Industrial, and Institutional Sector Programs FY 2020Targets

Of programs being implemented in the Commercial, Industrial, and Institutional Sector Programs, the following is a breakdown of the key targets (see Table 10):

Table 10. Number of Projects, Capital Deployed, and Clean Energy Deployed (MW)

Program	# of Projects	Capital Deployed	Clean Energy Deployed (MW)
C-PACE	56	$22,000,000	5.6
CT Solar Lease	34	$28,125,000	12.7
SBEA	1,000	$20,000,000	-
Total[11]	**1,075**	**$65,625,000**	**16.3**

For Commercial, Industrial, and Institutional Sector Programs, there are 13 full time equivalent staff members supporting three (3) different products and programs.

[11] Totals are adjusted to remove projects that overlap programs.

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

CONNECTICUT GREEN BANK

Memo

To: Connecticut Green Bank Board of Directors

From: Eric Shrago, Director of Operations

CC: Bryan Garcia, President and CEO

Date: October 25, 2019

Re: Fiscal Year 2019 Q4 Progress to Targets - Restated

Deleted: July 18, 2019

The following memo outlines Connecticut Green Bank (CGB) progress to targets for Fiscal Year (FY) 2019 as of June 30, 2019.

Infrastructure Sector

The Infrastructure sector includes the Residential Solar Investment Program (RSIP), which exceeded its target, in terms of projects, capital and capacity by 6%, 13% and 12% respectively. Project volume and capacity were the highest since inception of RSIP in FY12, with FY19 approvals of 46% more project volume and 52% more capacity than the 5,241 projects and 42.7 MW approved in FY18, and 12% higher by volume and 22% higher by capacity than the previous program high of 6,807 projects and 53.4 MW approved in FY16.[1]

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Project approvals for all incentive types – EPBB, PBI and LMI-PBI were strong in FY19, with an especially high volume of PBI projects including contributions from new installers, as well as increased volume across the program. Several factors contributed to high activity in the market including:

- A push to get projects approved before RSIP reached its target of 300 MW - it was not until the end of legislative session that PA 19-35[2] passed (and was later signed by Governor Lamont on June 28, 2019) extending RSIP to 350 MW.
- RSIP incentive levels have been maintained at Step 14 since September 2018, providing market continuity.
- The anticipated end of net metering, which had been scheduled to take place at the end of RSIP, but which was delayed until December 31, 2021 by PA 19-35.
- General policy uncertainty around the structure, incentive levels, timing and implementation aspects for the tariff-based compensation structure put forth in Section 7 of PA 18-50 that was to replace net metering.
- The scheduled step-down in the Federal investment tax credit (ITC) from 30% to 26% starting in 2020, which will be followed by a step down to 22% in 2021, and a final step down to 0% for homeowner-owned projects and 10% for third-party owned projects in 2022.

[1] Note that project volume and capacity approved in prior fiscal years may have changed since previously reported due to project cancellations that may happen before projects reach completion.
[2] PA 19-35: https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf, "An Act Concerning a Green Economy and Environmental Protection."

- An unseasonably mild winter which allowed for higher activity and less slow down than usual.
- While import tariffs affected the solar PV industry broadly, the impact on the residential market was the most diluted, with installed costs having some volatility over the past few years, but overall increasing only slightly from approximately $3.35/W on average in FY17 to $3.45/W in FY18, and almost leveling off to $3.50/W in FY19. Associated with the import tariffs has also been a stockpiling of PV modules across the industry.

Table 1. Infrastructure Sector FY 2019 Progress to Targets

	Projects			Capital Deployed			Capacity (MW)		
Product/Program	**Closed**	**Target**	**% to Target**	**Closed**	**Target**	**% to Target**	**Closed**	**Target**	**% to Target**
RSIP	7,657	7,250	106%	$229,643,988	$203,000,000	113%	65.1	58.0	112%
Infrastructure Total	7,657	7,250	106%	$229,643,988	$203,000,000	113%	65.1	58.0	112%

Residential Sector

Smart-E targets performance to date has exceeded expectations both on number of projects and capital deployed due to strong HVAC and home performance volume from several new contractors and many existing contractors who have continued to use the product.

The Low-to-Moderate-Income (LMI) lease program offered through PosiGen has met and surpassed its goals. The program has surpassed its goals in 3 of the 4 quarters. This is due to strong outreach, successful Solar for All campaigns (Hamden, Greater Hartford, Middletown), and the alignment of campaign participation with the Sustainable CT program, boosting visibility with member municipalities.

The Multifamily Program achieved and exceeded the FY'19 program goals. The sector met its project count goal, closing 19 projects, and catalyzed $3.3M in pre-development, energy and health and safety capital deployed, exceeding the target of $2.57M by 1.3. Total capital deployed in all projects was $34,446,598. Multifamily successfully began deploying the EnergizeCT Health and Safety Revolving Loan Fund for multifamily properties using $1.5 million from DEEP after a slow start in FY'18 due to challenges in this market. It closed $235,000 in loans, touching 950 units, with a pipeline building behind these.

MFH # of Units	Closed
Affordable	2.225
Market Rate	0
Total	**2.225**

Table 2. Residential Sector FY 2019 Progress to Targets

	Projects	Capital Deployed	Capacity (MW)

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Product/Program	Closed	Target	% to Target	Closed	Target	% to Target	Closed	Target	% to Target
Smart-E	838	540	155%	$10,824,555	$8,775,000	123%	0.9	1.3	69%
Low Income Loans/Leases	847	586	145%	$24,705,401	$15,565,855	159%	6.1	3.6	156%
Multi-Family Pre-Development	5	4	125%	$263,250	$70,000	376%	0.0	0.0	0%
Multi-Family Term	14	15	93%	$35,428,911[3]	$2,500,000	1417%	0.3	0.1	344%
Residential Total	1,704	1,145	149%	$71,222,116	$26,910,855	265%	7.2	5.0	144%

Table 3. Smart-E Channels

Smart-E Loan Channels	Closed	% of Loans
EV	1	0%
Home Performance	69	8%
HVAC	652	78%
Solar	93	11%
(blank)	23	3%
Total	838	100%

Commercial, Industrial, & Institutional Sector

The C-PACE program closed 38 projects (67% of the annual target), while the amount of capital deployed was $22,628,489 (94% of the annual target).

The Commercial Lease products, CT Solar Lease III and Onyx, closed 20 projects (80% of the annual target), while the amount of capital deployed was $13,421,345 (95% of the annual target).

Table 4. Commercial, Industrial and Institutional Sector FY 2019 Progress to Targets

	Projects			Capital Deployed			Capacity (MW)		
Product/Program	**Closed**	**Target**	**% to Target**	**Closed**	**Target**	**% to Target**	**Closed**	**Target**	**% to Target**
CPACE	38	57	67%	$22,628,489	$24,082,500	94%	5.4	6.6	83%
Commercial Lease	20	25	80%	$13,421,345	$14,062,500	95%	4.1	6.3	66%
SBEA	4,339	-	-	$47,681,205	-	-	-	-	-
CI&I Total	**4,389**	**73**	**6012%**	**$79,021,789**	**$33,082,500**	**239%**	**8.1**	**10.6**	**77%**

[3]Energy and Health & Safety Capital Deployed is $2,948,967.

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CGB Total

Table 5. CGB FY 2019 Progress to Targets

	Projects			Capital Deployed			Capacity (MW)		
Sector	**Closed**	**Target**	**% to Target**	**Closed**	**Target**	**% to Target**	**Closed**	**Target**	**% to Target**
Infrastructure	7,657	7,250	108%	$229,643,988	$203,000,000	113%	65.1	58.0	112%
Residential	1,704	1,145	149%	$71,222,116	$26,910,855	265%	7.2	5.0	144%
Commercial, Industrial and Institutional[4]	4,389	73	6012%	$79,021,789	$33,082,500	239%	8.1	10.6	77%
Other Strategic Investments	0	1	0%	$0	$15,000,000	0%	0.0	3.7	0%
CGB Total	12,815	7,748	165%	$351,734,649	$258,917,500	136%	73.3	72.3	101%

** CGB Totals have been adjusted to avoid double counting RSIP projects using residential financing products and commercial solar lease projects using CPACE.*

[4] Includes SBEA Program

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The Green Bank staff continues to work on a strategic fuel cell project expected to close this year on target with forecasts.¶

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Connecticut Green Bank

Loan Loss Reserve Analysis

As of June 30, 2019

Loan Program	Project	Dept	Program	Loan Portfolio Balance 7/1/2018	FY19 YTD Investments	FY19 YTD Repayments	Loan Portfolio Balance As of June 30, 2019	Loan Loss Reserve Balance 7/1/2018	FY19 YTD (Additions)/ Reductions to Reserve	FY19 YTD Portfolio Loan Write-Offs	Loan Loss Reserve Balance As of June 30, 2019	Reserve as a % of Portfolio Balance	Write-offs as a % of Portfolio Balance	Loan Portfolio Carrying Value As of June 30, 2019
CPACE Program	Various	CI&I	51800-C&I CPACE	$ 25,225,460	$ 19,116,597	$ (870,886)	$ 43,471,171	$ (2,522,546)	$ (1,730,800)	$ (93,771)	$ (4,347,117)	10.0%	0.2%	$ 39,124,054
Fuel Cell Projects	Fuel Cell Energy	Other Pgms	51600-Loans Commercial	6,026,165	-	(107,415)	5,918,750	(1,205,233)	21,483	-	(1,183,750)	20.0%	0.0%	4,735,000
	Fuel Cell Energy Bridge Loan	Other Pgms	51600-Loans Commercial	-	1,800,000		1,800,000	-	(180,000)	-	(180,000)	10.0%	0.0%	1,620,000
	FEC-Triangle	Other Pgms	51600-Loans Commercial	-	-	-	-	-	-	-	-	0.0%	0.0%	-
CHP Pilot	Bridgeport MicroGrid	SI	51300-MicroGrid / CHP Pilot	489,121	-	(20,666)	468,455	(48,912)	2,067	-	(46,845)	10.0%	0.0%	421,609
Anaerobic Digester	Quantum Biopower	SI	51200-Anaerobic Digester Pilot	1,797,663	-	(133,160)	1,664,503	(179,766)	13,316	-	(166,450)	10.0%	0.0%	1,498,052
Other Loans	Nu Power Thermal	Other Pgms	50800-Grid-Tied R.E. Projects	155,205	110,493	-	265,698	(155,204)	(110,493)	-	(265,697)	100.0%	0.0%	1
	Kresge Loans	CI&I	51810-C&I New Product Develop.	-	-	-	-	-	-	-	-	0.0%	0.0%	-
	Terrace Heights Condos	CI&I	51810-C&I New Product Develop.	89,000	-	-	89,000	(8,900)	-	-	(8,900)	10.0%	0.0%	80,100
Multifamily / Affordable Housing / Credit Challenged / LMI	Capital for Change	Multi	52230-CHIF Multifamily PEL	3,178,596	450,000	(139,070)	3,489,526	(317,860)	(31,093)	-	(348,953)	10.0%	0.0%	3,140,573
	Pre-Dev Loans	Multi	52250-Multifamily Programs	90,927	134,962	-	225,889	(18,185)	(26,992)	-	(45,178)	20.0%	0.0%	180,711
	Sherpa Loans	Multi	52250-Multifamily Programs	-	21,375	-	21,375	-	21,375	-	21,375	-100.0%	0.0%	42,750
	Posigen	Resi	52220-LMI Programs	6,819,075	9,677,640	(3,552,234)	12,944,481	(681,907)	(612,541)	-	(1,294,448)	10.0%	0.0%	11,650,033
Energy Efficiency	Univ of Hartford & Univ of New Haven	Other Pgms	51910-Campus Efficiency NOW	169,755	-	(118,981)	50,775	(16,976)	11,898	-	(5,077)	10.0%	0.0%	45,697
	RENEW Energy Efficiency Bridgeport	CI&I	51810-C&I New Product Develop.	130,000	-	-	130,000	(13,000)	-	-	(13,000)	10.0%	0.0%	117,000
Solar Hot Water	Two Roads Brewery	Other Pgms	51600-Loans Commercial	6,535	-	(6,535)	-	(327)	327	-	-	0.0%	0.0%	-
Alpha Program	Anchor Science	Other Pgms	50100-Alpha Program	150,000	-	-	150,000	(75,000)	-	-	(75,000)	50.0%	0.0%	75,000
Op Demo Program	New England Hydropower Co.	Other Pgms	50200-Op Demo Program	500,000	-	-	500,000	(499,999)	-	-	(499,999)	100.0%	0.0%	1
Wind Financing	Wind Colebrook	Other Pgms	50800-Grid-Tied R.E. Projects	2,350,263	72,667	(77,590)	2,345,341	(235,026)	492	-	(234,534)	10.0%	0.0%	2,110,806
Hydro Projects	Canton Hydro	Finance	52305-Hydro Projects	-	554,827	-	554,827	-	(55,483)	-	(55,483)	10.0%	0.0%	499,344
Sunwealth Note	Solar Project Financing	Finance	52200-Clean Energy Fin Pr	-	987,960	-	987,960	-	(98,796)	-	(98,796)	10.0%	0.0%	889,164
SBEA Loans	Eversource SBEA loans	CI&I	53002-SBEA	-	4,486,648	(978,150)	3,508,498	-	-	-	-	0.0%	0.0%	3,508,498
			Total:	$ 47,177,765	$ 37,413,170	$ (6,004,688)	$ 78,586,247	$ (5,978,841)	$ (2,775,240)	$ (93,771)	$ (8,847,852)	11.3%	0.1%	$ 69,738,395
			CPACE Loans	$ 25,225,460	$ 19,116,597	$ (870,886)	$ 43,471,171	$ (2,522,546)	$ (1,730,800)	$ (93,771)	$ (4,347,117)	10.0%	0.2%	$ 39,124,054
			Program Loans	$ 21,952,305	$ 18,296,572	$ (5,133,801)	$ 35,115,076	$ (3,456,295)	$ (1,044,440)	$ -	$ (4,500,735)	12.8%	0.0%	$ 30,614,341
			Total:	$ 47,177,765	$ 37,413,170	$ (6,004,688)	$ 78,586,247	$ (5,978,841)	$ (2,775,240)	$ (93,771)	$ (8,847,852)	11.3%	0.1%	$ 69,738,395

Analysis:

Number of loans written off:	None	Number of loans restructured:	1
Dollar amount of loans written off:	$ -	Dollar amount of restructure write-off:	$ 93,771
Write-offs as a percent of portfolio:	0.0%	Restructure write-offs as a percent of portfolio:	0.1%

845 Brook Street, Rocky Hill, CT 06067
T 860.563.0015
InclusiveProsperityCapital.org

INCLUSIVE
PROSPERITY CAPITAL

Memo

To: Bryan Garcia and Eric Shrago, Connecticut Green Bank

From: Inclusive Prosperity Capital Staff

Date: September 13, 2019

Re: IPC Quarterly Reporting – FY2019

Progress to targets for Fiscal Year 2019 (July 2018 – June 2019)[1]

Product	Number of Projects	Projects Target	% to goal	Total Financed Amount	Financed Target	% to goal	MW Installed	MW Target	% to goal
Smart-E Loan	838	540	155%	$10,824,555	$8,775,000	123%	0.9	1.3	69%
Multifamily Pre-Development	5	4	125%	$263,250	$70,000	376%	0.0	0.0	0%
Multifamily Term	14	15	93%	$35,428,911[2]	$2,500,000	1417%	0.3	0.1	344%
Solar PPA[3]	20	25	80%	$13,421,345	$14,062,500	95%	4.1	6.3	66%
Low income single family (PosiGen)	847	586	145%	$24,705,401	$15,565,855	159%	6.1	3.6	156%

For further detailed program statistics, please see the "Residential Sector Programs – Program Performance towards Targets for FY 2019 – Preliminary" submitted to the Board of Directors of the Connecticut Green Bank on July 18, 2019.[4]

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[1] P:\CleanEnergy\Database Reports\Monthly Reports\Sector Memos\FY 2019\#__CGB_Progress to Targets_Memo_FY 2019_063019_Restated.docx

[2] Energy and Health & Safety Capital Deployed is $2,948,967

[3] Includes all CGB commercial lease data

[4] P:\CleanEnergy\CGB Board\Board Materials\2019\7.18.19 BOD Meeting\3_Residential Sector_Program Performance Memo_FY 2019_063019_Prelim.docx

PSA 5410 – Smart-E Loan*

- **Volume**
  - Closed loans broken out as 78% HVAC, 11% solar, 8% home performance and 3% other
    - Strong HVAC volume despite competitive financing products in the market
    - Solar volume was low but consistently submitted by 2-3 contractors
- **Lenders**
  - Two lenders stopped taking applications in FY19, First National Bank of Suffield (acquired by PeoplesBank of Massachusetts) and CorePlus Credit Union (limited applications to two of their highest volume contractors)
  - Program staff worked extensively with a new national credit union focused on consumer energy lending interested in offering Smart-E Loans in Connecticut, with a targeted launch date of Q1 or Q2 of FY20
  - Capital for Change continued to top the list of lenders with 65% of closed loans and capital deployed
- **Contractors**
  - Program staff attended events throughout the fiscal year hosted at the request of industry partners to (e.g., utility program administrators and distributors) to train new contractors and provide refreshers on single-family residential financing programs.
- **New Platform**
  - Program staff worked to develop the NGEN platform ("National Green Energy Network") – the replacement to the Smart-E Loan's "Metis" platform, in advance of launching in the first fiscal quarter of 2020. The portal will add new functionality for contractors like electronic signature on completion documentation and more streamlined lender reporting and inspection processes, as well as provide a significant cost savings to the Green Bank.

PSA 5411 – Multifamily

- Achieved and exceeded Multifamily program goals. Met the project count goal, closing 19 projects, and catalyzed $3.3M in energy capital deployed, exceeding our target of $2.57M by 1.3X.
- Successfully began deploying the Energize CT Health and Safety Revolving Loan Fund for multifamily properties using $1.5 million from DEEP after a slow start in FY'18 due to challenges in this market. Closed $235,000 in loans, touching 950 units, with a pipeline building behind these.
- Completed an in-depth customer survey and focus groups to identify pain points and opportunities for customer facing improvements. This information learned is informing real time program adjustments and improvements.
- Developed and approved underwriting for the LIME Loan program to serve **ALL** multifamily properties in CT, including market rate properties and those with tenant paid utilities. (A marketing campaign will be launched in FY'20 once LIME is adequately capitalized.)
- Multifamily team was invited by several prominent national housing institutions develop and deliver training, using our programs and projects as case studies, which recognizes the

leadership role we are playing locally and nationally in "cracking the multifamily nut" to deploy clean energy financing.

PSA 5412 – Solar PPA

- IPC staff assisted the Green Bank in the sale of an approximately 1.00 MW portfolio of projects to SunWealth in December 2018, and supported the sale of a second, 2.26 MW portfolio expected to close in FY20.
- On a go-forward basis IPC staff is leading on, with support from Green Bank staff, sourcing tax equity for a new fund that will be managed at IPC and will be capable of supporting projects originated by the Green Bank in Connecticut and by IPC nationally – such a construct should facilitate greater financing ability and options for Green Bank projects in Connecticut.
- IPC worked with Green Bank's general counsel to identify a law firm to assist in the corporate infrastructure set up for the new fund structure, and IPC entered into formal engagement for organizational and fund structure setups in the second calendar quarter of 2019.
- In addition to tax equity, IPC is in the process of sourcing debt capital that can be used for the new fund, which presents the Green Bank an opportunity to participate for financial gains/targets in Connecticut-based solar PPA projects. IPC continued discussions with Green Bank for the level of debt they might provide.
- IPC supported Green Bank staff in the evaluation of PPA pricing and recommended adjustments.
- IPC supported Green Bank in dealing with customer issues related to lack of snow guards on panel installations, resulting in a change in policy to include snow guards on projects going forward and developed a draft document that can be used with developers and customers outlining the process and timeline, as a means of setting appropriate expectations. By identifying snow guard options early on in the development and construction timeline of solar PPA projects, both IPC and Green Bank staff identified a means to save significant costs on a go-forward basis, while still providing the same level of customer benefits, relative to retro-fitting existing/developed projects with snow guards.
- Development of a Salesforce-based project origination platform for the Solar PPA product suite was launched. Green Bank and IPC staff are jointly working on creating a developer and partner portal where developers will be able to log in, and provide updated documentation directly to the project in Salesforce, creating workflow efficiencies for both IPC and the Connecticut Green Bank.

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

PosiGen Solar for All Program Management

- The PosiGen Solar for All partnership closes its strongest fiscal year performance since program launch with 801 installations, helping the state's solar industry reach parity in deployment across income levels and beyond parity in expanding solar to communities of color.
- 93% of projects include weatherization and efficiency provided by HES or HES-IE and 66% of customers received deeper measures through PosiGen's energy efficiency agreement. The Solar for All program has been successful at reaching the LMI market segment with 59% of homes

verified as low incomes. An independent survey of PosiGen customers has been conducted that found high levels of satisfaction with the product and with their savings.

Green and Health Homes Project

- The Green and Healthy Homes project kicked off the second phase of the project doing a CT-specific Medicaid ROI analysis (one of 2 states to do this), and convening stakeholders from the health, housing, and energy sectors on pilot design. Pilot design working groups met over the course of the summer and gave Green and Healthy Homes Initiative feedback on possible work flows for the pilot that will be rolled out in late Fall 2019.

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 3rd party capital source on Green Bank collateral which will result in additional 3rd party capital being driven into PosiGen investment structures (expected to close the 2nd calendar quarter of 2019).
  - 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.

- FCE:
  - IPC advised, alongside Green Bank, on 3rd party capital structuring and placement for two fuel cell projects in Connecticut, resulting in three separate 3rd party financing institutions providing capital into those projects. IPC supported the Green Bank's own capital placement into those projects.

- Residential SL2:
  - IPC staff led ongoing management of portfolio of 1,186 residential solar leases, including management of program partnerships with Assurant (warranty management), Renew Financial (servicing) and co-management of monitoring and technical support partners, Locus-SunSystem Technology, with CGB's S&I team.
    - Ongoing management includes weekly processing of UCC-1 subordination agreements, managing the pipeline of lease transfers, and steady flow of customer service issues from homeowners, contractors, and other stakeholders.
  - IPC staff worked with CGB staff on a plan to fully transition management of the SL2 program to CGB; however, struggles with workload and finding qualified candidates persisted throughout the fiscal year until progress was made in Q4.

Use of DEEP Proceeds

Energize CT Health & Safety Revolving Loan Fund

The assignment of this program from the Green Bank to IPC was completed on December 20, 2018.

In FY19, two projects closed under the program and were assigned to IPC:

- Grove Street Mutual Housing c/o Mutual Housing of Greater Hartford
- St. Stephen's Townhouses, c/o Carrie P. Chandler Housing Development Corporation

In Q4, a third project was approved directly by IPC's loan committee: Success Village in Bridgeport, CT.

$5M Capital Grant

This capital grant was closed on November 28, 2018 between DEEP and Green Bank, and in turn Green Bank closed with IPC on the same day.

A $4.1M financing facility was closed with PosiGen in December 2018 to support their continued expansion in Connecticut, as part of larger $90M facility with LibreMax and the Green Bank.

In the 4th fiscal quarter, IPC closed an additional $650,000 short term facility with PosiGen that was repaid in the same quarter.

General Updates

IPC commenced operations on August 3, 2018 and in its first year accomplished the following:

- Stood up the organization including implementing a full suite of benefits for employees; the IT environment; banking, cash management, invoicing and accounts payables/receivable practices, corporate policies and procedures;
- Submitted the 1023 application to the IRS and received approval of tax-exempt status;
- Transitioned Green Bank responsibilities covered under the MOU and service agreements to operationalize under the outsourced arrangements;
- Hired 2 additional staff;
- Executed an MOU, Joint Development Agreement and License Agreement with Michigan Saves for development and management of the national Smart-E Loan Platform including the cloud-based management system;
- Received a $250,000 operating grant from Hewlett Foundation to support development of the Smart-E cloud-based program management system with Michigan Saves;
    - Selected a vendor for the platform and commenced development
- Applied and was awarded a $200,000 operating grant from McKnight Foundation to support expansion of IPC to the Midwest.
- Executed the capital grant agreements from DEEP through Green Bank ($5MM capital grant in November and $1.5M EnergizeCT Health & Safety Revolving in January);
- Secured Board approval for IPC's first investment into PosiGen using the $5MM capital grant from DEEP and made advances in December 2018, March and fiscal Q4 2019 (as noted above);
- Closed a $10MM balance sheet guaranty facility with Kresge Foundation in January 2018;
- Held numerous informational meetings with potential capital providers including foundations, impact investors and missional aligned institutional investors

    - In diligence on a $25MM multi-draw credit facility with a senior debt provider
    - In diligence with two foundations for PRIs ($5M each)
    - Asked to submit a grant request to a foundation in partnership with Clean Energy Works and Southeast Energy Efficiency Association to support PAYS expansion in the Southeast and Midwest, with IPC's role being sourcing 3rd party capital
- Secured an advisory engagement with Fuel Cell Energy in conjunction with Green Bank to place capital into a large fuel cell project on a submarine base. The engagement provides IPC with short term fee income, the potential to participate in the capital stack down the road, and introductions to capital providers with whom IPC may participate in future transactions;
- Secured an advisory engagement with Spano Partners Holdings to source an inventory financing facility for Sonnen batteries for use in an LMI targeted solar + storage virtual power plant model;
- Began to build the pipeline for deployment of capital into projects:
    - Developed a partnership with Elevate Energy to bring our term loan product to IL for their nonprofit work
    - Signed an MOU with Michigan Saves to bring our multifamily/nonprofit pre-development and term loan products and commercial solar PPA products to MI
    - Developed a partnership with the DC Sustainable Energy Utility
    - Numerous conversations with other green banks, nonprofits, developers in other markets to discuss potential partnerships
    - Pricing commercial solar and community solar projects with developers across projects in RI, MA, NY, MD, IL, MI, VA, RI, CA, NC

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

CONNECTICUT GREEN BANK

Memo

To: Connecticut Green Bank Board of Directors

From: Eric Shrago, Managing Director of Operations

CC: Bryan Garcia, President and CEO

Date: October 18, 2019

Re: Professional Services Agreements with Inclusive Prosperity Capital for FY 2020

In FY 2019, the Green Bank engaged Inclusive Prosperity Capital (IPC) to manage 4 separate scopes of work that further the programs of the Green Bank. These scopes are governed by 4 Professional Service Agreements (PSAs). As part of our budget process, the Green Bank's Board of Directors approved of the continued arrangement with IPC by naming them a strategic partner and authorizing staff to enter into PSAs with them. However, the arrangement with IPC is such that rather than enter into new PSA's annually as we do with other vendors, we have multi-year PSAs with IPC and these need amending to reflect the updated not-to-exceed amounts (the FY2019 plus the FY2020 budgeted amounts) and one other slight change needed to reflect the multi-year nature of the agreements.

Included with this memo are the executed agreements from FY 2019 and the proposed agreements for FY2020 with the changes tracked. These changes will allow the Green Bank and IPC to execute on the previously passed budget.

RESOLUTION

WHEREAS, on July 18, 2019, the Board of Directors of the Connecticut Green Bank approved of the FY 2020 budget and has authorized the continued engagement of Inclusive Prosperity Capital, Inc. to achieve Green Bank targets in FY 2020.

NOW, therefore be it:

RESOLVED, that Board approves the four first amendments to the Professional Service Agreements with Inclusive Prosperity Capital, Inc as set forth as attachments to the memorandum to the Board dated October 18, 2019.

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 instruments.

PSA # 5410; Inclusive Prosperity Capital, Inc. – Smart–E

FIRST AMENDMENT TO PSA # 5410

This First Amendment (the "Amendment"), dated July 1, 2019 (the "Effective Date"), is entered into by and between the CONNECTICUT GREEN BANK ("Green Bank"), and INCLUSIVE PROSPERITY CAPITAL, INC. ("Consultant").

WHEREAS, Green Bank and Consultant are parties to that certain Standard Professional Services Agreement dated August 3, 2018 (as may be amended, the "Agreement");

WHEREAS, Green Bank and Consultant agree to increase the not-to-exceed amount; and

WHEREAS, all other terms and conditions in the Agreement which are not modified by this Amendment shall remain unchanged and in full force and effect.

NOW, THEREFORE, in consideration of the mutual promises herein contained and other good and valuable consideration, Green Bank and Consultant agree as follows:

1. Section 3 of the Agreement is deleted in its entirety and replaced with the following:

Payment. Green Bank agrees to pay Consultant for the Work performed under the Proposal, as set forth in the Proposal, but in an amount not-to-exceed $722,426 inclusive of fees and any other expenses for fiscal years 2019 and 2020, beginning on August 3, 2018, and ending June 30, 2020, only, and will be revised annually as part of the annual budget process referenced below. This amount reflects all previous payments made to Consultant in fiscal year 2019.

Deleted: year one

Deleted: July 1, 2019

This payment is comprised of two components: Program Administration and Human Capital. The Program Administration will be paid monthly and represents the costs charged back to the Green Bank for administering the Work that is more effectively and efficiently managed by the Consultant minus any savings achieved through efficiencies and scale. The Green Bank agrees to pay Program Administration expenses as set forth in the budget in Attachment A. Any program expenses where the nonprofit procures goods or services from a third-party to manage the attached Work on behalf of the Green will be charged back to the Green Bank at cost. The Human Capital component will be paid monthly, in advance, and is comprised of the agreed upon staffing levels needed to execute the Work. For the first three years of this PSA, the Green Bank agrees to pay 100% of the cost of the headcount as set forth in Attachment A. For the second three years, the Green Bank agrees to pay 50% of the cost of the headcount. The staffing levels will be reviewed as part of the annual budgeting process and savings due to efficiencies and scale will be passed on to the Green Bank in a manner outlined in a mutually agreed upon Fee Review Process. In this process, the two

organizations will review the fees and costs borne on behalf of the Green Bank in comparison to the fees/costs paid by other parties contracting with the Consultant to ensure that the Green Bank is not subsidizing the scopes of work of others.

THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT CAN BE MODIFIED BY THE PARTIES ONLY BY A WRITTEN AMENDMENT SIGNED AND DATED BY GREEN BANK AND CONSULTANT PRIOR TO ANY WORK TO BE PERFORMED BY CONSULTANT WHICH WOULD RESULT IN PAYMENTS IN EXCESS OF THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT.

2. This Amendment may be executed in any number of counterparts (including those delivered by facsimile or other electronic means), and each of such counterparts shall for all purposes be deemed to be an original; and all such counterparts, shall together constitute but one and the same agreement.

IN WITNESS WHEREOF, Green Bank and Consultant have caused this Amendment to be executed as of the Effective Date.

CONNECTICUT GREEN BANK

By: _____
Bryan T. Garcia, President and CEO

INCLUSIVE PROSPERITY CAPITAL, INC.

By: _____
Kerry E. O'Neill, Chief Executive Officer

PSA # 5411; Inclusive Prosperity Capital, Inc. – Multifamily

FIRST AMENDMENT TO PSA # 5411

This First Amendment (the "Amendment"), dated July 1, 2019 (the "Effective Date"), is entered into by and between the CONNECTICUT GREEN BANK ("Green Bank"), and INCLUSIVE PROSPERITY CAPITAL, INC. ("Consultant").

WHEREAS, Green Bank and Consultant are parties to that certain Standard Professional Services Agreement dated August 3, 2018 (as may be amended, the "Agreement");

WHEREAS, Green Bank and Consultant agree to increase the not-to-exceed amount; and

WHEREAS, all other terms and conditions in the Agreement which are not modified by this Amendment shall remain unchanged and in full force and effect.

NOW, THEREFORE, in consideration of the mutual promises herein contained and other good and valuable consideration, Green Bank and Consultant agree as follows:

1. Section 3 of the Agreement is deleted in its entirety and replaced with the following:

Payment. Green Bank agrees to pay Consultant for the Work performed under the Proposal, as set forth in the Proposal, but in an amount not-to-exceed $873,820 inclusive of fees and any other expenses for fiscal years 2019 and 2020, beginning on August 3, 2018 and ending June 30, 2020, only, and will be revised annually as part of the annual budget process referenced below. This amount reflects all previous payments made to Consultant in fiscal year 2019.

Deleted:

Deleted: year one

Deleted: July 1, 2019

This payment is comprised of two components: Program Administration and Human Capital. The Program Administration will be paid monthly and represents the costs charged back to the Green Bank for administering the Work that is more effectively and efficiently managed by the Consultant minus any savings achieved through efficiencies and scale. The Green Bank agrees to pay Program Administration expenses as set forth in the budget in Attachment A. Any program expenses where the nonprofit procures goods or services from a third-party to manage the attached Work on behalf of the Green will be charged back to the Green Bank at cost. The Human Capital component will be paid monthly, in advance, and is comprised of the agreed upon staffing levels needed to execute the Work. For the first three years of this PSA, the Green Bank agrees to pay 100% of the cost of the headcount as set forth in Attachment A. For the second three years, the Green Bank agrees to pay 50% of the cost of the headcount. The staffing levels will be reviewed as part of the annual budgeting process and savings due to efficiencies and scale will be passed on to the Green Bank in a manner outlined in a mutually agreed upon Fee Review Process. In this process, the two

organizations will review the fees and costs borne on behalf of the Green Bank in comparison to the fees/costs paid by other parties contracting with the Consultant to ensure that the Green Bank is not subsidizing the scopes of work of others.

THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT CAN BE MODIFIED BY THE PARTIES ONLY BY A WRITTEN AMENDMENT SIGNED AND DATED BY GREEN BANK AND CONSULTANT PRIOR TO ANY WORK TO BE PERFORMED BY CONSULTANT WHICH WOULD RESULT IN PAYMENTS IN EXCESS OF THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT.

2. This Amendment may be executed in any number of counterparts (including those delivered by facsimile or other electronic means), and each of such counterparts shall for all purposes be deemed to be an original; and all such counterparts, shall together constitute but one and the same agreement.

IN WITNESS WHEREOF, Green Bank and Consultant have caused this Amendment to be executed as of the Effective Date.

CONNECTICUT GREEN BANK

By: _____
Bryan T. Garcia, President and CEO

INCLUSIVE PROSPERITY CAPITAL, INC.

By: _____
Kerry E. O'Neill, Chief Executive Officer

PSA # 5412; Inclusive Prosperity Capital, Inc. – Commercial Solar

FIRST AMENDMENT TO PSA # 5412

This First Amendment (the "Amendment"), dated July 1, 2019 (the "Effective Date"), is entered into by and between the CONNECTICUT GREEN BANK ("Green Bank"), and INCLUSIVE PROSPERITY CAPITAL, INC. ("Consultant").

WHEREAS, Green Bank and Consultant are parties to that certain Standard Professional Services Agreement dated August 3, 2018 (as may be amended, the "Agreement");

WHEREAS, Green Bank and Consultant agree to increase the not-to-exceed amount; and

WHEREAS, all other terms and conditions in the Agreement which are not modified by this Amendment shall remain unchanged and in full force and effect.

NOW, THEREFORE, in consideration of the mutual promises herein contained and other good and valuable consideration, Green Bank and Consultant agree as follows:

1. Section 3 of the Agreement is deleted in its entirety and replaced with the following:

Payment. Green Bank agrees to pay Consultant for the Work performed under the Proposal, as set forth in the Proposal, but in an amount not-to-exceed $447,895 inclusive of fees and any other expenses for fiscal years 2019 and 2020, beginning on August 3, 2018 and ending June 30, 2020, only, and will be revised annually as part of the annual budget process referenced below. This amount reflects all previous payments made to Consultant in fiscal year 2019.

Deleted:

Deleted: year one

Deleted: July 1, 2019

This payment is comprised of two components: Program Administration and Human Capital. The Program Administration will be paid monthly and represents the costs charged back to the Green Bank for administering the Work that is more effectively and efficiently managed by the Consultant minus any savings achieved through efficiencies and scale. The Green Bank agrees to pay Program Administration expenses as set forth in the budget in Attachment A. Any program expenses where the nonprofit procures goods or services from a third-party to manage the attached Work on behalf of the Green will be charged back to the Green Bank at cost. The Human Capital component will be paid monthly, in advance, and is comprised of the agreed upon staffing levels needed to execute the Work. For the first three years of this PSA, the Green Bank agrees to pay 100% of the cost of the headcount as set forth in Attachment A. For the second three years, the Green Bank agrees to pay 50% of the cost of the headcount. The staffing levels will be reviewed as part of the annual budgeting process and savings due to efficiencies and scale will be passed on to the Green Bank in a manner outlined in a mutually agreed upon Fee Review Process. In this process, the two

organizations will review the fees and costs borne on behalf of the Green Bank in comparison to the fees/costs paid by other parties contracting with the Consultant to ensure that the Green Bank is not subsidizing the scopes of work of others.

THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT CAN BE MODIFIED BY THE PARTIES ONLY BY A WRITTEN AMENDMENT SIGNED AND DATED BY GREEN BANK AND CONSULTANT PRIOR TO ANY WORK TO BE PERFORMED BY CONSULTANT WHICH WOULD RESULT IN PAYMENTS IN EXCESS OF THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT.

2. This Amendment may be executed in any number of counterparts (including those delivered by facsimile or other electronic means), and each of such counterparts shall for all purposes be deemed to be an original; and all such counterparts, shall together constitute but one and the same agreement.

IN WITNESS WHEREOF, Green Bank and Consultant have caused this Amendment to be executed as of the Effective Date.

CONNECTICUT GREEN BANK

By: _____
Bryan T. Garcia, President and CEO

INCLUSIVE PROSPERITY CAPITAL, INC.

By: _____
Kerry E. O'Neill, Chief Executive Officer

PSA # 5413; Inclusive Prosperity Capital, Inc. – Investment Management

FIRST AMENDMENT TO PSA # 5413

This First Amendment (the "Amendment"), dated July 1, 2019 (the "Effective Date"), is entered into by and between the CONNECTICUT GREEN BANK ("Green Bank"), and INCLUSIVE PROSPERITY CAPITAL, INC. ("Consultant").

WHEREAS, Green Bank and Consultant are parties to that certain Standard Professional Services Agreement dated August 3, 2018 (as may be amended, the "Agreement");

WHEREAS, Green Bank and Consultant agree to increase the not-to-exceed amount; and

WHEREAS, all other terms and conditions in the Agreement which are not modified by this Amendment shall remain unchanged and in full force and effect.

NOW, THEREFORE, in consideration of the mutual promises herein contained and other good and valuable consideration, Green Bank and Consultant agree as follows:

1. Section 3 of the Agreement is deleted in its entirety and replaced with the following:

Payment. Green Bank agrees to pay Consultant for the Work performed under the Proposal, as set forth in the Proposal, but in an amount not-to-exceed $519,525 inclusive of fees and any other expenses for fiscal years 2019 and 2020, beginning on August 3, 2018 and ending June 30, 2020, only, and will be revised annually as part of the annual budget process referenced below. This amount reflects all previous payments made to Consultant in fiscal year 2019.

Deleted: year one

Deleted: July 1, 2019

This payment is comprised of two components: Program Administration and Human Capital. The Program Administration will be paid monthly and represents the costs charged back to the Green Bank for administering the Work that is more effectively and efficiently managed by the Consultant minus any savings achieved through efficiencies and scale. The Green Bank agrees to pay Program Administration expenses as set forth in the budget in Attachment A. Any program expenses where the nonprofit procures goods or services from a third-party to manage the attached Work on behalf of the Green will be charged back to the Green Bank at cost. The Human Capital component will be paid monthly, in advance, and is comprised of the agreed upon staffing levels needed to execute the Work. For the first three years of this PSA, the Green Bank agrees to pay 100% of the cost of the headcount as set forth in Attachment A. For the second three years, the Green Bank agrees to pay 50% of the cost of the headcount. The staffing levels will be reviewed as part of the annual budgeting process and savings due to efficiencies and scale will be passed on to the Green Bank in a manner outlined in a mutually agreed upon Fee Review Process. In this process, the two

organizations will review the fees and costs borne on behalf of the Green Bank in comparison to the fees/costs paid by other parties contracting with the Consultant to ensure that the Green Bank is not subsidizing the scopes of work of others.

THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT CAN BE MODIFIED BY THE PARTIES ONLY BY A WRITTEN AMENDMENT SIGNED AND DATED BY GREEN BANK AND CONSULTANT PRIOR TO ANY WORK TO BE PERFORMED BY CONSULTANT WHICH WOULD RESULT IN PAYMENTS IN EXCESS OF THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT.

2. This Amendment may be executed in any number of counterparts (including those delivered by facsimile or other electronic means), and each of such counterparts shall for all purposes be deemed to be an original; and all such counterparts, shall together constitute but one and the same agreement.

IN WITNESS WHEREOF, Green Bank and Consultant have caused this Amendment to be executed as of the Effective Date.

CONNECTICUT GREEN BANK

By: _____
Bryan T. Garcia, President and CEO

INCLUSIVE PROSPERITY CAPITAL, INC.

By: _____
Kerry E. O'Neill, Chief Executive Officer

BOARD OF DIRECTORS

REGULAR MEETING SCHEDULE FOR 2020

The following is a list of dates and times for **regular meetings** of the Connecticut Green Bank Board of Directors through 2020.

- Friday, January 24, 2020 – Regular Meeting from 9:00 to 11:00 a.m.
- Friday, April 24, 2020 – Regular Meeting from 9:00 to 11:00 a.m.
- Friday, June 26, 2020 – Regular Meeting from 9:00 to 11:00 a.m.
- Friday, July 24, 2020 – Regular Meeting from 9:00 to 11:00 a.m.
- Friday, October 23, 2020 – Regular Meeting from 9:00 to 11:00 a.m.
- Friday, December 18, 2020 – Regular Meeting from 9:00 to 11:00 a.m.

Should a **special meeting** need to be convened for the Connecticut Green Bank board of Directors to review staff proposals or to address other issues that arise, a meeting will be scheduled accordingly.

All regular and special meetings will take place at the:

Connecticut Green Bank
845 Brook Street, Building #2
Albert Pope Board Room
Rocky Hill, CT 06067

AUDIT, COMPLIANCE AND GOVERNANCE COMMITTEE

REGULAR MEETING SCHEDULE FOR 2020

The following is a list of dates and times for **regular meetings** of the Connecticut Green Bank Audit, Compliance and Governance Committee through 2020.

- Tuesday, May 19, 2020 – Regular Meeting from 8:30am - 9:30am
- Tuesday, October 6, 2020 – Regular Meeting from 8:30am - 9:30am

Should a **special meeting** need to be convened for the Connecticut Green Bank board of Directors to review staff proposals or to address other issues that arise, a meeting will be scheduled accordingly.

All regular meetings will take place at:

Connecticut Green Bank
845 Brook Street, Building #2
Albert Pope Board Room
Rocky Hill, CT 06067

BUDGET AND OPERATIONS COMMITTEE

REGULAR MEETING SCHEDULE FOR 2020

The following is a list of dates and times for **regular meetings** of the Connecticut Green Bank Budget and Operations Committee through 2020.

- Friday, January 10, 2020 – Regular Meeting from 2:00 to 3:30 p.m.
- Wednesday, May 13, 2020 – Regular Meeting from 2:00 to 3:30 p.m.
- Wednesday, June 10, 2020 – Regular Meeting from 2:00 to 3:30 p.m.

Should a **special meeting** need to be convened for the Connecticut Green Bank board of Directors to review staff proposals or to address other issues that arise, a meeting will be scheduled accordingly.

All regular meetings will take place at:

Connecticut Green Bank
845 Brook Street, Building #2
Albert Pope Board Room
Rocky Hill, CT 06067

DEPLOYMENT COMMITTEE

REGULAR MEETING SCHEDULE FOR 2020

The following is a list of dates and times for **regular meetings** of the Connecticut Green Bank Deployment Committee through 2020.

- Wednesday, March 25, 2020 – Regular Meeting from 2:00pm – 3:00pm
- Wednesday, May 27, 2020 – Regular Meeting from 2:00pm – 3:00pm
- Wednesday, September 23, 2020 – Regular Meeting from 2:00pm – 3:00pm
- Wednesday, November 18, 2020 – Regular Meeting from 2:00pm – 3:00pm

Should a **special meeting** need to be convened for the Connecticut Green Bank board of Directors to review staff proposals or to address other issues that arise, a meeting will be scheduled accordingly.

All regular meetings will take place at:

Connecticut Green Bank
845 Brook Street, Building #2
Albert Pope Board Room
Rocky Hill, CT 06067

CONNECTICUT GREEN BANK

VICE PRESIDENT, FINANCING PROGRAMS(OFFICER)

Position Grade: 20
Direct Reports: As assigned
Salary Range: $150,649 to $241,039

Reports to: President & CEO
Wage Hour Class: Exempt
Hours Worked: 40
Effective Date: October 26, 2019

SUMMARY:

The Connecticut Green Bank (hereafter "CGB"), Vice President, Financing Programs (Officer) oversees all programs and efforts designed to deploy clean energy through investment by the Green Bank. The Financing Programs cover all investment including but not limited financing, warehousing, credit support, and interest rate buy-downs. The Vice President will be tasked with designing, implementing, and overseeing new and existing financing programs to deploy clean energy to properties, fleets, and infrastructure (e.g., grid) in the state.

The Vice President will lead the team that has ownership of the Multifamily term and predevelopment lending programs (e.g., Low Income Multifamily Energy Loan), renewable energy Power Purchase Agreement offering (s) (e.g., Green Bank Solar PPA), support of the "Lead by Example" program (e.g., Energy Savings Agreements), and the statewide Commercial Property Assessed Clean Energy (C-PACE) Program as well as support of programs linked to Green Bank investments (e.g., Small Business Energy Advantage). This team has responsibility for program design, implementation, target setting, and customer acquisition. Most of the programs are managed in house with some external vendor support,

The Vice President will work with the Chief Investment Officer to investigate, design, and implement a financing program(s) to upgrade properties that are existing Green Bank or market solutions to support clean energy deployment and investment with the goal of increasing the organizations assets to deliver on portfolio returns, while covering the operating expenses of the business unit.

Similar to the managing director level, the Vice President is distinguished from lower level directors by either its oversight of multiple areas in large operational departments, or the management of program services with agency wide internal and/or significant external impact. The Vice President is the most highly experienced and specialized within the Director career series. While the core duties may overlap significantly with lower level Directors, the Vice President is an expert in their field and has full managerial and decision making responsibility on issues of significance and consequence (issues of significance and consequence are: 1. Issues involving the use of personnel (recruitment, progressive discipline, termination, etc.); 2. Issues pertaining to the formulation, interpretation, or administration of policy and/or legislation affecting their program area; 3. Issues involving exceptions or deviations from policy or past practice; 4. significant input into issues involving the allocation of financial resources. In addition, a vice president has complete programmatic responsibility and is responsible for coordinating department wide resources (staff, consultants, budget, etc.) as part of overall responsibility for an entire program with significant internal and external impact.

This position serves as an officer within CGB. According to the bylaws of the Connecticut Green Bank, the CGB Board of Directors (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.

The Green Bank, a quasi-public authority, is the nation's first state "Green Bank," leveraging public and private funds to drive investment and scale up clean energy deployment in Connecticut. Working at the Green Bank means being part of a dynamic team of talented people who are passionate about implementing the new green bank model, stimulating the growth of clean energy in Connecticut, strengthening our economy, and protecting our environment.

EXAMPLES OF DUTIES:

Program

- Initiates and manages the financing programs for Connecticut administered by CGB;
- Works with the Marketing team to develop and implement strategies to increase participation in financing programs;
- Works closely with municipalities to create programs that attracts their interest and secures their participation;
- Designs program guidelines that take into account the needs and interests of the banking community in Connecticut, with a particular interest in streamlining mortgage holder approval process and consent and lowering transactional costs;
- Designs program guidelines that take into account the needs and interests of Capital Providers and contractors, with a particular interest of accelerating the deployment of energy efficiency and clean energy projects as well as private capital.
- Works with the Chief Investment Officer and Director of Incentive Programs to understand market gaps for financing;
- Works with the Chief Investment Officer and the senior leadership team to design and implement clean energy financial products to attract private capital to finance energy upgrades, including, but not limited to ESAs, energy savings contracts and private placements;
- Ensures all operational (i.e. staff and policies) and organizational (i.e. contracting and reporting) requirements are being implemented and carried out;
- Develops and manages the financing programs' budget and targets and responsible for performance to those targets, including P&L responsibilities;
- Supports the development and implementation of consulting services offered to commercial, industrial and institutional end-users in understanding the availability and benefits of clean energy;
- Works with the Department of Energy and Environmental Protection, the Energy Efficiency Board, the Connecticut gas and electric utilities, the Department of Economic and Community Development, as well as other key stakeholders, to align programs where possible and assure Connecticut's energy finance programs take advantage of shared resources and programmatic synergies;
- Works in coordination with the Director of Incentive Programs in order to ensure that renewable energy and energy efficiency are integrated across all sectors;

- Works in collaboration with the rest of the senior management team to integrate comprehensive strategies to advance clean energy;
- Contributes to the development of CGB's comprehensive plan;
- Regularly updates the Board of Directors, with support from the President and Executive Vice President and CIO on the development of financing programs and new program development to support commercial and industrial facilities;
- Represent CGB on appropriate task forces, committees, and boards relevant to clean energy finance;
- Manages the selection of consultants, where necessary, to support the program in areas where CGB does not have specific in-house expertise;
- Represents CGB to the public in speaking engagements; and
- Supervises CGB C, I & I staff including assistant directors, senior managers, managers, associates, and assistants.

Officer

- Helps the Board determine the CGB's values, mission, vision, and short- and long-term goals;
- Promotes a culture of high performance and continuous improvement that values learning, commitment to quality, leadership and initiative;
- Provides general oversight of all Green Bank activities and assures a smoothly functioning, efficient organization;
- Keeps the Board fully informed of and monitors and evaluates the achievement of CGB goals and assures program quality and organizational stability;
- Contributes to the fiscal activities of the organization including budgeting, reporting and audit;
- Acts as an advocate with the Board and with the public and private sectors for issues relevant to the Green Bank and its services and works with legislators and regulatory agencies to promote legislative and regulatory policies that address the issues of Green Bank constituencies; and
- Performs related duties as required by the Board.

MINIMUM QUALIFICATIONS REQUIRED KNOWLEDGE, SKILL AND ABILITY:

- Strong knowledge and experience in clean energy finance and/or policy;
- Familiarity with the finance and energy industries;
- Considerable experience in program/project management;
- Ability to work in a team environment as a lead contributor, manager, and facilitator;
- Strong knowledge of business operations and general management including supervisory experience, including the management of outside contractors;
- Considerable ability to develop programs, manage stakeholder processes toward results, and interpret energy policy;
- Understanding of the interaction in clean energy markets between finance and demand;
- Understanding of the financial decision making considerations of commercial property owners and managers.
- Demonstrated ability to understand various scientific and energy-related technological principles and applications, and integrate those concepts into the overall project, program, or CGB;

- Expertise in scalable models for financing building upgrades through a variety of financial products (ie ESAs, ESCOs, PPAs);
- Ability to work with external stakeholders including strong facilitation, negotiation, and coordination skills;
- Considerable interpersonal skills, as well as oral and written communications skills;
- Ability to market the benefits of financingI programs to potential customers;
- Knowledge of State and Federal energy policies and regulations that support clean energy finance; and
- Familiarity with energy efficiency and clean energy issues and contracts.

EXPERIENCE AND TRAINING:

General Experience:
A Bachelor's Degree (but a Master's degree is preferred) in environmental science, engineering, economics, political science, business administration, or related field. Ten (10) years of experience in energy policy and clean energy finance. Experience supervising staff and working across departments is preferred. Experience working with and facilitating collaborative outcomes with various stakeholder groups in energy policy design and project development.

Special Experience:
Two (2) years of the general experience must have been at the director level (or comparable position) with full responsibility for a programmatic division.

Substitutions Allowed:
1. A Master's Degree in environmental science, engineering, economics, business administration or other related field may be substituted for one additional year of the general experience
2. A professional certification in a relevant field may substitute for one additional year of experience

Physical Requirements:
1. Frequent communications, verbal and written
2. Frequent use of math/calculations
3. Visually or otherwise identify, observe and assess
4. Repetitive use of hands and fingers -typing and/or writing

Physical Demands: The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is frequently required to sit; use hands to finger, handle, or feel; reach with hands and arms and talk or hear. The employee is occasionally required to stand and walk. The employee must occasionally lift and/or move up to 20 pounds. Specific vision abilities required by this job include close vision.

Work Environment: The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. The noise level in the work environment is usually moderate.

CONNECTICUT GREEN BANK

DIRECTOR OF INCENTIVE PROGRAMS

Position Grade: 18
Direct Reports: As Assigned
Salary Range: $104,617-$167,388

Reports to: President and CEO
Wage Hour Class: Exempt
Hours Worked: 40
Effective Date: October 25, 2019

SUMMARY:

The Connecticut Green Bank (hereafter "CGB"), Director of Incentive Programs oversees all programs and efforts designed to deploy clean energy through incentives by the Green Bank. The Incentive Business's current programs include the Residential Solar Investment Program (RSIP) and the Smart-E Loan program. The Director will be tasked with designing, implementing, and overseeing existing and new (as appropriate) incentive programs to deploy clean energy to properties, fleets, and infrastructure (e.g., grid) in the state.

The Green Bank, a quasi-public authority, is the nation's first state "Green Bank," leveraging public and private funds to drive investment and scale up clean energy deployment in Connecticut. Working at the Green Bank means being part of a dynamic team of talented people who are passionate about implementing the new green bank model, stimulating the growth of clean energy in Connecticut, strengthening our economy, and protecting our environment.

EXAMPLES OF DUTIES:

- Initiates and manages the design of Connecticut Green Bank's Incentive Programs, including the Residential Solar PV Investment Program, the Energize Smart-E Loan Program, and others.
- Works with the Marketing team to develop and implement strategies to increase participation in incentive programs
- Works with the Clean Energy Finance Team to attract private capital to support incentive programs (i.e., SHREC securitization);
- Develops and implements strategies to reduce the cost of residential solar PV systems and ratepayer incentives for the systems;
- Works with the Chief Investment Officer and Vice President of Financing Programs to understand market gaps for incentives;
- Works with the Department of Energy and Environmental Protection and the Energy Efficiency Board, as well as other key stakeholders, to align programs where possible and ensure Green Bank programs take advantage of shared resources and programmatic synergies;
- Ensures all operational (i.e. staff and policies) and organizational (i.e. contracting and reporting) requirements are being implemented and carried out;

- Manages the selection of consultants, where necessary, to support the program in areas where Connecticut Green Bank does not have specific in-house expertise;
- Works in collaboration with the Green Bank Leadership to integrate comprehensive strategies to advance clean energy, including the smooth and orderly transition from incentives upon program completion;
- Works in coordination with the Vice President of Financing Programs in order to ensure that renewable energy and energy efficiency are integrated across all sectors;
- Contributes to the development of Connecticut Green Bank's comprehensive plan with a particular emphasis on strategy related to incentive programs and projects;
- Works with the Board of Directors and the President to lead the development of clean energy programs and initiatives;
- Regularly updates the Board of Directors, with support from the President and Executive Vice President and CIO on the development and progress of incentive programs;
- Represent Connecticut Green Bank on appropriate task forces, committees, and boards relevant to incentives for clean energy;
- Represents Connecticut Green Bank to the public in speaking engagements; and
- Supervises Connecticut Green Bank staff including managers, associates, and assistants.

MINIMUM QUALIFICATIONS REQUIRED
KNOWLEDGE, SKILL AND ABILITY:

- Strong knowledge and experience in clean energy incentives and/or policy;
- Familiarity with the finance and energy industries;
- Considerable experience in program/project management;
- Ability to work in a team environment as a lead contributor, manager, and facilitator;
- Strong knowledge of business operations and general management including supervisory experience;
- Considerable ability to develop programs, manage stakeholder processes toward results, and interpret energy policy;
- Understanding of the interaction in clean energy markets between incentives, finance and demand;
- Demonstrated ability to understand various scientific and energy-related technological principles and applications, and integrate those concepts into the overall project, program, or CT Green Bank;
- Ability to work with external stakeholders including strong facilitation, negotiation, and coordination skills;
- Considerable interpersonal skills, as well as oral and written communications skills;
- Ability to market the benefits of clean energy incentives and financing products to potential customers;
- Knowledge of State and Federal energy policies and regulations that support clean energy finance; and

EXPERIENCE AND TRAINING:

General Experience:
A Bachelor's Degree (but a Master's degree is preferred) in environmental science, engineering, economics, political science, business administration, or related field. Seven (7) to ten (10) years of experience in energy policy and clean energy finance. Experience supervising staff

and working across departments is preferred. Experience working with and facilitating collaborative outcomes with various stakeholder groups in energy policy design and project development.

Special Experience:
Two (2) years of the general experience must have been in supervising staff and with full responsibility for a program implementation.

Substitutions Allowed:

1. A Master's Degree in environmental science, engineering, economics, business administration or other related field may be substituted for one additional year of the general experience
2. A professional certification in a relevant field may substitute for one additional year of experience

Physical Requirements:

1. Frequent communications, verbal and written
2. Frequent use of math/calculations
3. Visually or otherwise identify, observe and assess
4. Repetitive use of hands and fingers -typing and/or writing

Physical Demands: The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is frequently required to sit; use hands to finger, handle, or feel; reach with hands and arms and talk or hear. The employee is occasionally required to stand and walk. The employee must occasionally lift and/or move up to 20 pounds. Specific vision abilities required by this job include close vision.

Work Environment: The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. The noise level in the work environment is usually moderate.

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

CONNECTICUT
GREEN BANK

Memo

To: The Connecticut Green Bank Board of Directors

From: Mackey Dykes, Vice President, Commercial, Industrial and Institutional Programs; Alex Kovtunenko, Senior Counsel, Commercial, Industrial and Institutional Programs; Nicholas Zuba, Senior Manager, Commercial, Industrial and Institutional Programs

CC: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO

Date: October 18, 2019

Re: Extending timeline for closing a C-PACE transaction

Summary

The Connecticut Green Bank Board of Directors (the "Board") or Connecticut Green Bank Deployment Committee (the "Committee") has previously approved and authorized C-PACE financing for the following transaction(s):

Project Address	Approved	Expired	Project Amount
385 Stamm Road, Newington, CT 06111	5/29/19 by Committee	9/27/19	$581,625

The financing agreement(s) listed above were authorized to be consistent with the terms, conditions, and memorandums submitted to the Board or Committee and made no later than 120 days from the date of such Board or Committee's approval.

Due to the property owner actions or omissions which delayed closing on the above listed transaction(s), the C-PACE program staff requests more time from the Board to close such transaction(s) and execute the associated financing agreement(s). The staff requests an additional 120 days from the date of this Board meeting to execute the financing agreement(s) for the transaction(s) listed above.

Resolution

WHEREAS, pursuant to Conn. Gen. Stat. 16a-40g (the "Act") the Connecticut Green Bank ("Green Bank") is directed to, amongst other things, establish a commercial sustainable energy program for Connecticut, known as Commercial Property Assessed Clean Energy ("C-PACE");

WHEREAS, pursuant to the C-PACE program, the Green Bank Board of Directors (the "Board") or the Green Bank Deployment Committee (the "Committee") had previously approved and authorized the President of the Green Bank to execute financing agreements for the C-PACE projects described in the Memo submitted to the Board on October 18, 2019 (the "Finance Agreements");

WHEREAS, the Finance Agreements were authorized to be consistent with the terms, conditions, and memorandums submitted to the Board or Committee and executed no later than 120 days from the date of such Board or Committee approval; and

WHEREAS, due to the property owner actions or omissions which delayed closing on the relevant transaction(s), the Green Bank will need more time to execute the Finance Agreements.

NOW, therefore be it:

RESOLVED, that the Board extends authorization of the Finance Agreements to no later than 120 days from the date of this Board and consistent in every other manner with the original Board or Committee authorization for the Finance Agreements.

Submitted by: Bryan Garcia, President and CEO, Bert Hunter, EVP and CIO, Mackey Dykes, Vice President, Commercial, Industrial and Institutional Programs, Brian Farnen, General Counsel and CLO

CONNECTICUT **GREEN BANK**
Audit, Compliance and Governance Committee Presentation
for the Audit of the fiscal year ended June 30, 2019

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The passion to unlock potential

CT Green Bank - Audit Results

Agenda:

- Engagement Scope and Reporting
- Financial Highlights
- Required Auditors' Communications
- Closing
- Audit Team Contact Information

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Engagement Scope and Reporting

- The audit was performed under the following standards:
  - Auditing Standards Generally Accepted in the United States of America (GAAS).
  - The standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States (GAGAS).
  - Uniform Guidance (Formerly Federal Single Audit Act).

CT Green Bank - Audit Results

Engagement Scope and Reporting (continued)

- Reporting Results in the Financial Statements:
  - Reporting under GAAS:
    - Unmodified audit opinion.
  - Reporting under GAGAS:
    - Reporting on Internal Control and Compliance at the Financial Statement Level

    Under Internal Control
      - No Material Weakness or Significant Deficiencies were identified.

    Under Compliance
      - No instances of noncompliance were identified.

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- Reporting under Uniform Guidance:
  - Reporting on Internal Control over Compliance and an opinion on Compliance at the Federal Major Program level:

Under Internal Control

- No Material Weakness were identified over Federal.

Under Compliance

- Unmodified opinion on compliance over Federal.

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CT Green Bank - Audit Results

Financial Highlights – Statement of Net Assets (in thousands)

Assets and Deferred Outflows:

	2019	2018	Increase (Decrease)
Cash and cash equivalents-unrestricted	$ 18,947	$ 19,830	$ (883)
Cash and cash equivalents-restricted	16,668	24,368	(7,700)
Bonds receivable	3,289	3,329	(40)
Fair value of interest rate swaps	--	171	(171)
Solar lease notes	6,303	7,267	(964)
Promissary notes	3,508		3,508
Program loans	68,557	45,664	22,893
Capital assets, net	80,523	73,417	7,106
Other assets	13,233	11,926	1,307
Total Assets	211,028	185,972	25,056
Deferred Outflows of Resources			
Deferred amount for pensions	7,756	8,779	(1,023)
Deferred amount for OPEB	1,732	1,999	(267)
Deferred amount for asset retirement obligations	2,828	2,928	(99)
Deferred payments to State of Connecticut	--	14,000	(14,000)
Total deferred outflows of resources	12,317	27,706	(15,389)

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CT Green Bank - Audit Results

Financial Highlights – Statement of Net Assets (in thousands)

Liabilities and Deferred Inflows:

	2019	2018	Increase (Decrease)
Current liabilities	16,653	10,975	5,678
Unearned revenue	880	3,144	(2,264)
Pension liabilities	25,805	24,636	1,169
OPEB liabilities	24,000	24,876	(875)
Payment to State of Connecticut	--	14,000	(14,000)
Other long term liabilities	4,196	5,516	(1,320)
Fair value of interest rate swap	523	--	523
Long term debt, less current maturities	73,029	38,532	34,497
Total liabilities	145,086	121,679	23,408
Deferred Inflows of Resources			
Deferred amount for pensions	82	47	35
Deferred amount for OPEB	1,896	625	1,271
Total deferred outflows of resources	1,978	672	1,306

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CT Green Bank - Audit Results

Financial Highlights – Statement of Net Assets (in thousands)

Net Position:

	2019	2018	Increase (Decrease)
Invested in capital assets	3,794	2,251	1,543
Restricted Net Position:			
Non-expendable	66,902	66,496	406
Restricted - energy programs	11,537	19,250	(7,713)
Unrestricted	(5,951)	3,328	(9,279)
Total Net Position	$ 76,282	$ 91,325	$ (15,043)

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CT Green Bank - Audit Results

Financial Highlights

2019 Financial Analysis

- Total assets of the Green Bank increased to $211MM during 2019, an increase of $25.1MM. This was principally due to $22.9MM increase in program loans (Posigen and CPACE Loans).

- Overall, current assets increased by $4MM while noncurrent assets increased by $20.9MM. The current assets were affected mostly by increases in the current portion of the SBEA promissory note and current portion of program loans. Noncurrent assets were affected by $21.2MM in program loan additions.

- The liquidity of the balance sheet (current assets/current liabilities) decreased from 212.6% to 194.7% for the year ended June 30, 2019.

CT Green Bank - Audit Results

Financial Highlights

2019 Financial Analysis

- Total liabilities increased $23.4MM due primarily to the increase of long term debt of $34.5MM offset by the decrease in the accrued liability of $14MM for the second payment due to the State of Connecticut.

- Total Net Position decreased by $15MM due primarily to the $14MM payment to the State of Connecticut that was made during the fiscal year.

CT Green Bank - Audit Results

Financial Highlights – Statement of Changes in Net Assets (in thousands)

	2019	2018	Increase (Decrease)
Revenues			
Utility remittances	$ 26,095	$ 25,943	$ 152
Energy system sales	2,795	2,782	13
REC sales	6,489	3,660	2,829
Other revenues	6,344	4,497	1,847
Total revenues	41,723	36,882	4,841
Operating Expenses			
Cost of goods sold - energy systems	2,877	2,998	(121)
Grants and incentive programs	14,672	17,930	(3,258)
Program administration expenses	17,496	16,883	613
General and administrative expenses	5,722	5,631	91
Total operating expenses	40,767	43,442	(2,675)
Operating Income	956	(6,560)	7,516
Non-Operating Revenues (Expenses)			
Interest earned	4,326	3,632	694
Interest expense	(1,984)	(1,389)	(595)
Investment loss	(104)	(510)	406
Debt issuance costs	(1,739)	--	(1,739)
Unrealized gain (loss) on interest rate swap	(695)	712	(1,407)
Provision for loan losses	(2,909)	(362)	(2,547)
Capital contribution	1,696	2,176	(480)
Distribution to member	(589)	(540)	(49)
Payments to State of Connecticut	(14,000)	(14,000)	--
Net Change	(15,042)	(16,841)	1,799
Net Position Beginning of Year	91,325	108,166	(16,841)
Net Position at End of Year	$ 76,283	$ 91,325	$ (15,042)

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CT Green Bank - Audit Results

Financial Highlights

2019 Operating Activity

- The Green Bank had operating revenues of approximately $42MM for the year ended June 30, 2019 which was an increase from the prior year of approximately $4.8MM. This was mainly due to an increase in REC sales of $2.8MM.
- Total operating expenses decreased approximately $2.7MM during 2019, due mainly to the decrease in grants and incentives of $3.3MM offset by an increase in program and administrative expenses of $0.6MM.
- Net Non-Operating Revenues (Expenses) were approximately ($15MM) net expenses. This was mostly attributable to the $14MM payment to the State of Connecticut discussed earlier.

CT Green Bank - Audit Results

Required Auditors' Communications

- Required communications to those charged with governance (Audit Committee/Board of Directors):

Qualitative Aspects of Accounting Practices.

Management is responsible for the selection and use of appropriate accounting policies.

- We noted no transactions entered into by the governmental unit during the year for which there is a lack of authoritative guidance or consensus.

- All significant transactions have been recognized in the financial statements in the proper period.

CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

- **Qualitative Aspects of Accounting Practices (continued)**

Accounting Estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. The most sensitive estimates affecting the financial statements were as follows:

- **Loan Loss Reserves** – Managements estimate is based on certain historical data and currently known information related to amounts written off or deemed uncollectable.
- **SWAP Fair Value Calculation** – Managements estimate is based on a third party valuation performed by
- **Net Pension & OPEB Liability** - Management's estimate of the net pension and net OPEB liabilities are based on an actuarial valuation utilizing various assumptions and estimates approved by management and/or the State of Connecticut.
- **Asset Retirement Obligation**- Management's estimate of the asset retirement obligation is based upon amounts calculated by management.

CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

- **Qualitative Aspects of Accounting Practices (continued)**

  - We have evaluated the key factors and assumptions used to develop the above estimates in determining that they are reasonable in relation to the financial statements taken as a whole. The results of our procedures gave no indication of management bias in the development of the estimates in the financial statements.

  - The financial statement disclosures are neutral, consistent and clear. There were no sensitive disclosures affecting the financial statements.

CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

- **Difficulties Encountered in Performing the Audit**

  Professional standards require us to communicate any significant difficulties encountered with management encountered during the performance of our audit.

  - We encountered no significant difficulties in dealing with management in performing and completing our audit.

- **Corrected and Uncorrected Misstatements**

  Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management.

  - No uncorrected misstatements were identified in connection with our audit of the financial statements for the fiscal year ended June 30, 2019.

CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

- **Disagreements with Management**

A disagreement with management is a financial accounting, reporting or auditing matter, whether or not resolved to our satisfaction that could be significant to the financial statements or the auditors' report.

  - We are pleased to report that no such disagreements arose during the course of our audit.

- **Management Representations**

  - We will requested certain representations from management prior to the final issuance of our Auditors Report.

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CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

- **Management Consultations with Other Independent Accountants**

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the governmental unit's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts.

- To our knowledge, there were no such consultations with other accountants.

CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

- **Other Audit Findings or Issues**

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the governmental unit's auditors.

  - Any such discussion that occurred took place in the normal course of our professional relationship and our responses were not a condition to our retention.

CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

- **Other Matters**

With respect to the supplementary information accompanying the financial statements, we made certain inquiries of management and evaluated the form, content and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements.

- We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**

  This information is intended solely for the use of Audit, Compliance and Governance Committee and the Board of Directors and management of Connecticut Green Bank, and is not intended to be and should not be used by anyone other than these specified parties.

- **Closing**

  BlumShapiro would like to thank the professional staff of Connecticut Green Bank that participated with us in the performance of the audit. CGB's staff was very responsive and helpful to our inquiries and requests which allowed both BlumShapiro and management to meet the financial reporting deadlines that had been established.

CT Green Bank - Audit Results

Audit Team Contact Information

Ronald W. Nossek, CPA – Engagement Partner
(401) 330-2743
rnossek@blumshapiro.com

Jessica Aniskoff, CPA – Engagement Manager
(860) 570-6451
janiskoff@blumshapiro.com

Dan Smith, CPA – Engagement Supervisor
(860) 561-6845
dsmith@blumshapiro.com

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CT Green Bank - Audit Results

NOTES:

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CONNECTICUT GREEN BANK
(A COMPONENT UNIT OF THE STATE OF CONNECTICUT)

COMPREHENSIVE ANNUAL FINANCIAL REPORT

FISCAL YEAR ENDED JUNE 30, 2019
(With Summarized Totals as of and for Fiscal Year Ended June 30, 2018)

Department of Finance and Administration
845 Brook Street
Rocky Hill, Connecticut

CONNECTICUT GREEN BANK
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INTRODUCTORY SECTION

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

CONNECTICUT
GREEN BANK

October 29, 2019

We are pleased to present a Comprehensive Annual Financial Report (CAFR) of the Connecticut Green Bank (Green Bank) for the fiscal year ending June 30, 2019 accompanied by summarized totals as of and for the fiscal year ended June 30, 2018.

Management assumes full responsibility for the completeness and reliability of the information contained in this report based upon a comprehensive framework of internal controls that it has established for this purpose. To provide a reasonable basis for making these representations, the management of Green Bank has established a comprehensive internal control framework that is designed both to protect the entity's assets from loss, theft, or misuse, and to compile sufficient reliable information for the preparation of Green Bank's financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP). Because the cost of internal controls should not outweigh the benefits, Green Bank's comprehensive framework of internal controls has been designed to provide reasonable, rather than absolute assurance that the financial statements will be free from material misstatement. As such, management asserts that this financial report is complete and reliable in all material respects to the best of managements' knowledge and belief.

Blum, Shapiro & Company, P.C., has issued an unmodified opinion on the Green Bank's financial statements for the fiscal year ending June 30, 2019. The independent auditors' report is presented in the financial section of this report. This letter of transmittal is designed to complement the Management's Discussion and Analysis (MD&A) and should be read in conjunction with it. The Green Bank's MD&A can be found immediately following the report of the independent auditors. Kestrel Verifiers has issued an independent opinion that the metrics, data collection, calculation methodologies, and transparency for the social benefits supported by the Green Bank are sound and represent best practice relative to peer financial institutions benchmarked. The independent opinion is presented in the non-financial statistics section of this report.

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Connecticut Green Bank for its comprehensive annual report for the fiscal years ending June 30, 2014 through June 30, 2018. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Profile of the Connecticut Green Bank

The Green Bank[1] was established in a bipartisan manner 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 state green bank, the Connecticut Green Bank makes green energy more accessible and affordable for all Connecticut citizens and businesses by creating a thriving marketplace to accelerate the growth of green energy. We facilitate 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, we create solutions that result in long-term, affordable financing to increase the number of green energy projects statewide.

The Green Bank was awarded the prestigious Harvard Kennedy School's Ash Center's "Innovations in American Government Awards" in 2017 for its "Sparking the Green Bank Movement" nomination. The Ash Center for Democratic Governance and Innovation advances excellence in governance and strengthens democratic institutions worldwide. Through its research, education, international programs, and government innovations awards, the Center fosters creative and effective government problem solving and serves as a catalyst for addressing many of the most pressing needs of the world's citizens. The Innovations in American Government Award is the nation's preeminent recognition for excellence and creativity in the public sector. The award program receives thousands of applications which are evaluated on criteria to assess their novelty, effectiveness, significance, and transferability. The Ford Foundation created the Innovations in American Government Awards in 1985 in response to widespread pessimism and distrust in government's effectiveness.

The Green Bank's vision is to lead the green bank movement by accelerating private investment in clean energy deployment for Connecticut to achieve economic prosperity, create jobs, promote energy security and address climate change. By accelerating the growth of green energy we contribute to a better quality of life, a better environment and a better future for Connecticut. 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.

To achieve its vision and mission, the Green Bank has established the following four goals:

1. To attract and deploy private capital investment to finance the clean energy[2] policy goals for Connecticut.

2. To leverage limited public funds to attract multiples of private capital investment while returning and reinvesting public funds in clean energy deployment over time.

3. To develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers.

4. To support affordable and healthy buildings in low-to-moderate income and distressed communities by reducing the energy burden and addressing health and safety issues in their homes, businesses, and institutions.

These goals support the implementation of Connecticut's clean energy policies be they statutory (e.g., Public Act 11-80, Public Act 13-298, Public Act 15-194), planning (e.g., Comprehensive Energy Strategy, Integrated Resources Plan), or regulatory in nature. The powers of the Green Bank are vested in and

[1] 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.

[2] Public Act 11-80 defines "clean energy" broadly and includes familiar renewable energy sources such as solar photovoltaic, solar thermal, geothermal, wind and low-impact hydroelectric energy, but also includes fuel cells, energy derived from anaerobic digestion (AD), combined heat and power (CHP) systems, infrastructure for alternative fuels for transportation and financing energy efficiency projects.

exercised by a Board of Directors that is comprised of eleven voting and two non-voting members each with knowledge and expertise in matters related to the purpose of the organization. The 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.

Initiatives and Results

Accelerate the Growth of Green Energy
The Green Bank makes green energy more accessible and affordable for all Connecticut citizens and businesses by creating a thriving marketplace to accelerate the growth of green energy. As a result of the efforts undertaken over the past eight years, we are deploying more green energy in our state than ever before (see Table 1).

Table 1. Project Investments between FY 2012 through FY 2019[3]

	FY 2019	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	Total
Total Investment ($MM)	353.5	252.9	206.2	322.1	324.1	107.8	111.4	9.9	1,688.0
Green Bank Investment $(MM)	40.7	34.8	33.6	39.3	57.1	32.5	18.7	3.4	260.1
Leverage Ratio	8.7	7.3	6.1	8.2	5.7	3.3	6.0	2.9	6.5
% of Funding as Grants	43%	37%	37%	48%	58%	65%	67%	100%	44%
Installed Capacity (MW)	73.3	57.5	50.0	66.1	62.4	23.4	23.5	1.9	358.2

By using $260.1 million of ratepayer funds, we have helped attract $1,427.9 million of private investment in green energy for a total investment of $1.7 billion in Connecticut's economy. In addition, $87.2 million in estimated tax revenues have been generated from this investment. This is supporting the deployment of 358.2 MW of renewable energy, producing and saving an estimated 48.5 million MMBtu and 12.3 million MWh of green energy and reducing an estimated 5.8 million tons of CO_2 emissions over the life of the projects, while creating over 20,000 job-years, and improving public health benefits by $206.7 to $466.8 million as a result of cleaner air.

We Grow Businesses and We Help People Thrive
As leaders in the green bank movement – through innovation, education, and activation – we accelerate the growth of green energy. By generating a robust, flourishing green energy marketplace, we grow businesses and help people thrive. Within this marketplace the Green Bank partners with contractors and capital providers to offer a diverse portfolio of programs that benefit homeowners, businesses, and institutions. The Green Bank is demonstrating how public resources can be better invested in ways that attract more private investment in our communities, lead to the deployment of more green energy by local contractors, and most importantly reducing the budget of energy costs on our families and businesses.

The Green Bank helps make homes more energy efficient and sustainable by promoting awareness and offering flexible financing solutions to homeowners and multifamily building owners who seek assistance to make green energy upgrades. We make green energy more attractive to everyone so that residents can integrate it into their lives. The benefits are many – from reducing the burden of energy costs, to improving comfort and health in the home, to a cleaner environment in Connecticut's communities, across the country, and around the world. More green homes mean greener, healthier communities.

[3] Includes closed transactions approved by the Board of Directors consistent with its Comprehensive Plan and Budget.

The Green Bank makes green energy investments smarter and safer for businesses, including commercial and industrial customers, and institutions, including multifamily and not-for-profit organizations, with affordable, long-term financing for energy upgrades. We demonstrate how green energy improvements are smart investments that lower operating costs. We inspire them to embrace cleaner and more reliable sources of energy to power their buildings which stimulates a healthier local economy. Healthy buildings mean healthy businesses and institutions.

The Green Bank makes green energy more accessible and affordable to grow businesses and help people thrive.

We Believe in Inclusive Prosperity

The green economy is for everyone. Washington, DC Mayor Bowser says it best "As the nation's capital, we need to lead the way when it comes to protecting and preserving the environment. By creating a Green Bank, we will create more jobs for DC residents, which will allow us to continue our push for inclusive prosperity."

The Green Bank's simple promise of increasing affordability and accessibility to green energy has evolved into a greater commitment to our stakeholders. We believe that everything we do, we do to help families thrive and businesses grow. We do it in the interest of achieving inclusive prosperity not only within Connecticut and across the country, but around the world.

Leading the Green Bank Movement

The Connecticut Green Bank is a leader in the green bank movement. The Connecticut Green Bank and its programs serve as models for other states across the country.

The Connecticut Green Bank is leading a movement to use public funds more responsibly by attracting and deploying more private investment in green energy for the state's economy and environment.

Responsible Public Investment in Green Energy

The Green Bank receives funding through a number of sources, including a Systems Benefit Charge (i.e., Clean Energy Fund), allowance proceeds from the Regional Greenhouse Gas Initiative (RGGI), renewable energy certificate (REC) sales, interest income from its loans, and the federal government. The Green Bank's predecessor organization's programs were all structured as grants, which meant the funds were spent with no expectation of return. This model put the organization at the mercy of these funding streams which, while reliable, are largely determined by activities outside of our control such as levels of state electricity use and RGGI allowance prices. With the transition to a new financing model, the Green Bank is able to invest its funds in activities that earn a return and begin to build revenue streams that can be reinvested in green energy in Connecticut while strengthening the financing position of the organization.

Acknowledgements

First and foremost, we would like to thank the Staff of the Connecticut Green Bank. Through their hard work, commitment and innovation, we are making progress towards $2 billion of investment into Connecticut's economy and have built a model that is delivering results for our state and serving as a model across the country and around the world.

We are grateful to our independent auditors, Blum Shapiro & Company and Kestrel Verifiers, for their assistance and advice during the course of this audit and review, and for supporting our interests in continuing to disclose not only our financial position, but also the public benefits to society resulting from our public-private investments.

Finally, we thank the Board of Directors, Connecticut General Assembly, and the Governor for their continued leadership and guidance as we continue to prove that there is a new model for how government is able to play a part in deploying more green energy at a faster pace while using public resources responsibly.

Respectfully submitted,

Bryan T. Garcia
President and CEO

Jane J. Murphy
Vice President - Finance

Board of Directors

Connecticut Green Bank

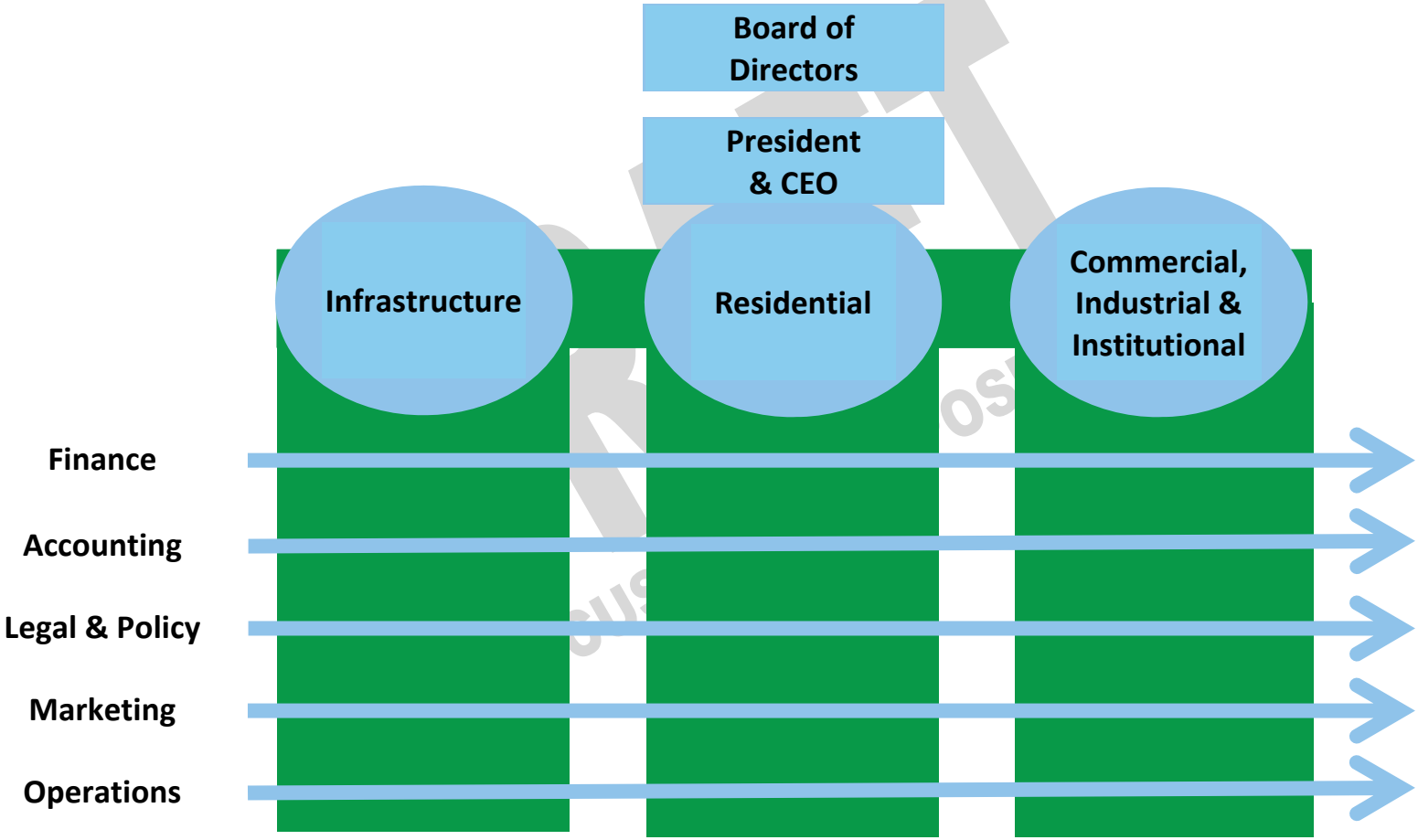
Position	Status	Voting	Name	Organization
State Treasurer (or designee)	Ex Officio	Yes	Bettina Bronisz	Treasurer's Office
Commissioner of DEEP[4] (or designee)	Ex Officio	Yes	Mary Sotos[5]	DEEP
Commissioner of DECD[6] (or designee)	Ex Officio	Yes	Binu Chandy	DECD
Residential or Low Income Group	Appointed	Yes	Betsy Crum	Town of Snowmass Village
Investment Fund Management	Appointed	Yes	(unfilled)	(unfilled)
Environmental Organization	Appointed	Yes	Matthew Ranelli[7]	Shipman & Goodwin
Finance or Deployment	Appointed	Yes	Thomas Flynn	Alvarez & Marsal
Finance of Renewable Energy	Appointed	Yes	Eric Brown[8]	Connecticut Business and Industry Association
Finance of Renewable Energy	Appointed	Yes	Kevin Walsh	GE Energy Financial Services
Labor Organization	Appointed	Yes	John Harrity[9]	IAM Connecticut
R&D or Manufacturing	Appointed	Yes	(unfilled)	(unfilled)
President of the Green Bank	Ex Officio	No	Bryan Garcia	Connecticut Green Bank

Discretely Presented Component Units

Position	Name
President	Bryan Garcia
Treasurer	Jane Murphy
Secretary	Brian Farnen
Chief Investment Officer	Roberto Hunter

[4] Department of Energy and Environmental Protection
[5] Vice Chairperson of the Board of Directors and Chairperson of the Deployment Committee
[6] Department of Economic and Community Development
[7] Secretary of the Board of Directors and Chairperson of the Audit, Compliance and Governance Committee
[8] Chairperson of the joint committee of the EEO and CGB
[9] Chairperson of the Budget and Operations Committee

Organizational Chart



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Connecticut Green Bank

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2018

Christopher P. Morrill

Executive Director/CEO

FINANCIAL SECTION

Independent Auditors' Report

To the Board of Directors
Connecticut Green Bank
Rocky Hill, Connecticut

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities and discretely presented component units of the Connecticut Green Bank (a component unit of the State of Connecticut) as of and for the fiscal year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Green Bank's basic financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the discretely presented component units of the Connecticut Green Bank as of June 30, 2019, and the respective changes in financial position and cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4 through 14 and the pension and OPEB schedules on pages 67 through 70 be presented to supplement the basic financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise Connecticut Green Bank's basic financial statements. The introductory section, financial statistical section and other statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The introductory section, financial statistical section and other statistical section have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

We also previously audited, in accordance with auditing standards generally accepted in the United States of America, the basic financial statements of the Connecticut Green Bank as of and for the year ended June 30, 2018 (not presented herein), and have issued our report thereon dated October 29, 2018, which contained unmodified opinions on the respective financial statements of the business-type activities and the discretely presented component units. The accompanying summarized comparative information as of and for the year ended June 30, 2018 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and related directly to the underlying accounting and other records used to prepare the 2018 financial statements. The accompanying summarized comparative information has been subjected to the auditing procedures applied in the audit of the 2018 basic financial statements and certain additional procedures including comparing and reconciling such information directly to the underlying accounting and other records used to prepare those financial statements or to those financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the summarized comparative information is fairly stated in all material respects in relation to the basic financial statements as a whole for the year ended June 30, 2018.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October XX, 2019 on our consideration of the Connecticut Green Bank's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Connecticut Green Bank's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Connecticut Green Bank's internal control over financial reporting and compliance.

West Hartford, Connecticut
October XX, 2019

CONNECTICUT GREEN BANK

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following Management's Discussion and Analysis (MD&A) provides an overview of the financial performance of the Connecticut Green Bank (the Green Bank), formerly known as the Clean Energy Finance and Investment Authority, (a component unit of the State of Connecticut) for the fiscal year ended June 30, 2019. The information contained in this MD&A should be considered in conjunction with the information contained in the financial statements and notes to the financial statements included in the "Basic Financial Statements" section of this report.

The Green Bank as a reporting entity is comprised of the primary government and six discretely presented component units as defined under Government Auditing Standards Board Statement No. 61: *The Financial Reporting Entity: Omnibus and Amendment of GASB Statements No. 14 and No. 34*.

This MD&A discusses financial performance of both the primary government, the Green Bank, and its discretely presented component units, CT Solar Lease 2 LLC, CT Solar Lease 3 LLC and CEFIA Solar Services Inc. We are including the performance of these component units in the consolidated data tables included in this analysis because they play an integral part in assisting the Green Bank in achieving its goal to deploy renewable energy in the State of Connecticut and to omit them from the analysis would not provide a complete picture of the Green Bank's activities. Where possible we have distinguished activity pertaining solely to a component unit or the primary government in the discussion that follows.

FINANCIAL STATEMENTS PRESENTED IN THIS REPORT

On June 6, 2014, Public Act 14-94 of the State of Connecticut changed the name of the Clean Energy Finance and Investment Authority to the Connecticut Green Bank.

The Green Bank is a quasi-public agency of the State of Connecticut established on July 1, 2011 by Section 16-245n of the Connecticut General Statutes, created for the purposes of, but 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 resources 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. The Green Bank constitutes the successor agency to Connecticut Innovations for the purposes of administering the Connecticut Clean Energy Fund in accordance with section 4-38d of the Connecticut General Statutes and therefore the net position of such fund was transferred to the newly created the Green Bank as of July 1, 2011.

The basic financial statements include: Statement of Net Position, Statement of Revenues, Expenses and Changes in Net Position, and the Statement of Cash Flows. The Statement of Net Position provides a measure of the Green Bank's economic resources. The Statement of Revenues, Expenses and Changes in Net Position measures the transactions for the periods presented and the impact of those transactions on the resources of the Green Bank. The Statement of Cash Flows reconciles the changes in cash and cash equivalents with the activities of the Green Bank for the period presented. The activities are classified as to operating, noncapital financing, capital and related financing, and investing activities.

Notes to the basic financial statements provide additional detailed information to supplement the basis for reporting and nature of key assets and liabilities.

FINANCIAL HIGHLIGHTS OF FISCAL 2019

NET POSITION

The Green Bank's net position, which is reflective of the reporting entity's overall financial position, decreased year over year. Net position as of June 30, 2019 and 2018 was $76.3 and $91.3 million, respectively, a decrease of $15 million. The Green Bank's net position as of June 30, 2018 was restated from $89.4 million to $91.3 million, an increase of $1.9 million, to adjust net position for the proper reporting of prepaid warranty expenses in CT Solar Lease 2 LLC. The components of net position show that unrestricted net position decreased to ($6.0) million as of June 30, 2019 as compared to $3.3 million as of June 30, 2018, restated for warranty expenses, a decrease of $9.3 million. Contributing to this decrease in unrestricted net position was a transfer of a portion of the primary government's available unrestricted cash balances into restricted cash balances to support the maintenance of loan loss reserves, interest rate buydowns, contractual obligations under the Clean Renewable Energy Bond and contractual obligations to maintain collateral accounts to support loan guarantees. This transfer is reflected in the component of net position designated as net position restricted for energy programs, which decreased $7.7 million from $19.3 million as of June 30, 2018 to $11.5 million as of June 30, 2019. Restricted net position energy programs as of June 30, 2018 included $9.1 million in proceeds received from the issuance of CREBs of which $7.2 million was used in fiscal 2019 to construct solar PV facilities on campuses in the State of Connecticut's system of universities and colleges ("CSCU"). Restricted net position energy programs as of June 30, 2019 decreased by $7.7 million due to construction payments issued for the CSCU Facilities. Note 17 Restricted Net Position provides a breakout by dollar amount of cash balances restricted for these programs. Also contributing to the decrease in unrestricted net position was payment of $14 million to the State of Connecticut in fiscal 2019.

Green Bank assets increased $25.1 million in fiscal year 2019 to $211.0 million. As of June 30, 2018, assets totaled $186 million. This was primarily the result of a $18.0 million increase in CPACE loans, which includes $14.4 million repurchase of assets previously sold to Hannon Armstrong, $5.9 million in program loans made by the primary government to support renewable energy installations and energy efficiency upgrades for both residential and commercial property owners in Connecticut, and a $3.5 million for purchases of SBEA promissory notes (see note 8, SBEA Notes Receivable). These increases were partially offset by a $1.7 decrease in CPACE sell down notes which were cancelled as a result of the Hannon Armstrong asset repurchase.

Investments in capital assets net of depreciation increased from $73.4 million as of June 30, 2018 to $80.5 million as of June 30, 2019, an increase of $7.1 million. This increase was primarily due to energizing seven of the eight CSCU solar PV systems recorded on the Green Bank's books. The electricity generated by these facilities has been sold through power purchase agreements with CSCU. Revenues support payments of the CSCU CREBs bond. Note 9 provides further detail regarding long term debt. Note 12 provides further detail regarding investments in capital assets.

Unrestricted cash and cash equivalents decreased $0.9 million to $18.9 million as of June 30, 2019 compared to $19.8 million as of June 30, 2018 and restricted cash and cash equivalents decreased $7.7 million to $16.7 million as of June 30, 2019 from $24.4 million as of June 30, 2018. The net decrease in unrestricted cash was primarily the result of normal operating activities. The net decrease in restricted cash was primarily the result of disbursements to contractors for construction of the CSCU solar PV systems.

Green Bank liabilities increased by $23.4 million in fiscal year 2019 to $145.1 million as of June 30, 2019 from $121.7 million as of June 30, 2018. Current liabilities, comprised of current maturities of long term debt, accounts payable and accrued expenses increased $5.7 million to $16.7 million as of June 30, 2019 compared to $11 million as of June 30, 2018. Accounts payable and accrued expenses increased $1.3 million from $6.5 million in 2018 to $7.8 million in 2019 primarily as a result of an increase in accrued performance-based incentives payable by the primary government to third party owners of PV systems at each respective year-end. The remaining increase of $4.4 million resulted from an increase in the amount recorded for the current portion of long term debt maturing within a year in 2019 compared to 2018 primarily pertaining to SHREC Collateralized Notes, CT Solar Lease 2 LLC's debt facility used to finance its acquisition of Solar PV projects, and the CSCU CREBs bonds.

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded pension liability, as calculated under Government Accounting Standard Board (GASB) statement 68 increased $1.2 million in fiscal year 2019 to $25.8 million as of June 30, 2019 compared to $24.6 million as of June 30, 2018. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank pension contributions decreased $1.0 million to $7.8 million as of June 30, 2019 compared to $8.8 million as of June 30, 2018. Note 15 provides further detail regarding the pension plan. The primary government is responsible for this pension obligation

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded retiree healthcare (OPEB) liability, as calculated under Government Accounting Standard Board (GASB) statement 75 decreased $0.9 million in fiscal year 2019 to $24.0 million as of June 30, 2019 compared to $24.9 million as of June 30, 2018. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank OPEB contributions decreased $0.3 million to $1.7 million as of June 30, 2019 compared to $2.0 million as of June 30, 2018. Note 16 provides further detail regarding the OPEB plan. The primary government is responsible for this OPEB obligation

Long term debt increased $34.5 million in fiscal year 2019 to $73 million as of June 30, 2019 when compared to $38.5 million as of June 30, 2018. During fiscal year 2019, the Green Bank issued $38.6 million in SHREC Collateralized Notes, $36.2 million of which is classified as long term debt, and a $1.0 million draw on the $3.0 million Kresge loan facility. These increases in long term debt are partially offset by repayments of principal by CT Solar Lease 2 LLC of funds borrowed under its credit facility with KeyBank and Webster Bank, and reclassifications to current maturities of long term debt for the Meriden Hydro and CSCU CREBs bonds. Note 9 provides further detail regarding long term debt.

As of June 30, 2019, the Green Bank's unfunded contingent grant and loan commitments, which are obligations of the primary government, the majority of which represent PBI payments to third party owners of solar facilities as described in Note 14, totaled $76.6 million. These grant and loan commitments are expected to be funded over the next one to six years from current and future unrestricted cash balances.

The following table summarizes the net position of the reporting entity at June 30, 2019 and 2018:

	2019	2018	Increase (Decrease)
Cash and cash equivalents-unrestricted	$ 18,947	$ 19,830	$ (883)
Cash and cash equivalents-restricted	16,668	24,368	(7,700)
Bonds receivable	3,289	3,329	(40)
Fair value of interest rate swaps	--	171	(171)
Solar lease notes	6,303	7,267	(964)
Promissary notes	3,508		3,508
Program loans	68,557	45,664	22,893
Capital assets, net	80,523	73,417	7,106
Other assets	13,233	11,926	1,307
Total Assets	211,028	185,972	25,056
Deferred Outflows of Resources			
Deferred amount for pensions	7,756	8,779	(1,023)
Deferred amount for OPEB	1,732	1,999	(267)
Deferred amount for asset retirement obligations	2,828	2,928	(99)
Deferred payments to State of Connecticut	--	14,000	(14,000)
Total deferred outflows of resources	12,317	27,706	(15,389)
Current liabilities	16,653	10,975	5,678
Unearned revenue	880	3,144	(2,264)
Pension liabilities	25,805	24,636	1,169
OPEB liabilities	24,000	24,876	(875)
Payment to State of Connecticut	--	14,000	(14,000)
Other long term liabilities	4,196	5,516	(1,320)
Fair value of interest rate swap	523	--	523
Long term debt, less current maturities	73,029	38,532	34,497
Total liabilities	145,086	121,679	23,408
Deferred Inflows of Resources			
Deferred amount for pensions	82	47	35
Deferred amount for OPEB	1,896	625	1,271
Total deferred outflows of resources	1,978	672	1,306
Invested in capital assets	3,794	2,251	1,543
Restricted Net Position:			
Non-expendable	66,902	66,496	406
Restricted - energy programs	11,537	19,250	(7,713)
Unrestricted	(5,951)	3,328	(9,279)
Total Net Position	$ 76,282	$ 91,325	$ (15,043)

CHANGES IN NET POSITION

Operating revenues increased by $4.8 million to $41.7 million as of June 30, 2019 as compared to $36.9 million as of June 30, 2018. Remittances to the primary government from utility companies representing the one mil per kilowatt hour charge to each end use customer of electric services in the State of Connecticut increased $151,501 to $26.1 million for the fiscal year ended June 30, 2019 as compared to $25.9 million for the fiscal year ending June 30, 2018. Sales of Renewable Energy Credits (RECs) increased $2.8 million to $6.5 million in 2019 compared to $3.7 million in 2018 primarily as a result of the inclusion of sales of RECs for Tranche 2 systems to the two public utility companies in Connecticut. Fiscal year 2018 only included sales of RECs for Tranche 1 systems. Proceeds received by the primary government from quarterly Regional Greenhouse Gas Initiative (RGGI) auctions increased $0.9 million year over year with proceeds of $2.1 million in fiscal year 2019 compared to proceeds of $1.3 million in fiscal year 2018. The increase in proceeds can primarily be attributed to increasing auction clearing prices, despite the continued diversion of proceeds earmarked for the Green Bank into the State of Connecticut's general fund to meet projected budget shortfalls. Other income increased $1.0 million to $4.2 million in 2019 compared to $3.2 million in 2018 primarily due to commencing of PPA billings for CSCU solar PV systems as well as one-time development fees paid by a third party system purchaser.

Total payments of grants and incentives to commercial, not for profit, municipal and residential owners by the primary government to install either solar PV systems or energy efficiency measures decreased $3.2 million to $14.7 million in fiscal year 2019 compared to $17.9 million for the fiscal year 2018. The decrease is primarily due to lower interest rate buy downs related to the termination of the Smart-e buy down program. PBI payments comprised the largest component of incentives paid out in both these years.

Program administration expenses increased $613,000 to $17.5 million in fiscal 2019 from $16.9 million in fiscal 2018, a 1% increase. General and administrative costs increased by $91,000 to $5.7 million in fiscal year 2019 from $5.6 million in fiscal year 2018, a 1.6% increase. Included in general and administrative costs for 2019 and 2018 is $2.8 million and $2.2 million respectively for the non-cash GASB 68 pension expense and GASB 75 OPEB expense allocated to the Green Bank by the State of Connecticut which is not an expense that is controllable by Green Bank management. General and Administrative expense excluding these non-cash charges for 2019 and 2018 were $2.9 million and $3.4 million, respectively.

Interest earned on program investments and bank deposits increased $693,940 in fiscal 2019 to $4.3 million compared to $3.6 million in fiscal 2018 as a result of increased loans made in the Green Bank's investment portfolio, including interest from the repurchase of the Hannon Armstrong portfolio. Interest as a revenue source is expected to continue to increase in future years as the Green Bank expands its investment portfolio. Interest expense increased $595,060 to $2.0 million from $1.4 million due to interest on the SHREC Collateralized Notes as well as the CREBs bonds. Provision for loan losses increased $2.5 million to $2.9 million in fiscal 2019 from $0.4 million in fiscal 2018. The increase is due to a larger CPACE reserve required as a result of a larger portfolio, which includes the Hannon Armstrong repurchase, as well as increased program loan investments. Unrealized gain / (loss) on interest rate swaps decreased $1.4 million to $(0.7) million in fiscal 2019 from $0.7 million in fiscal 2018 due to fluctuations in interest rates.

The following table summarizes the changes in net position between June 30, 2019 and 2018:

	2019	2018	Increase (Decrease)
Revenues			
Utility remittances	$ 26,095	$ 25,943	$ 152
Energy system sales	2,795	2,782	13
REC sales	6,489	3,660	2,829
Other revenues	6,344	4,497	1,847
Total revenues	41,723	36,882	4,841
Operating Expenses			
Cost of goods sold - energy systems	2,877	2,998	(121)
Grants and incentive programs	14,672	17,930	(3,258)
Program administration expenses	17,496	16,883	613
General and administrative expenses	5,722	5,631	91
Total operating expenses	40,767	43,442	(2,675)
Operating Income	956	(6,560)	7,516
Non-Operating Revenues (Expenses)			
Interest earned	4,326	3,632	694
Interest expense	(1,984)	(1,389)	(595)
Investment loss	(104)	(510)	406
Debt issuance costs	(1,739)	--	(1,739)
Unrealized gain (loss) on interest rate swap	(695)	712	(1,407)
Provision for loan losses	(2,909)	(362)	(2,547)
Capital contribution	1,696	2,176	(480)
Distribution to member	(589)	(540)	(49)
Payments to State of Connecticut	(14,000)	(14,000)	--
Net Change	(15,042)	(16,841)	1,799
Net Position Beginning of Year	91,325	108,166	(16,841)
Net Position at End of Year	$ 76,283	$ 91,325	$ (15,042)

FINANCIAL HIGHLIGHTS OF FISCAL 2018

NET POSITION

The Green Bank's net position, which is reflective of the reporting entity's overall financial position, decreased year over year. Net position as of June 30, 2018, as restated, and 2017 was $91.3 million and $106.7 million, respectively, a decrease of $15.4 million. The Green Bank's net position as of June 30, 2017 was restated from $128.7 million to $106.7 million, a decrease of $22.0 million, to adjust net position for the implementation of Government Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Post Employment Benefits other than Pensions*. Note 16 provides further analysis on the effect of this implementation on the Green Bank's net position. The components of net position show that unrestricted net position decreased to $3.3 million as of June 30, 2018, restated for warranty expense, as compared to $32.5 million as of June 30, 2017, restated for GASB 75, a decrease of $29.2 million. Contributing to this decrease in unrestricted net position was a transfer of a portion of the primary government's available unrestricted cash balances into restricted cash balances to support the maintenance of loan loss reserves, interest rate buydowns, contractual obligations under the Clean Renewable Energy Bond and contractual obligations to maintain collateral accounts to support loan guarantees. This transfer is reflected in the component of net position designated as net position restricted for energy programs, which increased $2.4 million from $16.8 million as of June 30, 2017 to $19.2 million as of June 30, 2018. Restricted net position energy programs as of June 30, 2017 included approximately $2.9 in proceeds received upon the issuance of Clean Renewable Energy Bonds (CREBs) by the Green Bank which the Green Bank, through its component unit, CGB Meriden Hydro LLC, used to purchase a hydro-electric facility in fiscal year 2018 from the facility's developer in a sale-lease back transaction. Restricted net position energy programs as of June 30, 2018 included $9.1 million in proceeds received from the issuance of CREBs which will be used in fiscal 2019 to construct solar PV facilities on campuses in the State of Connecticut's system of universities and colleges. Note 17 Restricted Net Position provides a breakout by dollar amount of cash balances restricted for these programs. Also contributing to the decrease in unrestricted net position was payment of $14 million to the State of Connecticut in fiscal 2018 and the increase in pension and OPEB liabilities of $0.4 million.

Green Bank assets decreased $2.3 million in fiscal year 2018 to $186 million. As of June 30, 2017, assets totaled $188.3 million. This was primarily the result of a decrease in cash balances of $15 million and the completion and sale of Solar PV projects by CEFIA Holdings LLC of $ 6.4 million. These decreases were offset by an increase of $3.5 million in program loans made by the primary government to support renewable energy installations and energy efficiency upgrades for both residential and commercial property owners in Connecticut and a net increase in investments in capital assets of $11.9 million pertaining to the purchase of the hydroelectric facility in Meriden Connecticut by the primary government and the purchase of commercial solar PV facilities by CT Solar Lease 3 LLC.

Investments in capital assets net of depreciation increased from $61.5 million as of June 30, 2017 to $73.4 million as of June 30, 2018, an increase of $11.9 million. This increase was primarily the result of the purchase and construction of commercial solar PV systems by CT Solar Lease 3 LLC. The electricity generated by these facilities will be sold through power purchase agreements to third party commercial, not for profit and municipal customers. During fiscal year 2018 the primary government also placed in service the Hydroelectric facility. During fiscal 2017, CT Solar lease 2 completed its acquisition of both residential and commercial solar PV systems which comprise the remaining balance in capital assets. Note 12 provides further detail regarding investments in capital assets.

Unrestricted cash and cash equivalents decreased $17.3 million to $19.8 million as of June 30, 2018 compared to $37.1 million as of June 30, 2017 and restricted cash and cash equivalents increased $2.3 million to $24.4 million as of June 30, 2018 from $22.1 million as of June 30, 2017. The net decrease in unrestricted cash was primarily the result of the transfer of $14 million to the State of Connecticut during the last month of fiscal year 2018. The net increase in restricted cash was primarily the result of the receipt of a $1.5 grant to establish a health and safety revolving loan fund in fiscal 2019.

Green Bank liabilities increased by $25.3 million in fiscal year 2018 to $121.7 million as of June 30, 2018 from $96.4 million as of June 30, 2017. Current liabilities, comprised of current maturities of long term debt, accounts payable and accrued expenses decreased $2.2 million to $11 million as of June 30, 2018 compared to $13.2 million as of June 30, 2017. Accounts payable and accrued expenses increased $0.3 million from $8.7 million in 2017 to $9.0 million in 2018 primarily as a result of an increase in accrued warranty expenses of $2.5 million due to a restatement. This was partially offset by a decrease in accrued performance-based incentives payable by the primary government to third party owners of PV systems at each respective year-end. Contributing to this decrease was a liability of $1.7 million representing the buyout of future PBI obligations to third party owners of solar PV systems which was paid out in fiscal year 2018. The remaining decrease of $0.8 million resulted from a decrease in the amount recorded for the current portion of long term debt maturing within a year in 2018 compared to 2017 primarily pertaining to CT Solar Lease 2 LLC's debt facility used to finance its acquisition of Solar PV projects.

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded pension liability, as calculated under Government Accounting Standard Board (GASB) statement 68 decreased $0.6 million in fiscal year 2018 to $24.6 million as of June 30, 2018 compared to $25.2 million as of June 30, 2017. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank pension contributions decreased $1.2 million to $8.8 million as of June 30, 2018 compared to $10 million as of June 30, 2017. Note 15 provides further detail regarding the pension plan. The primary government is responsible for this pension obligation

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded retiree healthcare (OPEB) liability, as calculated under Government Accounting Standard Board (GASB) statement 75 increased $1.1 million in fiscal year 2018 to $24.9 million as of June 30, 2018 compared to $23.8 million as of June 30, 2017. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank OPEB contributions increased $0.1 million to $2.0 million as of June 30, 2018 compared to $1.9 million as of June 30, 2017. Note 16 provides further detail regarding the OPEB plan. The primary government is responsible for this OPEB obligation

Long term debt increased $8.8 million in fiscal year 2018 to $38.5 million as of June 30, 2018 when compared to $29.7 million as of June 30, 2017. During fiscal year 2018, the Green Bank issued $9.1 million of Clean Renewable Energy Bonds. The proceeds from these bonds will be used by the Green Bank to construct solar PV facilities on various campuses of colleges and universities owned by the State of Connecticut. During fiscal year 2018 the Green Bank borrowed $1 million under a short term working capital loan facility secured by the proceeds from the sale of renewable energy credits to public utilities located within the State of Connecticut. These increases in long term debt are offset by repayments of principal by CT Solar Lease 2 LLC of funds borrowed under its credit facility with KeyBank and Webster Bank. Note 9 provides further detail regarding long term debt.

As of June 30, 2018, the Green Bank's unfunded contingent grant and loan commitments, which are obligations of the primary government, the majority of which represent PBI payments to third party owners of solar facilities as described in Note 14, totaled $62.5 million. These grant and loan commitments are expected to be funded over the next one to six years from current and future unrestricted cash balances.

The following table summarizes the net position of the reporting entity at June 30, 2018 and 2017:

Net Position
(in thousands)

	2018	2017	Increase (Decrease)
Cash and cash equivalents-unrestricted	$ 19,830	$ 37,148	$ (17,318)
Cash and cash equivalents-restricted	24,368	22,063	2,305
Bonds receivable	3,329	3,329	--
Fair value of interest rate swaps	171	--	171
Solar lease notes	7,267	8,113	(846)
Program loans	45,664	42,206	3,458
Capital assets, net	73,417	61,510	11,907
Other assets	11,926	13,937	(2,011)
Total Assets	185,972	188,306	(2,334)
Deferred Outflows of Resources			
Deferred amount for pensions	8,779	9,978	(1,199)
Deferred amounts for OPEB	1,999	1,856	143
Deferred amounts for asset retirement oblig	2,928	2,947	(19)
Deferred payments to State of Connecticut	14,000	--	14,000
Total deferred outflows of resources	27,706	14,781	12,925
Current liabilities	10,975	13,153	(2,178)
Unearned revenue	3,144	872	2,272
Pension liabilities	24,636	25,245	(609)
OPEB liabilities	24,876	23,804	1,072
Payments to State of Connecticut	14,000	--	14,000
Other long term liabilities	5,516	3,020	2,496
Fair value of interest rate swap	--	541	(541)
Long term debt, less current maturities	38,532	29,737	8,795
Total liabilities	121,679	96,372	25,307
Deferred Inflows of Resources			
Deferred amount for pensions	47	--	47
Deferred amount for OPEB	625	--	--
Total deferred outflows of resources	672	--	47
Invested in capital assets	2,251	1,388	863
Restricted Net Position:			
Non-expendable	66,496	55,975	10,521
Restricted - energy programs	19,250	16,844	2,406
Unrestricted	3,328	32,509	(29,181)
Total Net Position	$ 91,325	$ 106,716	$ (15,391)

CHANGES IN NET POSITION

Operating revenues increased by $2.9 million to $36.9 million as of June 30, 2018 as compared to $34.0 million as of June 30, 2017. Continuing a trend in recent years, remittances to the primary government from utility companies representing the one mil per kilowatt hour charge to each end use customer of electric services in the State of Connecticut decreased $461,000 to $25.9 million for the fiscal year ended June 30, 2018 as compared to $26.4 million for the fiscal year ending June 30, 2017. Sales of Renewable Energy Credits (RECs) increased $1.1 million to $3.7 million in 2018 compared to $2.6 million in 2017 primarily as a result of the commencement of sales of RECs to the two public utility companies in Connecticut. Proceeds received by the primary government from quarterly Regional Greenhouse Gas Initiative (RGGI) auctions declined $1.1 million year over year with proceeds of $1.3 million in fiscal year 2018 compared to proceeds of $2.4 million in fiscal year 2017. The decrease in proceeds can primarily be attributed to the continued diversion of proceeds earmarked for the Green Bank into the State of Connecticut's general fund to meet projected budget shortfalls. During fiscal 2018 CEFIA Holdings LLC, a developer of solar PV facilities sold $2.8 million of partially constructed projects to a third party.

Total payments of grants and incentives to commercial, not for profit, municipal and residential owners by the primary government to install either solar PV systems or energy efficiency measures increased $846,000 to $17.9 million in fiscal year 2018 compared to $17.1 million for the fiscal year 2017. PBI payments comprised the largest component of incentives paid out in both these years.

Program administration expenses decreased $59,000 to $16.9 million in fiscal 2018 from $16.8 million in fiscal 2017, a 0.4% decrease. Included in program administration expenses is the non-cash depreciation expense for Solar PV capital assets acquired by CT Solar Lease 2 LLC and CT Solar Lease 3 LLC of $2.8 million in fiscal 2018 and $2.3 million in fiscal 2017. General and administrative costs decreased by $94,000 to $5.63 million in fiscal year 2018 from $5.73 million in fiscal year 2017, a 1.7% decrease. Included in general and administrative costs for 2018 and 2017 is $2.2 million and $1.7 million respectively for the non-cash GASB 68 pension expense and GASB 75 OPEB expense allocated to the Green Bank by the State of Connecticut which is not an expense that is controllable by Green Bank management. General and Administrative expense excluding these non-cash charges for 2018 and 2017 were $3.1 million and $4 million, respectively, representing a decrease of $867,000 or 21.7%.

Interest earned on program investments and bank deposits increased $488,000 in fiscal 2018 to $3.6 million compared to $3.1 million in fiscal 2017 as a result of increased loans made in the Green Bank's investment portfolio. Interest as a revenue source is expected to continue to increase in future years as the Green Bank expands its investment portfolio. Interest expense increased $167,000 to $1.39 million from $1.22 million as borrowings have increased to finance its leasing programs. Capital contributions to CT SL2 LLC and CT SL3 LLC by their investor member decreased $4.2 million to $2.2 million in fiscal 2018 from $6.4 million in fiscal year 2017. Capital contributions from the investor member are received as projects are completed. As of June 30, 2017, all capital contributions to CT SL2 LC due from the investor member have been received.

The following table summarizes the changes in net position between June 30, 2018 and 2017:

Changes in Net Position
(in thousands)

	2018	2017	Increase (Decrease)
Revenues			
Utility remittances	$ 25,943	$ 26,404	$ (461)
Energy system sales	2,782	--	2,782
REC sales	3,660	2,571	1,089
Other revenues	4,497	4,992	(495)
Total revenues	36,882	33,967	2,915
Operating Expenses			
Cost of goods sold - energy systems	2,998	--	2,998
Grant and incentive payments	17,930	17,085	845
Program administration expenses	16,883	16,824	59
General and administrative expenses	5,631	5,725	(94)
Total operating expenses	43,442	39,634	3,808
Operating Income	(6,560)	(5,667)	(893)
Non-Operating Revenues (Expenses)			
Interest earned	3,632	3,144	488
Interest expense	(1,389)	(1,222)	(167)
Investment loss	(510)	(94)	(416)
Unrealized loss on investment	--	(1,000)	1,000
Unrealized gain (loss) on interest rate swap	712	1,087	(375)
Provision for loan losses	(362)	(956)	594
Capital contribution by member	2,176	6,446	(4,270)
Distribution to member	(540)	(437)	(103)
Payments to State of Connecticut	(14,000)	--	(14,000)
Net Change	(16,841)	1,301	(19,039)
Net Position at Beginning of Year	108,166 *	105,415	2,751
Net Position at End of Year	$ 91,325	$ 106,716	$ (15,391)

* Restated (see Footnote 20)

REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of the Green Bank's finances. Questions concerning any of the information provided in this report or request for additional financial information should be addressed to the Office of Finance and Administration, 845 Brook Street, Rocky Hill, Connecticut 06067.

BASIC FINANCIAL STATEMENTS

CONNECTICUT GREEN BANK
CONSOLIDATING STATEMENT OF NET POSITION
JUNE 30, 2019
(with summarized totals for the year ended June 30, 2018)

	Total Primary Government	Discretely Presented Component Units			Eliminating Entries	2019 Total Reporting Entity	2018 Total Reporting Entity
		CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC			
Assets							
Current Assets							
Cash and cash equivalents	$ 17,053,926	$ 1,452,169	$ 121,858	$ 319,261	$	$ 18,947,214	$ 19,830,102
Accounts receivable	1,657,593	60,511		56,886		1,774,990	1,018,419
Utility remittance receivable	1,893,965					1,893,965	2,377,065
Other receivables	2,258,333	531,214		215,233		3,004,780	1,641,354
Due from component units	39,977,711	500,972	7,923,276	1,989	(48,403,948)	-	-
Prepaid expenses and other assets	1,448,354	379,843		17,907		1,846,104	1,847,848
Current maturities of prepaid warranty management		259,148				259,148	259,148
Current portion of solar lease notes	942,056					942,056	908,541
Current portion of SBEA promissory notes	1,709,491					1,709,491	
Current portion of program loans	3,756,932					3,756,932	2,138,512
Total current assets	70,698,361	3,183,857	8,045,134	611,276	(48,403,948)	34,134,680	30,020,989
Noncurrent Assets							
Portfolio investments	1					1	1
Fair value of interest rate swap						-	171,478
Bonds receivable	3,288,656					3,288,656	3,328,530
Prepaid warranty management, less current portion		3,984,883				3,984,883	4,234,756
Solar lease notes, less current portion	5,361,206					5,361,206	6,358,184
SBEA promissory notes, less current portion	1,799,007					1,799,007	
Program loans, less current portion	64,800,014					64,800,014	43,525,021
Renewable energy credits	468,736					468,736	547,556
Investment in component units	100		31,264,299		(31,264,399)	-	-
Capital assets, net of depreciation and amortization	12,496,472	65,235,333		12,110,580	(9,319,345)	80,523,040	73,417,221
Restricted assets:							
Cash and cash equivalents	11,924,958	4,659,839	83,000			16,667,797	24,368,185
Total noncurrent assets	100,139,150	73,880,055	31,347,299	12,110,580	(40,583,744)	176,893,340	155,950,932
Total Assets	170,837,511	77,063,912	39,392,433	12,721,856	(88,987,692)	211,028,020	185,971,921
Deferred Outflows of Resources							
Deferred amount for pensions	7,756,235					7,756,235	8,778,670
Deferred amount for OPEB	1,732,147					1,732,147	1,999,011
Deferred amount for asset retirement obligations		2,250,156		578,305		2,828,461	2,927,687
Deferred payments to State of Connecticut						-	14,000,000
Total Deferred Outflows of Resources	9,488,382	2,250,156	-	578,305	-	12,316,843	27,705,368

The accompanying notes are an integral part of the financial statements

CONNECTICUT GREEN BANK
CONSOLIDATING STATEMENT OF NET POSITION (CONTINUED)
JUNE 30, 2019
(with summarized totals for the year ended June 30, 2018)

		Discretely Presented Component Units					
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Eliminating Entries	2019 Total Reporting Entity	2018 Total Reporting Entity
Liabilities and Net Position							
Liabilities							
Current maturities of long-term debt	$ 3,023,595	$ 1,479,720	$ 94,788	$	$	$ 4,598,103	$ 847,491
Current maturities of warranty management		1,485,978				1,485,978	689,746
Accounts payable and accrued expenses	7,378,794	391,560	65,912	37,379		7,873,645	6,544,078
Due to component units	500,728	10,596,435	37,160,451	146,334	(48,403,948)	-	-
Line of credit						-	1,000,000
Custodial liability	2,695,326					2,695,326	1,893,526
Unearned revenue		773,530		105,982		879,512	3,144,218
Total current liabilities	13,598,443	14,727,223	37,321,151	289,695	(48,403,948)	17,532,564	14,119,059
Asset retirement obligation		3,164,981		659,374		3,824,355	3,658,993
Long-term debt, less current maturities	49,968,467	21,504,200	1,556,143			73,028,810	38,532,393
Warranty management, less current maturities		371,495				371,495	1,857,473
Fair value of interest rate swap		523,224				523,224	-
Pension liability	25,805,346					25,805,346	24,636,114
OPEB liability	24,000,448					24,000,448	24,875,889
Payable to State of Connecticut						-	14,000,000
Total noncurrent assets	99,774,261	25,563,900	1,556,143	659,374	-	127,553,678	107,560,862
Total Liabilities	113,372,704	40,291,123	38,877,294	949,069	(48,403,948)	145,086,242	121,679,921
Deferred Inflows of Resources							
Deferred amount for pensions	80,906					80,906	47,042
Deferred amount for OPEB	1,895,599					1,895,599	624,950
Total deferred inflows of resources	1,976,505	-	-	-	-	1,976,505	671,992
Net Position							
Invested in capital assets	2,511,829	1,330,432		121,106	(168,967)	3,794,400	2,250,706
Restricted Net Position:							
Nonexpendable		60,294,483		15,757,514	(9,150,378)	66,901,619	66,496,304
Restricted for energy programs	11,407,587	46,598	83,000			11,537,185	19,250,169
Unrestricted (deficit)	51,057,268	(22,648,568)	432,139	(3,527,528)	(31,264,399)	(5,951,088)	3,328,197
Total Net Position	$ 64,976,684	$ 39,022,945	$ 515,139	$ 12,351,092	$ (40,583,744)	$ 76,282,116	$ 91,325,376

The accompanying notes are an integral part of the financial statements

CONNECTICUT GREEN BANK
CONSOLIDATING STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN NET POSITION
FOR THE YEAR ENDED JUNE 30, 2019
(with summarized totals for the year ended June 30, 2018)

		Discretely Presented Component Units					
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Eliminations	2019 Total Reporting Entity	2018 Total Reporting Entity
Operating Revenues							
Utility remittances	$ 26,094,682	$	$	$	$	$ 26,094,682	$ 25,943,182
Grant revenue	200,779					200,779	81,952
RGGI auction proceeds	2,130,255					2,130,255	1,250,260
Energy system sales	4,833,646				(2,038,310)	2,795,336	2,782,406
REC sales	5,348,537	738,153		402,789		6,489,479	3,659,520
Other income	1,321,358	3,202,262	176,938	373,906	(1,062,130)	4,012,334	3,164,336
Total operating revenues	39,929,257	3,940,415	176,938	776,695	(3,100,440)	41,722,865	36,881,656
Operating Expenses							
Cost of goods sold - energy systems	4,601,431				(1,724,391)	2,877,040	2,997,798
Grants and incentive programs	15,598,111				(926,361)	14,671,750	17,930,437
Program administration expenses	13,586,373	3,517,018	223,512	513,289	(344,261)	17,495,931	16,882,804
General and administrative expenses	5,484,608	274,833	4,600	94,125	(135,769)	5,722,397	5,630,001
Total operating expenses	39,270,523	3,791,851	228,112	607,414	(3,130,782)	40,767,118	43,441,040
Operating Income (Loss)	658,734	148,564	(51,174)	169,281	30,342	955,747	(6,559,384)
Nonoperating Revenue (Expenses)							
Interest income - promissory notes	3,907,759	1,736				3,909,495	3,293,338
Interest income - short-term cash deposits	400,407	15,005	585	261		416,258	338,476
Interest expense long-term debt	(772,225)	(1,168,918)	(42,359)			(1,983,502)	(1,388,869)
Interest income - component units	64,544		48,129		(112,673)	-	-
Interest expense - component units	(429)	(112,673)			112,673	(429)	-
Debt issuance costs	(1,738,746)					(1,738,746)	-
Payments to State of Connecticut	(14,000,000)					(14,000,000)	(14,000,000)
Distributions to member		(510,142)		(78,521)		(588,663)	(540,171)
Distributions to former member	(1,000)					(1,000)	-
Realized and unrealized gain (loss) on investments	(104,466)					(104,466)	(510,207)
Unrealized gain (loss) on interest rate swap		(694,702)				(694,702)	712,355
Provision for loan losses	(2,908,974)					(2,908,974)	(361,711)
Total nonoperating revenue (expenses)	(15,153,130)	(2,469,694)	6,355	(78,260)	-	(17,694,729)	(12,456,789)
Change in Net Position before Capital Contributions	(14,494,396)	(2,321,130)	(44,819)	91,021	30,342	(16,738,982)	(19,016,173)
Capital contributions				2,855,179	(1,159,457)	1,695,722	2,175,941
Change in Net Position	(14,494,396)	(2,321,130)	(44,819)	2,946,200	(1,129,115)	(15,043,260)	(16,840,232)
Net Position - Beginning of Year, as restated	79,471,080	41,344,075	559,958	9,404,892	(39,454,629)	91,325,376	108,165,608
Net Position - End of Year	$ 64,976,684	$ 39,022,945	$ 515,139	$ 12,351,092	$ (40,583,744)	$ 76,282,116	$ 91,325,376

The accompanying notes are an integral part of the financial statements

CONNECTICUT GREEN BANK
CONSOLIDATING STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED JUNE 30, 2019
(with summarized totals for the year ended June 30, 2018)

		Discretely Presented Component Units					
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Eliminating Entries	2019 Total Reporting Entity	2018 Total Reporting Entity
Cash Flows from Operating Activities							
Sales of energy systems	$ 6,030,736	$	$	$	$ (3,235,400)	$ 2,795,336	$ 1,364,406
Sales of Renewable Energy Credits	5,316,520	669,652		358,684		6,344,856	3,534,127
Utility company remittances	26,577,782					26,577,782	26,073,775
Grants	(1,316,000)					(1,316,000)	1,587,595
RGGI auction proceeds	1,188,912					1,188,912	965,534
Other income	1,256,241	1,578,119	176,938	333,007	(1,062,130)	2,282,175	1,287,049
Lease payments received		1,455,778				1,455,778	1,397,663
Program administrative expenses	(13,493,001)	(1,130,582)	(223,512)	(120,582)		(14,967,677)	(11,931,253)
Grants, incentives and credit enhancements	(19,568,405)	1,080			926,361	(18,640,964)	(19,909,962)
Purchases of energy equipment	(4,027,221)					(4,027,221)	(3,656,498)
General and administrative expenditures	(3,019,260)	(283,387)	(4,600)	20,501	135,769	(3,150,977)	(5,112,457)
Net cash provided by (used in) operating activities	(1,053,696)	2,290,660	(51,174)	591,610	(3,235,400)	(1,458,000)	(4,400,021)
Cash Flows from Noncapital Financing Activities							
Payments to State of Connecticut	(14,000,000)					(14,000,000)	(14,000,000)
Funds received (disbursed) from escrow and custodial accounts	(1,032,896)	(213,061)		(60,591)		(1,306,548)	(181,351)
Advances to CGB component units	(909,834)	5,901	900,000	3,933		-	-
Advances repaid (disbursed) to third party capital providers	(1,542,548)					(1,542,548)	(126,729)
Advances from CGB and component units	1,989			(1,989)		-	-
Repayments of advances (to) from component units	10,933	(10,933)				-	-
Net cash provided by (used in) noncapital financing activities	(17,472,356)	(218,093)	900,000	(58,647)	-	(16,849,096)	(14,308,080)
Cash Flows from Capital and Related Financing Activities							
Purchase of capital assets	(7,404,070)			(3,235,400)	3,235,400	(7,404,070)	(3,932,367)
Disposals of capital assets	3,112					3,112	-
Proceeds from long-term debt	39,528,757					39,528,757	10,101,729
Repayment of long-term debt	(1,505,389)	(681,547)	(94,791)			(2,281,727)	(2,098,105)
Debt issuance costs	(1,738,746)					(1,738,746)	-
Interest expense	(667,891)	(1,153,280)	(1,979)			(1,823,150)	(1,319,895)
Capital contributions from (to) component entities			(1,159,457)	1,159,457		-	-
Capital contributions from Firstar Development, LLC				1,695,722		1,695,722	2,489,554
Return of capital to Connecticut Innovations	(1,000)					(1,000)	
Return of capital to Firstar Development, LLC		(510,142)		(70,066)		(580,208)	(525,015)
Net cash provided by (used in) capital and related financing activities	28,214,773	(2,344,969)	(1,256,227)	(450,287)	3,235,400	27,398,690	4,715,901
Cash Flows from Investing Activities							
Gains and losses on investments	-					-	(8,787)
Loan losses	78,925					78,925	31,238
Return of principal on WC & program loans	(78,791)					(78,791)	6,664,612
Interest on short-term investments, cash, solar lease notes and loans	3,227,392	16,741	585	262		3,244,980	2,425,454
Purchase of SBEA loan portfolios	(3,048,996)					(3,048,996)	-
CPACE program loan disbursements	(4,486,084)					(4,486,084)	(5,932,692)
Grid Tied program loan disbursements	(110,493)					(110,493)	(829,349)
Commercial Solar Loan program disbursements	(987,960)					(987,960)	-
Residential Solar Loan program disbursements	(12,286,451)					(12,286,451)	(3,371,678)
Net cash provided by (used in) investing activities	(17,692,458)	16,741	585	262	-	(17,674,870)	(1,021,202)
Net Increase (Decrease) in Cash and Cash Equivalents	(8,003,737)	(255,661)	(406,816)	82,938	-	(8,583,276)	(15,013,402)
Cash and Cash Equivalents - Beginning of Year	36,982,621	6,367,669	611,674	236,323	-	44,198,287	59,211,689
Cash and Cash Equivalents - End of Year	$ 28,978,884	$ 6,112,008	$ 204,858	$ 319,261	$ -	$ 35,615,011	$ 44,198,287
Reconciliation of Operating Income (Loss) to Net Cash Provided by (Used in) Operating Activities:							
Operating income (loss)	$ 658,734	$ 148,564	$ (51,174)	$ 169,281	$ 30,342	$ 955,747	$ (6,559,384)
Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities:							
Depreciation	317,654	2,478,364		422,606		3,218,624	2,977,208
Accretion		138,850		48,625		187,475	178,542
Deferred lease revenue	(1,500,000)	(49,092)		(25,304)		(1,574,396)	82,194
Pension expense adjustment	2,225,531					2,225,531	637,154
OPEB expense adjustment	662,072					662,072	1,554,401
Changes in operating assets and liabilities:							
(Increase) decrease in operating assets	(3,904,608)	(137,835)		(18,966)	(1,918,822)	(5,980,231)	7,981,453
(Decrease) increase in operating liabilities	486,921	(288,191)		(4,632)	(1,346,920)	(1,152,822)	(11,251,589)
Net Cash Provided by (Used in) Operating Activities	$ (1,053,696)	$ 2,290,660	$ (51,174)	$ 591,610	$ (3,235,400)	$ (1,458,000)	$ (4,400,021)

The accompanying notes are an integral part of the financial statements

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations

The Connecticut Green Bank (the Green Bank) was established in July 2011 under Title 16, Sec. 16-245n of the General Statutes of the State of Connecticut as the successor entity of the Connecticut Clean Energy Fund. The Green Bank, a component unit of the State of Connecticut, was created to promote energy efficiency and investment in renewable energy sources in accordance with a comprehensive plan developed by it to foster the growth, development and commercialization of renewable energy sources and related enterprises and stimulate demand for renewable energy and deployment of renewable energy sources which serve end-use customers in the State. The Green Bank constitutes the successor agency to Connecticut Innovations Incorporated (CI), a quasi-public agency of the State of Connecticut, for the purposes of administering the Clean Energy Fund in accordance with section 4-38d of the Connecticut General Statutes and therefore the net position of such fund was transferred to the newly created Green Bank as of July 1, 2011.

On June 6, 2014, Public Act 14-94 of the State of Connecticut changed the name of the Clean Energy Finance and Investment Authority to the Connecticut Green Bank.

Prior Period Summarized Financial Information

The basic financial statements include certain prior year summarized comparative information in total but not at the level of detail required for a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Green Bank's financial statements for the year ended June 30, 2018, from which the summarized information was derived.

Principal Revenue Sources

The Public Utility Regulatory Authority (PURA) assesses a charge per kilowatt-hour to each end-use customer of electric services provided by utility companies (excluding municipally owned entities) in the state, which is paid to the Green Bank and is the principal source of the Green Bank's revenue. The Green Bank may deploy the funds for loans, direct or equity investments, contracts, grants or other actions that support energy efficiency projects and research, development, manufacture, commercialization, deployment and installation of renewable energy technologies.

The Green Bank also receives a portion, currently 23%, of proceeds the State of Connecticut receives from quarterly Regional Greenhouse Gas Initiative (RGGI) auctions. These proceeds finance energy efficiency and renewable energy projects through the Green Bank's CPACE program. The Green Bank also earns both interest income and revenue from the sale of Solar Renewable Energy Credits (SREC's) generated by facilities it has financed.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Reporting Entity

The Green Bank, as the primary government, follows the reporting requirements of Governmental Accounting Standards Board (GASB) Statement No. 61 (*The Financial Reporting Entity Omnibus - an Amendment of GASB Statements No. 14 and No. 34*) (the Statement) regarding presentation of component units. The Statement modifies certain requirements for including component units in the reporting entity, either by blending (recording their amounts as part of the primary government), or discretely presenting them (showing their amounts separately in the reporting entity's financial statements). To qualify as a blended component unit, the unit must meet one of the following criteria: 1) have substantively the same governing body as that of the primary government, and either (A) a financial benefit or burden relationship exists between the unit and the primary government, or (B) management of the primary government (below the level of the governing body) has operational responsibility of the unit; 2) the unit provides services or benefits exclusively or almost exclusively to the primary government; or 3) the unit's total debt outstanding, including leases, is expected to be repaid by resources of the primary government. A unit which fails to meet the substantively the same governing requirement may still be included as a discretely presented component unit, if the primary government has appointed the voting majority of the component unit's governance or met other criteria specified in the Statement such as whether or not it would be misleading were the entity to be excluded.

The Green Bank, as of June 30, 2019, has established nine legally separate for-profit entities whose collective purpose is to administer the Green Bank's solar energy programs. The Green Bank believes to exclude any of the entities from these financial statements would be misleading. Each entity is listed below, along with whether it is included as a blended component unit (blended) or qualifies as a discretely presented component unit (discrete) within these financial statements based on the criteria previously described.

CEFIA Holdings LLC (blended)

A Connecticut limited liability company (LLC), wholly owned by the Green Bank, established to acquire and develop a portfolio of commercial and residential solar facilities and, through its CT Solar Lease 2 program, to enable investment in solar photovoltaic equipment for the benefit of Connecticut homeowners, businesses, not-for-profits and municipalities (the End Users). CEFIA Holdings LLC 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 the leasing of the solar assets (or sale of energy under power purchase agreements) to the End Users. CEFIA Holdings LLC is also responsible for procuring insurance for the solar assets, operation and maintenance services as well as warranty management services for the ultimate owner of the solar assets, CT Solar Lease 2 LLC or CT Solar Lease 3 LLC, to which CEFIA Holdings LLC sells the residential and commercial projects before the projects are placed in service. After acquiring the residential and commercial projects, CT Solar Lease 2 LLC or CT Solar Lease 3 LLC administers the portfolio of projects with the assistance of Renew Financial Corporation. The Green Bank's Board of Directors acts as the governing authority of CEFIA Holdings LLC. The Green Bank appoints its employees to manage the operations of CEFIA Holdings LLC. The Green Bank is also financially responsible (benefit/burden) for CEFIA Holdings LLC's activities.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

CT Solar Loan I LLC (blended)

A limited liability company, wholly owned by CEFIA Holdings LLC, CT Solar Loan I LLC was established to make loans to residential property owners for the purpose of purchasing and installing solar photovoltaic equipment. The Green Bank's Board of Directors acts as the governing authority of CT Solar Loan I LLC. The Green Bank appoints its employees to manage the operations of CT Solar Loan I LLC. The Green Bank is also financially responsible (benefit/burden) for CT Solar Loan I LLC's activities.

CEFIA Solar Services, Inc. (discrete)

A Connecticut corporation, 100% owned by CEFIA Holdings LLC, 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, Inc. (Solar Services) has a one percent ownership interest in CT Solar Lease 2 LLC and CT Solar Lease 3 and is its managing member. Solar Services is responsible for performing all management and operational functions pursuant to the Operating Agreement of CT Solar Lease 2 LLC and of CT Solar Lease 3 LLC. The Green Bank through CEFIA Holdings LLC directly appoints the Board of Directors of Solar Services. The Board of Directors is comprised exclusively of Green Bank employees. The primary government's intent for owning a controlling interest in Solar Services is to enhance its ability to offer financing options to commercial entities and residents of Connecticut wishing to install renewable energy equipment. The Green Bank believes that to exclude Solar Services from these financial statements would be misleading.

CT Solar Lease 2 LLC (discrete)

A Connecticut limited liability company, CT Solar Lease 2 LLC acquires title to the residential and commercial solar projects from the developer, CEFIA Holdings LLC, using capital from its members along with non-recourse funding from participating banks. Repayment to participating banks is predicated upon the property owners' payment to CT Solar Lease 2 LLC of their obligations under leases and power purchase agreements, as well as revenue earned from production-based incentives. CT Solar Lease 2 LLC is owned ninety-nine percent (99%) by Firstar Development, LLC, a Delaware limited liability company, as the Investor Member and one percent (1%) by CEFIA Solar Services, Inc., as the Managing Member. The primary government's intent to provide management services through Solar Services is to directly enhance its ability to provide financing options to commercial entities and residents of Connecticut wishing to install renewable energy equipment. Although the Green Bank has a minority membership interest in CT Solar Lease 2 LLC, the Green Bank believes that to exclude it from these financial statements would be misleading.

As of June 30, 2017, CT Solar Lease 2 LLC has completed its acquisition of residential and commercial solar projects from the developer. All projects have been placed in service and are generating revenue. CT Solar Lease 2 LLC has also received all capital contributions required under its Operating Agreement from its members.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

CT Solar Lease 3 LLC (discrete)

A Connecticut limited liability company, CT Solar Lease 3 LLC acquires title to commercial solar projects from the developer, CEFIA Holdings LLC, using capital from its members. CT Solar Lease 3 LLC's primary sources of revenue will be from the sale of electricity generated by its solar PV facilities to property owners through power purchase agreements and the sale of RECs generated from facility electrical production to third parties. CT Solar Lease 3 LLC is owned ninety-nine percent (99%) by Firstar Development, LLC, a Delaware limited liability company, as the Investor Member and one percent (1%) by CEFIA Solar Services Inc., as the Managing Member. The primary government's intent to provide management services through Solar Services is to directly enhance its ability to provide financing options to commercial entities and residents of Connecticut wishing to install renewable energy equipment. Although the Green Bank has a minority membership interest in CT Solar Lease 3 LLC, the Green Bank believes that to exclude it from these financial statements would be misleading.

CGB Meriden Hydro LLC (blended)

On August 31, 2017, the Green Bank, through its wholly owned component unit, CGB Meriden Hydro LLC (CGB Meriden), purchased a 195 kW hydroelectric facility located in Meriden, Connecticut, from the facility's developer, Hanover Pond Hydro LLC (Hanover Pond), pursuant to a sale and leaseback agreement dated January 1, 2017 for $3,911,706. The Green Bank utilized the proceeds of the Clean Energy Renewable Bond (CREB), $2,957,971 issued in fiscal year 2017, to finance a portion of the total purchase price.

Hanover Pond remits to CGB Meriden a monthly lease payment equal to the monthly payment made by the City of Meriden to Hanover Pond for the purchase of electricity generated by the hydroelectric facility under a power purchase agreement dated August 14, 2014, as amended. This lease commenced on the date commercial operations began and terminates on the 30th anniversary of said date. Commercial operations began on March 7, 2017. In addition to revenues earned through its lease with Hanover Pond, CGB Meriden also receives revenues from the sale of renewable energy credits generated by the facility and sold to the local utility company under a sale and purchase contract dated July 31, 2014 which was assigned to CGB Meriden on September 18, 2017.

CGB KFC LLC (blended)

A Connecticut corporation, single member LLC 100% owned by Connecticut Green Bank, established on November 7, 2017 to hold the loan liability resulting from draws made on a $3,000,000 loan facility provided by the Kresge Foundation. On December 18, 2018 CGB KCF LLC drew $1,000,000 in funds which are being held in a Green Bank restricted cash account on behalf of CGB KCF LLC. Quarterly interest payments are made on the outstanding balance. Advances between the Green Bank and CGB KCF LLC were involved in the establishment of the loan payable and payment of interest expense. Advances were eliminated in preparing the combining and reporting entity financial statements.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

SHREC ABS 1 (blended)

A Delaware corporation, single member LLC 100% owned by Connecticut Green Bank, established on February 19, 2019 to be the issuer of $38,600,000 of SHREC Collateralized Notes, Series 2019-1 ("SHREC notes"), $36,800,000 Class A notes and $1,800,000 Class B notes, with Bank of New York Mellon acting as trustee. The SHREC notes were sold to a single investor on April 2, 2019. The proceeds were used to retire Green Bank short-term debt, as well as to support Green Bank investment and operational activities. Quarterly payments of scheduled principal and interest for a period of 14 years are funded by billings to two Connecticut utilities for SHREC revenues generated by approximately 14,000 solar PV systems on residential rooftops. Advances between the Green Bank and SHREC ABS 1 LLC were involved in the establishment of the note, retirement of Green Bank short-term debt, as well as to pay certain organizational costs. Advances were eliminated in preparing the combining and reporting entity financial statements.

CT Solar Lease 1 LLC (blended)

A Connecticut corporation, single member LLC 100% owned by Connecticut Green Bank, established on April 23, 2019 to hold collateral that supports a $5,000,000 guaranty on a line of credit with Amalgamated Bank. On May 21, 2019 the Green Bank assigned its solar lease promissory note portfolio to CT Solar Lease 1 LLC. Solar Lease 1 LLC receives note payments and maintains a loan loss reserve for the portfolio. Advances between the Green Bank and Solar Lease 1 LLC were involved in the transfer of assets and loan loss reserves. Advances were eliminated in preparing the combining and reporting entity financial statements.

Advances between the primary government (the Green Bank) and its component units, or between the component units themselves, involved establishment of funds to provide for loan loss reserves as well as pay certain organizational costs. Advances were eliminated in preparing the combining and reporting entity financial statements.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Condensed combining information for the primary government (The Green Bank) and its six blended component units (CGB Meriden Hydro LLC, CG KCF LLC, SHREC ABS 1 LLC, CT Solar Lease I LLC, CT Solar Loan I LLC and CEFIA Holdings LLC) is presented as of June 30, 2019 as follows:

Condensed, Combining Information - Statement of Net Position

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease I LLC	CT Solar Loan I LLC	CEFIA Holdings LLC	Eliminating Entries	Total Primary Government
Assets									
Current Assets									
Cash and cash equivalents	$ 7,661,708	$ 32,735	$	$ 3,916,900	$	$ 442,807	$ 4,999,776	$	$ 17,053,926
Accounts receivable	1,643,017						14,576		1,657,593
Utility remittance receivable	1,893,965								1,893,965
Other receivables	507,079				78,392	3,541	1,669,321		2,258,333
Due from component units	49,144,640		989,315	32,344,478			6,571,497	(49,072,219)	39,977,711
Prepaid expenses and other assets	1,200,256	90,604		41,667		12,966	102,861		1,448,354
Current maturities of prepaid warranty management									
Current portion of solar lease notes					942,056				942,056
Current portion of SBEA promissory notes	1,709,491								1,709,491
Current portion of program loans	3,581,377					175,555			3,756,932
Total current assets	67,341,533	123,339	989,315	36,303,045	1,020,448	634,869	13,358,031	(49,072,219)	70,698,361
Noncurrent Assets									
Portfolio investments	1								1
Fair value of interest rate swap									
Bonds receivable	3,288,656								3,288,656
Prepaid warranty management, less current portion									
Solar lease notes, less current portion					5,361,206				5,361,206
SBEA promissory notes, less current portion	1,799,007								1,799,007
Program loans, less current portion	62,605,770					2,194,244			64,800,014
Renewable energy credits	468,736								468,736
Investment in component units	100,100						100	(100,100)	100
Capital assets, net of depreciation and amortization	8,226,696	4,269,776							12,496,472
Restricted assets:									
Cash and cash equivalents	11,623,477					301,481			11,924,958
Total noncurrent assets	88,112,443	4,269,776	-	-	5,361,206	2,495,725	100	(100,100)	100,139,150
Total Assets	155,453,976	4,393,115	989,315	36,303,045	6,381,654	3,130,594	13,358,131	(49,172,319)	170,837,511
Deferred Outflows of Resources									
Deferred amount for pensions	7,756,235								7,756,235
Deferred amount for OPEB	1,732,147								1,732,147
Deferred amount for asset retirement obligations									
Deferred payments to State of Connecticut									
Total Deferred Outflows of Resources	9,488,382	-	-	-	-	-	-	-	9,488,382

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Condensed, Combining Information - Statement of Net Position (Continued)

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease I LLC	CT Solar Loan I LLC	CEFIA Holdings LLC	Eliminating Entries	Total Primary Government
Liabilities and Net Position									
Liabilities									
Current maturities of long-term debt	$ 625,017	$	$	$ 2,243,000	$	$ 155,578	$	$	$ 3,023,595
Current maturities of warranty management									
Accounts payable and accrued expenses	7,278,926	5,859		86,474		1,959	5,576		7,378,794
Due to component units	34,820,491	4,860,181			6,374,775	1,217,500	2,300,000	(49,072,219)	500,728
Line of credit									
Custodial liability	1,413,038						1,282,288		2,695,326
Unearned revenue									
Total current liabilities	44,137,472	4,866,040	-	2,329,474	6,374,775	1,375,037	3,587,864	(49,072,219)	13,598,443
Asset retirement obligation									
Long-term debt, less current maturities	11,275,043		1,000,000	36,184,757		1,508,667			49,968,467
Warranty management, less current maturities									
Fair value of interest rate swap									
Pension liability	25,805,346								25,805,346
OPEB liability	24,000,448								24,000,448
Payable to State of Connecticut									
Total noncurrent assets	61,080,837	-	1,000,000	36,184,757	-	1,508,667	-	-	99,774,261
Total Liabilities	105,218,309	4,866,040	1,000,000	38,514,231	6,374,775	2,883,704	3,587,864	(49,072,219)	113,372,704
Deferred Inflows of Resources									
Deferred amount for pensions	80,906								80,906
Deferred amount for OPEB	1,895,599								1,895,599
Total deferred inflows of resources	1,976,505	-	-	-	-	-	-	-	1,976,505
Net Position									
Invested in capital assets	1,040,384	1,471,445							2,511,829
Restricted Net Position:									
Nonexpendable									
Restricted for energy programs	9,856,186			1,249,920		301,481			11,407,587
Unrestricted (deficit)	46,850,974	(1,944,370)	(10,685)	(3,461,106)	6,879	(54,591)	9,770,267	(100,100)	51,057,268
Total Net Position	$ 57,747,544	$ (472,925)	$ (10,685)	$ (2,211,186)	$ 6,879	$ 246,890	$ 9,770,267	$ (100,100)	$ 64,976,684

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Condensed, Combining Information - Statement of Revenues, Expenses and Changes in Net Position

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease 1 LLC	CT Solar Loan I LLC	CEFIA Holdings LLC	Eliminating Entries
Operating Revenues								
Utility remittances	$ 26,094,682	$	$	$	$	$	$	$
Grant revenue	200,779							
RGGI auction proceeds	2,130,255							
Energy system sales							4,833,646	
REC sales	5,348,537							
Other income	882,145	438,873				340		
Total operating revenues	34,656,398	438,873	-	-	-	340	4,833,646	-
Operating Expenses								
Cost of goods sold - energy systems							4,601,431	
Grants and incentive programs	15,598,111							
Program administration expenses	12,741,814	751,612		38,764		18,793	35,390	
General and administrative expenses	5,405,832	3,945		6,290	54,296	4,633	9,612	
Total operating expenses	33,745,757	755,557	-	45,054	54,296	23,426	4,646,433	-
Operating Income (Loss)	910,641	(316,684)		(45,054)	(54,296)	(23,086)	187,213	
Nonoperating Revenue (Expenses)								
Interest income - promissory notes	3,685,406				51,443	170,910		
Interest income - short-term cash deposits	328,546			61,453		417	9,991	
Interest expense long-term debt	(164,173)		(10,685)	(489,839)		(107,528)		
Interest income - component units	64,544							
Interest expense - component units							(429)	
Debt issuance costs				(1,738,746)				
Payments to State of Connecticut	(14,000,000)							
Distributions to member								
Distributions to former member							(1,000)	
Realized and unrealized gain (loss) on investments	(104,466)							
Unrealized gain (loss) on interest rate swap								
Provision for loan losses	(2,918,706)				9,732			
Total nonoperating revenue (expenses)	(13,108,849)	-	(10,685)	(2,167,132)	61,175	63,799	8,562	-
Change in Net Position before Capital Contributions	(12,198,208)	(316,684)	(10,685)	(2,212,186)	6,879	40,713	195,775	
Capital contributions				1,000				(1,000)
Change in Net Position	(12,198,208)	(316,684)	(10,685)	(2,211,186)	6,879	40,713	195,775	(1,000)
Net Position - Beginning of Year, as restated	69,945,752	(156,241)				206,177	9,574,492	(99,100)
Net Position - End of Year	$ 57,747,544	$ (472,925)	$ (10,685)	$ (2,211,186)	$ 6,879	$ 246,890	$ 9,770,267	$ (100,100)

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Condensed, Combining Information - Statement of Cash Flows

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease 1 LLC	CT Solar Loan I LLC	CEFIA Holdings LLC	Eliminating Entries	Total Primary Government
Cash Flows from Operating Activities									
Sales of energy systems	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,030,736	$ -	$ 6,030,736
Sales of Renewable Energy Credits	4,585,609			730,911					5,316,520
Utility company remittances	26,577,782								26,577,782
Grants	(1,316,000)								(1,316,000)
RGGI auction proceeds	1,188,912								1,188,912
Other income	817,028	438,873				340			1,256,241
Lease payments received									
Program administrative expenses	(12,697,475)	(601,112)		(80,431)	(54,296)	(19,688)	(39,999)		(13,493,001)
Grants, incentives and credit enhancements	(13,041,051)				(6,527,354)				(19,568,405)
Purchases of energy equipment							(4,027,221)		(4,027,221)
General and administrative expenditures	(2,998,147)	(3,944)		(2,924)		(4,634)	(9,611)		(3,019,260)
Net cash provided by (used in) operating activities	3,116,658	(166,183)	-	647,556	(6,581,650)	(23,982)	1,953,905	-	(1,053,696)
Cash Flows from Noncapital Financing Activities									
Payments to State of Connecticut	(14,000,000)								(14,000,000)
Funds received (disbursed) from escrow and custodial accounts	(1,052,180)						19,284		(1,032,896)
Advances to CGB component units	(7,402,275)	193,714			6,448,727		(150,000)		(909,834)
Advances repaid (disbursed) to third party capital providers	66,386						(1,608,934)		(1,542,548)
Advances from CGB and component units	35,063,348		(1,000,000)	(33,075,389)			(985,970)		1,989
Repayments of advances (to) from component units	10,933								10,933
Net cash provided by (used in) noncapital financing activities	12,686,212	193,714	(1,000,000)	(33,075,389)	6,448,727	-	(2,725,620)	-	(17,472,356)
Cash Flows from Capital and Related Financing Activities									
Purchase of capital assets	(7,404,070)								(7,404,070)
Disposals of capital assets	3,112								3,112
Proceeds from long-term debt			1,000,000	38,528,757					39,528,757
Repayment of long-term debt	(1,106,223)			(101,000)		(298,166)			(1,505,389)
Debt issuance costs				(1,738,746)					(1,738,746)
Interest expense	(153,203)			(406,731)		(107,528)	(429)		(667,891)
Capital contributions from (to) component entities	(1,000)			1,000					
Capital contributions from Firstar Development, LLC									
Return of capital to Connecticut Innovations							(1,000)		(1,000)
Return of capital to Firstar Development, LLC									
Net cash provided by (used in) capital and related financing activities	(8,661,384)	-	1,000,000	36,283,280	-	(405,694)	(1,429)	-	28,214,773
Cash Flows from Investing Activities									
Gains and losses on investments									-
Loan losses	(5,346)				73,401		10,870		78,925
Return of principal on WC & program loans	(619,490)				8,079	532,620			(78,791)
Interest on short-term investments, cash, solar lease notes and loans	3,103,561			61,453	51,443	944	9,991		3,227,392
Purchase of SBEA loan portfolios	(3,048,996)								(3,048,996)
CPACE program loan disbursements	(4,486,084)								(4,486,084)
Grid Tied program loan disbursements	(110,493)								(110,493)
Commercial Solar Loan program disbursements	(987,960)								(987,960)
Residential Solar Loan program disbursements	(12,286,451)								(12,286,451)
Net cash provided by (used in) investing activities	(18,441,259)	-	-	61,453	132,923	533,564	20,861	-	(17,692,458)
Net Increase (Decrease) in Cash and Cash Equivalents	(11,299,773)	27,531		3,916,900		103,888	(752,283)	-	(8,003,737)
Cash and Cash Equivalents - Beginning of Year	30,584,958	5,204				640,400	5,752,059	-	36,982,621
Cash and Cash Equivalents - End of Year	$ 19,285,185	$ 32,735	$ -	$ 3,916,900	$ -	$ 744,288	$ 4,999,776	$ -	$ 28,978,884
Reconciliation of Operating Income (Loss) to Net Cash Provided by (Used in) Operating Activities:									
Operating income (loss)	$ 910,641	$ (316,684)	$ -	$ (45,054)	$ (54,296)	$ (23,086)	$ 187,213	$ -	$ 658,734
Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities:									
Depreciation	145,769	171,885							317,654
Accretion									
Deferred lease revenue	(1,500,000)								(1,500,000)
Pension expense adjustment	2,225,531								2,225,531
OPEB expense adjustment	662,072								662,072
Changes in operating assets and liabilities:									
(Increase) decrease in operating assets	(460,436)	(27,086)		689,244	(6,527,354)		2,421,024		(3,904,608)
(Decrease) increase in operating liabilities	1,133,081	5,702		3,366		(896)	(654,332)		486,921
Net Cash Provided by (Used in) Operating Activities	$ 3,116,658	$ (166,183)	$ -	$ 647,556	$ (6,581,650)	$ (23,982)	$ 1,953,905	$ -	$ (1,053,696)

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Measurement Focus, Basis of Accounting and Financial Statement Presentation

All entities are enterprise funds. Enterprise funds are used to account for governmental activities that are similar to those found in the private sector in which the determination of net income is necessary or useful to sound financial administration.

Basis of Presentation

These financial statements are reported using the economic resources measurement focus and accrual basis of accounting. Revenues are recognized when earned, and expenses are recognized when the liability is incurred, regardless of the timing of the related cash flows.

Revenue Recognition

The Green Bank, in addition to utility assessments and RGGI auction income, recognizes revenue from grants as expenses are incurred.

CT Solar Loan I LLC derives revenue from interest earned on residential solar loan products.

CEFIA Holdings LLC derives revenue from the sales of photovoltaic energy systems to CT Solar Lease 2, LLC. This amount was eliminated to arrive at the total reporting entity revenue.

CEFIA Solar Services, Inc. revenue consists of an administrative fee from CT Solar Lease 2 LLC. This amount was eliminated to arrive at the total reporting entity revenue.

CT Solar Lease 2 LLC derives revenue from the following sources: operating leases, energy generation, performance based incentives (PBIs) and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

CT Solar Lease 3 LLC derives revenue from the following sources: energy generation and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

CGB Meriden Hydro derives revenue from the following sources: energy generation and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

CGB KCF LLC currently has no revenue. When solar PV and/or energy efficiency projects are developed, revenue will be derived from the following sources: energy generation, power purchase agreements and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

SHREC ABS 1 derives revenue from interest income. Although there are no operating revenues, SHREC ABS 1 LLC receives proceeds from the Green Bank from the sale of Solar Home Renewable Energy Certificates (SHRECs) to two Connecticut utilities for two tranches of approximately 14,000 rooftop PV systems. Proceeds are directed to trustee accounts and are used for quarterly bond payments on the SHREC ABS collateralized note.

CT Solar Lease 1 derives revenue from interest income from residential solar lease promissory notes secured by specific PV equipment leases (Note 6 – Solar Lease Notes Receivable).

Rental income from operating leases for residential and certain commercial scale solar facilities is recognized on a straight-line basis over the term of each underlying lease.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Energy generation revenue will be recognized as electricity is generated, based on actual output and contractual prices set forth in long term PPAs associated with certain commercial scale facilities.

Revenue from the sale of SRECs and SHRECs to third parties is recognized upon the transfer of title and delivery of the SRECs to third parties and is derived from contractual prices set forth in SREC sale agreements associated with commercial scale facilities.

Operating vs. Nonoperating Revenue (Expense)

All entities distinguish operating revenues and expenses from nonoperating items. Operating revenues consist of utility customer assessments, grants for operating activities, and other revenue generated in connection with investments in clean energy programs. Operating expenses consist of operating costs, including depreciation on capital assets and grants and programs. Nonoperating revenue (expense) consists of investment earnings, and other items not considered operational by management.

Use of Estimates

Management uses estimates and assumptions in preparing these financial statements in accordance with accounting principles generally accepted in the United States of America. Those estimates and assumptions affect certain reported amounts and disclosures in the financial statements. Actual results could vary from the estimates that were used.

Use of Restricted vs. Nonrestricted Resources

When both restricted and unrestricted amounts are available for use, the policy is to use restricted resources for their intended purposes first and then unrestricted resources.

Cash and Cash Equivalents

Cash equivalents consist of cash and highly liquid short-term investments with an original term of 90 days when purchased and are recorded at cost, which approximates fair value.

Capital Assets

Capital asset acquisitions exceeding $1,000 are capitalized at cost. Maintenance and repair expenses are charged to operations when incurred. Depreciation is computed using straight-line methods over the estimated useful lives of the assets, which range from two to thirty years. Leasehold improvements are amortized over the shorter of their useful life or the lease term.

The estimated useful lives of capital assets are as follows:

Asset	Years
Solar lease equipment	30 years
Furniture and equipment	5 years
Leasehold improvements	5 years
Computer hardware and software	2-3 years

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

For capital assets sold or otherwise disposed of, the cost and related accumulated depreciation and amortization are removed from the accounts, and any related gain or loss is reflected in income for the period.

All solar facilities are owned by CT Solar Lease 2 LLC and CT Solar Lease 3 LLC and are stated at cost and include all amounts necessary to construct them. Systems are placed in service when they are ready for use and all necessary approvals have been received from local utility companies. Additions, renewals, and betterments that significantly extend the life of an asset are capitalized. Expenditures for warranty maintenance and repairs to solar facilities are charged to expense as incurred. Solar facilities in process represent facilities which are in various stages of construction or have not yet received the necessary utility company approvals.

Deferred Outflows/Inflows of Resources

In addition to assets, the consolidating statement of financial position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period or periods and so will not be recognized as an outflow of resources (expense) until then. The Green Bank reports deferred outflows related to pension and OPEB in the statement of net position which result from differences between expected and actual experience, changes in assumptions or other inputs, and contributions after the measurement date. These amounts are deferred and included in pension expense and OPEB expense in a systematic and rational manner over a period equal to the average of the expected remaining service lives of all employees that are provided with benefits. The Green Bank also reports deferred amounts related to asset retirement obligations.

In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position or fund balance that applies to a future period or periods and so will not be recognized as an inflow of resources (revenue) until that time. The Green Bank reports deferred inflows of resources related to pensions and OPEB in the consolidated statement of net position which result from differences between expected and actual experience, changes in assumptions or other inputs. These amounts are deferred and included in pension and OPEB expense in a systematic and rational manner over a period equal to the average of the expected remaining service lives of all employees that are provided with benefits.

Impairment of Long-Lived Assets

CT Solar Lease 2 LLC (CT SL2) and CT Solar Lease 3 LLC (CT SL3) review their solar facilities for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. When recovery is reviewed, if the undiscounted cash flows estimated to be generated by an asset is less than its carrying amount, management compares the carrying amount of the asset to its fair value in order to determine whether an impairment loss has occurred. The amount of the impairment loss is equal to the excess of the asset's carrying value over its estimated fair value. No impairment loss was recognized by CT SL2 or CT SL3 during the fiscal year ending June 30, 2019.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Asset Retirement Obligations

CT SL2 and CT SL3 are required to recognize their liability related to asset retirement obligations when they have the legal obligation to retire long-lived assets. Upon the expiration of operating leases or a Power Purchase Agreement's (PPA's) initial or extended terms, customers generally have the option to purchase the solar facilities at fair market value or require CT SL2 or CT SL3 to remove the solar facilities at their expense.

Asset retirement obligations are recorded in the period in which they are incurred and reasonably estimable, including those obligations for which the timing method of settlement are conditional on a future event that may or may not be in the control of CT SL2 or CT SL3. Retirement of assets may involve efforts to remove the solar facilities depending on the nature and location of the assets. In identifying asset retirement obligations, CT SL2 and CT SL3 consider identification of legally enforceable obligations, changes in existing law, estimates of potential settlement dates, and the calculation of an appropriate discount rate to be used in calculating the fair value of the obligations. For those assets where a range of potential settlement dates may be reasonably estimated, obligations are recorded. CT SL2 and CT SL3 routinely review and reassess their estimates to determine if an adjustment to the value of asset retirement obligations is required.

The aggregate carrying amount of asset retirement obligations recognized by CT SL2 and CT SL3 was $3,824,355 and $3,658,993 at June 30, 2019 and June 30, 2018 respectively. The following table shows changes in the aggregate carrying amount of CT SL2 and CT SL3's asset retirement obligation for the year ended June 30, 2019:

Balance - June 30, 2018	$	3,658,993
Additional accruals		85,254
Accretion expense		80,108
Balance - June 30, 2019	$	3,824,355

Pension Accounting

The Green Bank's proportionate share of the net pension liability and expense associated with the Green Bank's requirement to contribute to the Connecticut State Employees Retirement System (SERS) have been determined on the same basis as they are reported by SERS. Contributions made to SERS after the measurement date and prior to the Green Bank's fiscal year are reported as deferred outflows of resources.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

OPEB Accounting

The Green Bank's proportionate share of the net OPEB liability and expense associated with the Green Bank's requirement to contribute to the State of Connecticut Other Post-Employment Benefits Program have been determined on the same basis as they are reported by State of Connecticut Other Post-Employment Benefits Program. Contributions made to the State of Connecticut Other Post-Employment Benefits Program after the measurement date and prior to the Green Bank's fiscal year are reported as deferred outflows of resources.

Portfolio Investments

The Green Bank carries all investments at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer liability by in an orderly transaction between market participants at the measurement date. As discussed in Note 4, the Green Bank's portfolio investments are managed by CI. Fair value is determined by CI's independent valuation committee (Committee) using United States Private Equity Valuation Guidelines promulgated by the Private Equity Investment Guidelines Group. In the absence of readily determinable market values, the Committee gives consideration to pertinent information about the companies comprising these investments, including, but not limited to, recent sales prices of the issuer's securities, sales growth, progress toward business goals and other operating data. CI has applied procedures in arriving at the estimate of the value of such securities that it believes are reasonable and appropriate. Green Bank management reserves the right to establish a reserve in addition to the reserve recommended by the Committee to further account for current market conditions and volatility. Due to the inherent uncertainty of valuation, those estimated values may differ significantly from the amounts ultimately realized from the investments, and the differences could be material. The Green Bank reports gains as realized and unrealized consistent with the practice of venture capital firms. The calculation of realized gains and losses is independent of the calculation of the net change in investment value.

All of the Green Bank's portfolio investments are uninsured against loss and unregistered, and are held in CI's name since the investments were made when the Green Bank's predecessor, the Connecticut Clean Energy Fund, was administered by CI.

Net Position

Net position is presented in the following three categories:

- *Investment in Capital Assets* represent capital assets, net of accumulated depreciation and amortization that are attributable to those particular assets.

- *Restricted Net Position* represent assets whose use is restricted through external restrictions imposed by creditors, grantors, contributors and the like, or through restrictions imposed by laws or through constitutional provisions or enabling legislature, and includes equity interest within the Green Bank's component units by outside entities.

- *Unrestricted Net Position* represents assets which do not meet the definition of the two preceding categories.

1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Grants and Programs

Expenditures for grants and programs are recorded upon the submission of invoices and other supporting documentation and approval by management. Salaries, benefits and overhead expenses are allocated to program expenses based on job functions.

Reclassifications

Certain amounts in the 2018 summarized information have been reclassified to conform to the 2019 presentation.

Subsequent Events

The Green Bank has performed a review of events subsequent to the statement of net position date through October XX, 2019, the date of the financial statements where available to be issued. No additional events requiring recording or disclosure in the financial statements were identified.

2. FAIR VALUE MEASUREMENTS

The framework for measuring fair value provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements); followed by quoted prices in inactive markets or for similar assets or with observable inputs (Level 2 measurements); and the lowest priority to unobservable inputs (Level 3 measurements). In determining fair value, The Green Bank utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. The Green Bank also considers nonperformance risk in the overall assessment of fair value.

Investments are measured at fair value utilizing valuation techniques based on observable and/or unobservable inputs. Observable inputs reflect readily obtainable data from independent sources, while unobservable inputs reflect market assumptions. These inputs are classified into the following hierarchy:

Level 1
Unadjusted quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.

Level 2
Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly for substantially the full term of the asset or liability. Level 2 inputs include the following:

- Quoted prices for similar assets or liabilities in active markets
- Quoted prices for identical or similar assets or liabilities in markets that are not active
- Observable inputs other than quoted prices that are used in the valuation of the asset or liability (e.g., interest rate and yield curve quotes at commonly quoted intervals)
- Inputs that are derived principally from or corroborated by observed market data by correlation or other means

2. FAIR VALUE MEASUREMENTS (CONTINUED)

Level 3
Unobservable inputs for the asset or liability (supported by little or no market activity). Level 3 inputs include management's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

The following table sets forth by level, within the fair value hierarchy, the Green Bank's fair value measurements at June 30, 2019:

	Investment Assets at Fair Value as of June 30, 2019			
	Level 1	Level 2	Level 3	Total
Portfolio investments	$	$	$ 1	$ 1

The following table sets forth by level, within the fair value hierarchy, the Green Bank's fair value measurements at June 30, 2018:

	Investment Assets at Fair Value as of June 30, 2018			
	Level 1	Level 2	Level 3	Total
Portfolio investments	$	$	$ 1	$ 1

There were no transfers between levels during the years ended June 30, 2019 and 2018.

3. CASH AND CASH EQUIVALENTS

The following is a summary of cash and cash equivalents for the reporting entity at June 30:

	2019	2018
Checking	$ 6,573,239	$ 6,028,624
Money market	5,821,080	7,304,157
State Treasurer's Short-Term Investment Fund	6,552,895	6,497,321
Unrestricted cash and cash equivalents	18,947,214	19,830,102
Checking - restricted	5,500,822	11,471,402
Money market - restricted	5,112,047	5,278,656
State Treasurer's Short-Term Investment Fund - restricted	6,054,928	7,618,127
Total Cash and Cash Equivalents	$ 35,615,011	$ 44,198,287

3. CASH AND CASH EQUIVALENTS (CONTINUED)

	Cash and Cash Equivalents as of June 30, 2019				
	Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Total
Checking	$ 5,559,529	$ 642,875	$ 51,835	$ 319,000	$ 6,573,239
Money market	4,941,502	809,294	70,023	261	5,821,080
State Treasurer's Short-Term Investment Fund	6,552,895				6,552,895
Unrestricted cash and cash equivalents	17,053,926	1,452,169	121,858	319,261	18,947,214
Restricted cash:					
Checking	4,277,822	1,140,000	83,000		5,500,822
Money market	1,592,208	3,519,839			5,112,047
State Treasurer's Short-Term Investment Fund	6,054,928				6,054,928
	$ 28,978,884	$ 6,112,008	$ 204,858	$ 319,261	$ 35,615,011

	Cash and Cash Equivalents as of June 30, 2018				
	Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Total
Checking	$ 5,096,905	$ 553,541	$ 142,236	$ 235,942	$ 6,028,624
Money market	5,531,511	1,302,827	469,438	381	7,304,157
State Treasurer's Short-Term Investment Fund	6,497,321				6,497,321
Unrestricted cash and cash equivalents	17,125,737	1,856,368	611,674	236,323	19,830,102
Restricted cash:					
Checking	10,471,402	1,000,000			11,471,402
Money market	1,767,355	3,511,301			5,278,656
State Treasurer's Short-Term Investment Fund	7,618,127				7,618,127
	$ 36,982,621	$ 6,367,669	$ 611,674	$ 236,323	$ 44,198,287

State Treasurer's Short-Term Investment Fund

The State Treasurer's Short-Term Investment Fund is a Standard & Poor's AAAm investment pool of high-quality, short-term money market instruments managed by the Cash Management Division of the State Treasurer's Office and operates in a manner similar to money market mutual funds. It is the investment vehicle for the operating cash of the State of Connecticut Treasury, state agencies and authorities, municipalities, and other political subdivisions of the State. The value of the Green Bank's position in the pool is the same as the value of pool shares. Regulatory oversight is provided by an investment advisory council and the State Treasurer's Cash Management Board.

3. CASH AND CASH EQUIVALENTS (CONTINUED)

Investment Maturities

The State Treasurer's Short-Term Investment Fund itself has no maturity date and is available for withdrawal on demand.

Interest Rate Risk

The Green Bank manages its exposure to declines in fair value by limiting the average maturity of its cash and cash equivalents to no more than one year. The Green Bank does not have a formal policy relating to a specific investment related risk.

Credit Risk

Connecticut General Statutes authorize the Green Bank to invest in obligations of the U.S. Treasury including its agencies and instrumentalities, commercial paper, banker's acceptance, repurchase agreements and the State Treasurer's Short-Term Investment Fund.

Investment ratings for the Fund's investment are as follows:

	Standard & Poor's
State Treasurer's Short-Term Investment Fund	AAAm

Concentration of Credit Risk

The Green Bank's investment policy does not limit the investment in any one investment vehicle. The State Treasurer's Short-term Investment Fund is not subject to this disclosure.

Custodial Credit Risk - Deposits

In the case of deposits, this represents the risk that, in the event of a bank failure, the Green Bank's deposits may not be returned to it. The Green Bank does not have a deposit policy for custodial credit risk. As of June 30, 2019 and 2018, $19,547,165 and $27,892,085, respectively, of the Green Bank's bank balances were exposed to custodial credit risk. Primary government consisted of $13,849,709 and $21,641,517 as of June 30, 2019 and 2018, respectively. CT Solar Lease 2, LLC consisted of $5,628,195 and $5,888,894 as of June 30, 2019 and 2018, respectively. CEFIA Solar Services, Inc. consisted of $- and $ 361,674 as of June 30, 2019 and 2018, respectively. CT Solar Lease 3. LLC consisted of $69,261 and $- as of June 30, 2019 and 2018, respectively. Funds held by banks on behalf of the Green Bank, CT Solar Lease 2 LLC and CEFIA Solar Services included contractual requirements to maintain $11,346,921 in deposits with financial institutions participating in various lease and loan programs, representing loan loss and lease maintenance reserves and guaranty pledge accounts.

Custodial Credit Risk - Investments

For an investment, this represents the risk that, in the event of the failure of the counterparty, the Green Bank will not be able to recover the value of the investment. The Green Bank does not have a policy relating to the credit risk of investments. As of June 30, 2019 and 2018, the Green Bank had no reportable credit risk.

4. PORTFOLIO INVESTMENTS

The former Connecticut Clean Energy Fund (CCEF) invested in emerging technology companies as equity and debt investments in Operational Demonstration projects. Based on a memorandum of understanding between the Green Bank and CI, CI manages these investments on behalf of the Green Bank.

5. BONDS RECEIVABLE

Subordinate Series 2014B-1 and 2014C-1
This Series represents two $800,000 bonds received in connection with the Green Bank's May 2014 sale of C-PACE loans to Clean Fund Holdings, LLC (CFH). CFH paid the Green Bank approximately $6.4 million in cash along with two bonds issued to the Green Bank through Public Finance Authority. The 2014 Series bonds carry interest of 5.30% per annum with a maturity date of September 10, 2034. The bonds are secured by the C-PACE loans sold to CFH. The Green Bank received a principal repayment of $ 8,858 as a result of a C-PACE loan payoff in 2016. As of June 30, 2019, management believes no valuation allowance is necessary on these bonds.

Each bond required semi-annual interest-only payments to the Green Bank starting September 10, 2014 and continuing to September 10, 2034. Starting March 10, 2030 and every six months thereafter, principal payments, along with the required interest is to be paid to the Green Bank.

Subordinate Series 2015B-1 and 2015C-1
This Series represents two $955,000 bonds received in connection with the Green Bank's August 2015 sale of C-PACE Loans to Clean Fund Holdings, LLC (CFH). CFH paid the Green Bank approximately $7.7 million in cash along with two bonds issued to the Green Bank through Public Finance Authority. The 2015 Series bonds carry interest of 5.52% per annum with a maturity date of August 13, 2035. The bonds are secured by the C-PACE loans sold to CFH. The Green Bank received principal repayments of $19,938 and $81,877 for each bond as a result of C-PACE loan payoffs in 2019 and 2017, respectively. As of June 30, 2019, management believes no valuation allowance is necessary on these bonds.

Each bond required semi-annual interest-only payments to the Green Bank starting September 10, 2015 and continuing to August 13, 2035. Starting September 10, 2032 and every six months thereafter, principal payments, along with the required interest is to be paid to the Green Bank.

Principal maturities of these bonds are as follows:

Year Ending June 30,	2014B-1	2014C-1	2015B-1	2015B-1	Total
2020	$	$	$	$	$ -
2021					-
2022					-
2023					-
2024					-
2025 - 2029					-
2030 - 2034	777,500	777,500	405,000	405,000	2,365,000
2035 - 2036	13,642	13,642	448,186	448,186	923,656
	$ 791,142	$ 791,142	$ 853,186	$ 853,186	$ 3,288,656

6. SOLAR LEASE NOTES RECEIVABLE

In June of 2008 the predecessor of the Green Bank, the Connecticut Clean Energy Fund (CCEF) entered into a Master Lease Program Agreement with CT Solar Leasing LLC, a third party leasing company, AFC First Financial Corporation, a third party servicer, and Firstar Development LLC, the tax equity investor, to develop a residential solar PV leasing program in Connecticut. CCEF purchased a total of $13,248,685 of promissory notes issued by CT Solar Leasing LLC during the period commencing in April of 2009 and ending in February of 2012 to fund the program. Each nonrecourse promissory note is secured by the payments under a specific PV equipment lease, with a rate of interest of 5% and a term of 15 years. Future principal repayments under the program and the current loss reserve are as follows:

Future Principal Repayments	
2020	$ 942,056
2021	985,701
2022	1,019,607
2023	1,039,665
2024	1,082,100
Thereafter	1,297,802
	6,366,931
Less reserve for losses	(63,669)
	$ 6,303,262
Current portion	$ 942,056
Noncurrent portion	5,361,206
	$ 6,303,262

7. PROGRAM LOANS RECEIVABLE

Outstanding principal balances by program for the years ending June 30, 2019 and 2018, are as follows:

	2019	2018
Loans in repayment for completed projects:		
Connecticut Green Bank		
CPACE Program benefit assessments - in repayment	$ 36,373,428	$ 16,425,897
CPACE Promissory notes		1,732,290
Grid-Tied Program term loans	12,197,048	10,663,213
Multifamily/Affordable housing program loans	16,681,271	10,088,597
Alpha/Operational Demonstration program loans	650,000	650,000
Other program loans	1,523,432	550,495
CT Solar Loan I LLC		
Residential Solar PV Program loans-in repayment	2,369,799	2,732,318
	69,794,978	42,842,810
Reserve for loan losses	(8,890,602)	(5,978,840)
Total loans in repayment for completed projects, net	60,904,376	36,863,970
Loan advances for projects under construction:		
Connecticut Green Bank		
CPACE Program benefit assessments - under construction	7,097,743	8,799,563
Grid-Tied Program term loans - under construction	554,827	
Total loans advances for projects under construction	7,652,570	8,799,563
Total	$ 68,556,946	$ 45,663,533
Current Portion	$ 3,756,932	$ 2,138,512
Noncurrent Portion	64,800,014	43,525,021
	$ 68,556,946	$ 45,663,533

7. PROGRAM LOANS RECEIVABLE (CONTINUED)

Scheduled repayments of principal under these loans in repayment as of June 30, 2019 is as follows:

	2020	2021	2022	2023	2024	Thereafter	Total
Connecticut Green Bank							
CPACE Program benefit assessments-in repayment	$ 1,772,560	$ 1,808,819	$ 1,913,129	$ 2,018,532	$ 2,108,558	$ 26,751,830	$ 36,373,428
Grid-Tied Program term loans	1,156,742	1,032,111	1,104,218	1,182,578	1,267,350	6,454,049	12,197,048
Multifamily/Affordable housing term loans	610,175	147,659	13,096,631	230,830	296,508	2,299,468	16,681,271
Alpha/Operational Demonstration program loans				650,000			650,000
Other program loans	95,352	56,285	87,279	118,580	135,701	1,030,235	1,523,432
CT Solar Loan I LLC							
Residential Solar PV Program loans - in repayment	175,555	183,390	196,192	208,013	220,185	1,386,464	2,369,799
	3,810,384	3,228,264	16,397,449	4,408,533	4,028,302	37,922,046	69,794,978
Reserve for loan losses	(53,452)		(1,294,448)	(589,809)	(35,893)	(6,917,000)	(8,890,602)
	$ 3,756,932	$ 3,228,264	$ 15,103,001	$ 3,818,724	$ 3,992,409	$ 31,005,046	$ 60,904,376

Benefits assessments under the C-PACE program finance energy efficiency upgrades and the installation of renewable energy equipment on non-residential property. These assessments carry interest rates ranging from 5.0% to 9.0% with terms ranging from 10 to 26 years. On April 18, 2019 the Green Bank repurchased the benefit assessments from the third-party capital provider and cancelled the CPACE promissory notes. For the fiscal year ending June 30, 2018, CPACE promissory notes represented a component of proceeds received from the sale of 37 benefit assessments from the Green Bank's portfolio to a third-party capital provider. These promissory notes carried interest rates ranging from 7.1% to 14.4% and matured at various intervals commencing on September 10, 2036 and ending on March 10, 2037.

Grid-tied term loans represent the financing of three projects. The first project is the 15-megawatt Bridgeport Fuel Cell Park from Project 150. The primary term loan carries an interest rate of 8% with interest and principal repaid on a monthly basis for a term of 7 years. There is a secondary $1,800,000 term loan where interest is paid monthly on the outstanding principal balance at a rate of 5.0%, increasing to 8% during 2020, with principal payments beginning in 2026. The second project is a 5 mega-watt wind turbine facility in Colebrook, CT. Interest on a revolving term loan is paid quarterly at prime plus 3%. Interest on a nonrevolving term loan is paid quarterly based on the project's cash flows. The minimum rate of interest on the nonrevolving term loan is 10%. Principal under both loans is repaid at maturity which is 15 years from the date the project was placed in service. The project was placed in service in November 2015. The third project is an anaerobic digestion facility located in Southington, CT. The term loan carries an interest rate of 2% and interest and principal are repaid on a quarterly basis. Commencing on May 1, 2018 the borrower is required to make annual payments against principal equal to 50% of excess project cash flow as defined in the loan agreement.

Affordable Housing initiatives include providing term loans to two third-party capital providers to finance solar PV installations and energy efficiency measures for low to moderate income households. Under the first initiative through June 30, 2019, the Green Bank has advanced $12,944,481 of a $15,000,000 term financing facility with an interest rate of 7.5% payable monthly. The final maturity date of all advances made under the facility is December 12, 2021. Under a second initiative as of June 30, 2019, the Green Bank has advanced $3,500,000 of a $3,500,000 term financing facility comprising 4 promissory notes. All notes carry an interest rate of 3% payable along with principal on a monthly basis. The notes have terms of 7 and 20 years with maturities ranging from December 1, 2025 to October 1, 2037. There is an additional $1,500,000 short term facility with this lender which carries interest at a rate of Libor + 1.75% on the outstanding balance drawn with repayment in full on December 14, 2019.

7. PROGRAM LOANS RECEIVABLE (CONTINUED)

Multifamily pre-development loans are advances to developers and owners of multifamily residences to provide funding for project feasibility and site development work. Loans mature in two years and carry no interest. As of June 30, 2019, $225,889 has been advanced under this program.

Operational demonstration program loans are residual transactions of the programs of the Connecticut Clean Energy Fund. The loans finance the development of emerging clean energy technologies. Repayment of each loan is based upon the commercial success of the technology and carries an interest rate of 6%. If commercial success is not achieved after ten years from the date of the loan agreement, the loan converts to a grant. Connecticut Innovations assists in overseeing these loans.

Other program loans represent the financing of feasibility studies for various renewable energy projects or energy efficiency upgrades. The category also includes a loan to a third-party to finance purchase of solar facilities developed by the Green Bank. The loan carries an interest rate of 5.25% payable along with principal on a quarterly basis for a term of 15 years.

The residential solar PV loan program administered by CT Solar Loan I LLC, makes loans to residential property owners for solar PV installations. Loans carry an interest rate ranging from 6.49% to 6.75% with a term of 15 years.

8. SBEA PROMISSORY NOTES RECEIVABLE

In December of 2018 the Green Bank and Amalgamated Bank entered into a Master Purchase and Servicing Agreement with The Connecticut Light and Power Company dba Eversource Energy to purchase Small Business Energy Advantage (SBEA) loans. The loans are non-interest bearing for a term of up to 48 months. Eversource sells loans in tranches with the purchase price being determined by discounting each loan using a 4.4% discount rate. Amalgamated Bank purchases 90% of the loan portfolio and the Green Bank purchases 10%. Eversource collects monthly payments on customer utility bills and remits to the Green Bank and Amalgamated Bank. Amalgamated Bank receives 90% of the scheduled loan payments, with the Green Bank's payment being adjusted for any shortfall or overage. In the event of default, the loans are fully backed by the Energy Conservation and Load Management Fund a/k/a Connecticut Energy Efficiency Fund (CEEF) that will reimburse the Green Bank. Accordingly, there is no loan loss reserve.

During 2019 the Green Bank purchased two tranches of loans: (1) 4,014 loans valued at $4,125,361 for $3,892,133 and (2) 327 loans valued at $642,759 for $594,515.

8. SBEA PROMISSORY NOTES RECEIVABLE (CONTINUED)

Future principal repayments under the program are as follows:

	Loan Portfolio	Discount	Balance
2020	$ 1,803,088	$ (93,597)	$ 1,709,491
2021	1,187,614	(61,648)	1,125,966
2022	567,792	(29,474)	538,318
2023	141,506	(7,346)	134,160
2024	594	(31)	563
	$ 3,700,594	$ (192,096)	$ 3,508,498
Current portion	$ 1,803,088	$ (93,597)	$ 1,709,491
Noncurrent portion	1,897,506	(98,499)	1,799,007
	$ 3,700,594	$ (192,096)	$ 3,508,498

9. FINANCING ACTIVITIES

Short-Term Debt - Primary Government

Connecticut Green Bank Line of Credit

On June 29, 2018 the Green Bank executed a $16,000,000 line of credit (LOC) with Webster Bank N.A. and Liberty Bank, with Webster Bank as the administrative agent. The LOC is broken down by lender as follows:

Liberty Bank	$ 8,000,000
Webster Bank, National Association	8,000,000
	$ 16,000,000

Funds must be advanced during an availability period which ends on December 29, 2018. All advances must be made in a principal amount of $250,000 or in additional whole multiples of $50,000. Each loan advance will be shared by the participating lenders in accordance with their pro-rata share of the of the total facility commitment. All principal on advances made under the LOC are due at maturity which is June 29, 2019. Advances can be prepaid without penalty. Through the availability period the amount by which the aggregate commitment exceeds aggregate advances is subject to a .5% unused commitment fee. At the time of closing the Green Bank paid the lenders a commitment fee of $120,000. As of June 30, 2019 $16,000,000 had been advanced and repaid under the LOC.

9. FINANCING ACTIVITIES (CONTINUED)

The LOC is collateralized with revenues from the Master Purchase Agreement ("MPA") the Green Bank entered into with Connecticut's two investor owned public utilities. Under the MPA each utility must purchase Solar Home Energy Credits ("SCHRECs") generated by solar PV facilities located in its service area from the Green Bank. See Note 19 for further detail on the SHREC program. In connection with the LOC, the Green Bank is required to establish and maintain a collections account with Webster Bank into which all proceeds from the sale of SHRECs are to be deposited and an interest reserve account with each lender. As of June 30, 2019 and June 30, 2018 the collections account balance was $- and $388, respectively, and the cumulative balance in the interest reserve accounts was $- and $178,031, respectively.

Interest to be paid on each advance commences on the date the advance is disbursed and ends one month thereafter. Interest is calculated based on the one-month LIBOR rate plus the applicable margin of 240 basis points. As of June 30, 2019, $351,582 in interest has been paid to the lenders. No interest was paid as of June 30, 2018.

On May 22, 2019 the Green Bank executed a $5,000,000 line of credit ("LOC") with Amalgamated Bank. Funds must be advanced during an availability period which ends on May 22, 2020. All principal on advances made under the LOC are due at maturity which is May 22, 2020. Advances can be prepaid without penalty. Through the availability period the amount by which the aggregate commitment exceeds aggregate advances is subject to a 0.2% unused commitment fee. At the time of closing the Green Bank paid the lender a commitment fee of $20,000. As of June 30, 2019 no loans have been advanced.

The LOC is guaranteed by a security interest in all present and future personal property and the proceeds thereof, of CT Solar Lease 1 LLC ("CTSL1"). CTSL1 manages a portfolio of residential solar lease promissory notes. As of June 30, 2019 the promissory note balance, net of reserves was $6,303,262.

Interest to be paid on each advance commences on the date the advance is disbursed and ends one month thereafter. Interest is calculated based on the one-month LIBOR rate plus the applicable margin of 1.6%. As of June 30, 2019 no interest has been paid to the lender.

Long-Term Debt - Primary Government

CT Solar Loan I LLC Line of Credit

On February 3, 2014, CT Solar Loan I LLC (SLI) executed a $4,000,000 line of credit with Solar Mosaic, Inc. (LOC). The LOC was amended in June 2015 to $1,100,000. Borrowings on the LOC immediately turn into a term note with predefined repayment terms at the time of borrowing. No further borrowings were available after June 30, 2015. Borrowings on the Mosaic LOC bear interest at 6.4586% (Base Rate) and SLI exercised its option to buy-down the interest rate to 6.00% (Reduced Rate) by making a payment on the borrowing date of 2.875% of the principal amount of the loan (Rate Buy-down Amount). As of June 30, 2019 and 2018 there was $296,560 and $373,478, respectively, outstanding. All borrowings will have matured by September 20, 2027.

9. FINANCING ACTIVITIES (CONTINUED)

In connection with the LOC, SLI is required to establish and maintain a collections account, debt service reserve account and a loan loss reserve account. Deposits shall be made into the collections account for all payments received from residential borrowers against loans securing the LOC. The debt service reserve account is required to have no less than six months forward-looking principal and interest payments for the loans outstanding. The loan loss reserve account required a one-time deposit of $300,000 as of June 30, 2014 which was reduced to $82,500 as of June 30, 2015.

Future maturities on borrowings on the LOC are as follows:

Years Ending June 30,	Principal	Interest	Total
2020	$ 49,846	$ 16,437	$ 66,283
2021	52,264	13,382	65,646
2022	55,287	10,164	65,451
2023	46,041	7,067	53,108
2024	47,554	4,294	51,848
2025 - 2029	45,568	2,372	47,940
	$ 296,560	$ 53,716	$ 350,276

SHREC ABS 1 LLC Collateralized Note

On March 29, 2019 the Board of Directors authorized the Green Bank to offer for sale, and to sell two classes of Series 2019-1 Notes as follows: (1) $36,800,000 of Class A Notes and (2) $1,800,000 of Class B Notes that would be issued by SHREC ABS 1 LLC, a special purpose Delaware limited liability company that is a wholly-owned subsidiary of the Green Bank. The Class A Notes carry and interest rate of 5.09% while the Class B Notes carry and interest rate of 7.04%. Both classes of notes are for a term of 14 years, maturing on March 15, 2033.

The note is collateralized by revenue from quarterly sales of Solar Home Renewable Energy Credits (“SHRECs”) for two tranches of approximately 14,000 residential solar PV systems to two Connecticut utilities. Collections from these billings and disbursements of funds to the bondholder and the Green Bank are managed by the trustee, Bank of New York Mellon. Interest and principal payments are quarterly per the bond schedule which anticipates the fluctuations in SHREC revenue due to seasonal solar PV generation.

On April 2, 2019 both notes were sold to a single investor as a private placement. The proceeds were used to pay off a short-term loan facility, for further Green Bank investments and to support the sweep payment of $14,000,000 to the State of Connecticut.

9. FINANCING ACTIVITIES (CONTINUED)

Future maturities on borrowings under the SHREC ABS are as follows:

Years Ending June 30,	Principal	Interest	Total
2020	$ 2,243,000	$ 1,945,495	$ 4,188,495
2021	2,130,000	1,833,353	3,963,353
2022	2,263,000	1,720,887	3,983,887
2023	2,382,000	1,601,258	3,983,258
2024	2,477,000	1,475,724	3,952,724
2025-2029	14,473,000	5,283,468	19,756,468
2030-2033	12,531,000	1,241,264	13,772,264
	$ 38,499,000	$ 15,101,449	$ 53,600,449

CGB KCF LLC Kresge Loan

On December 6, 2017 CGB KCF LLC executed a program-related investment loan in the aggregate principal amount of $3,000,000 to be provided in multiple disbursements ending 18 months after the closing date. The loan is evidenced by promissory note with a term of 10 years that bears an interest rate of 2.0% requiring interest payments be made quarterly in arrears. The note is interest only through December 6, 2026. The outstanding principal of the note is payable in two installments. On December 6, 2026 one-half of the aggregate amount disbursed is due and payable with all remaining amounts payable on December 6, 2027.

Proceeds from the loan must follow program investment guidelines that specify originating loans to at least nine targeted projects to fund the installation of combined solar panel and battery storage systems while meeting the goals of relieving poverty and distress, combatting community deterioration, revitalizing neighborhoods and lessening the burdens of government.

On December 14, 2018 CGB KCF received a disbursement of $1,000,000 which is being held by Connecticut Green Bank in a restricted cash account. As of the end of Fiscal Year 2019, none of the funds have been spent on projects meeting the program investment guidelines.

9. FINANCING ACTIVITIES (CONTINUED)

Future maturities of borrowings under the Kresge Loan are as follows:

Years Ending June 30,	Principal	Interest	Total
2020	$	$ 20,055	$ 20,055
2021		20,000	20,000
2022		20,000	20,000
2023		20,000	20,000
2024		20,055	20,055
2025-2029	1,000,000	68,712	1,068,712
	$ 1,000,000	$ 168,822	$ 1,168,822

CT Solar Loan I LLC Term Note

On April 25, 2016, CT Solar Loan I LLC (SLI) executed a $2,510,837 Loan Agreement and Promissory Note (Note) with the Reinvestment Fund, Inc. The Note carries a fixed interest rate of 6.02%. Interest and principal repayments are amortized over a hypothetical 15 year period. The Note has a maturity date of April 1, 2023 with all unpaid principal and accrued interest due at that time. Principal repayments and interest payments are made in monthly installments beginning June 1, 2016.

In connection with the Note, SLI is required to establish and maintain a collections account, and maintain $217,500 in a loan loss reserve account. Deposits shall be made into the collections account for all payments received from residential borrowers against loans securing the Note.

Future maturities on borrowings under the Reinvestment Fund LOC is as follows:

Years Ending June 30,	Principal	Interest	Total
2020	$ 105,732	$ 79,447	$ 185,179
2021	110,560	72,936	183,496
2022	115,662	66,156	181,818
2023	121,981	59,022	181,003
2024	127,106	51,507	178,613
2025-2029	696,862	135,719	832,581
Thereafter	89,782	1,959	91,741
	$ 1,367,685	$ 466,746	$ 1,834,431

9. FINANCING ACTIVITIES (CONTINUED)

Connecticut Green Bank New Clean Renewable Energy Bond

On February 26, 2016 the Board of Directors of the Green Bank authorized the issuance of a New Clean Energy Renewable Energy Bond (CREB) in an amount not to exceed $3,000,000 to finance a portion of the acquisition cost of a 193kW Hydroelectric Facility located in Meriden, Connecticut by CGB Meriden Hydro LLC, a subsidiary of the Green Bank. On February 2, 2017 the Green Bank issued a CREB in the amount of $2,957,971 with an annual interest rate of 4.19%, maturing on November 15, 2036. Interest and principal payments are to be paid annually on November 15th. Proceeds from the sale of the CREB were deposited with the bond trustee and were disbursed upon acquisition of the hydroelectric facility from its developer on August 31, 2017. Proceeds from the sale of electricity generated by the facility to the City of Meriden along with revenue from the associated renewable energy credits will fund the payment of principal and interest on the CREB. The CREB qualified for a tax credit from the US Treasury under Section 54C of the Internal Revenue Code. The tax credit will be paid in the form of a subsidy to the Green Bank. The project also qualified to receive an interest rate subsidy from the local electricity utility through a program approved by the Connecticut Public Utility Regulatory Authority (PURA). This subsidy will be paid directly to the purchaser of the CREB. Both these subsidies will reduce the borrowing costs of the Green Bank.

Future maturities on borrowings under the CREB is as follows:

Years Ending June 30,	Principal	Interest	US Treasury Tax Subsidy	CT PURA Interest Subsidy	Total
2020	$ 109,041	$ 117,250	$ (82,701)	$ (18,013)	$ 125,577
2021	123,718	112,681	(79,479)	(18,013)	138,907
2022	134,348	107,497	(75,822)	(18,013)	148,010
2023	158,669	101,868	(71,852)	(18,013)	170,672
2024	163,905	95,220	(67,162)	(18,013)	173,950
2025-2029	852,754	369,830	(260,856)	(36,027)	925,701
2030-2034	794,716	192,681	(135,906)		851,491
2035-2039	461,180	39,014	(27,518)		472,676
	$ 2,798,331	$ 1,136,041	$ (801,296)	$ (126,092)	$ 3,006,984

On September 28, 2017, the Board of Directors of the Green Bank authorized the issuance of a New Clean Energy Renewable Energy Bond (CREB) in an amount not to exceed $9,350,000 to finance the installation of various solar projects for the benefit of the Connecticut State College and University System (“CSCUS”). To that end on December 29, 2017 the Green Bank entered into an equipment lease/purchase agreement financed by the issuance of a $9,101,729 CREB with an annual interest rate of 4.90%, maturing on November 15, 2037 to construct and lease these solar facilities to CSCUS. Interest and principal payments are to be paid annually on November 15th. Proceeds from the sale of the CREB have been deposited with an escrow agent and $7,286,563 has been disbursed to construct the solar facilities, 7 of which are in service as of June 30, 2019. Proceeds from the sale of electricity generated by the facilities to CSCUS along with revenue from the associated renewable energy credits will fund the payment of principal and interest on the CREB. The CREB qualified for a tax credit from the US Treasury under Section 54C of the Internal Revenue Code. The tax credit will be paid in the form of a subsidy to the Green Bank. The project also qualified to receive an interest rate subsidy from the local electricity utility through a program approved by the Connecticut Public Utility Regulatory Authority (PURA). This subsidy will be paid directly to the purchaser of the CREB. Both these subsidies will reduce the borrowing costs of the Green Bank.

9. FINANCING ACTIVITIES (CONTINUED)

Future maturities on borrowings under the CREB is as follows:

Years Ending June 30,	Principal	Interest	US Treasury Tax Subsidy	CT PURA Interest Subsidy	Total
2020	$ 515,976	$ 445,985	$ (237,009)	$ (56,417)	$ 668,535
2021	522,198	420,702	(223,573)	(56,417)	662,910
2022	528,550	395,114	(209,975)	(56,417)	657,272
2023	535,036	369,215	(196,212)	(56,417)	651,622
2024	541,657	342,999	(182,279)	(56,417)	645,960
2025-2029	2,812,516	1,310,147	(696,249)	(225,667)	3,200,747
2030-2034	2,632,906	603,100	(320,504)		2,915,502
2035-2039	1,012,890	124,495	(66,160)		1,071,225
	$ 9,101,729	$ 4,011,757	$ (2,131,961)	$ (507,752)	$ 10,473,773

Long-Term Debt - Primary Government - Discretely Presented Component Units

CEFIA Solar Services Inc. Term Note

On October 18, 2016 CEFIA Solar Services Inc. executed a term note with the Connecticut Housing Finance Authority (CHFA) in the amount of $1,895,807 with an interest rate of 2.5% with a 20-year term maturing on November 1, 2036. Principal and interest are payable monthly. CEFIA Solar Services, in its role as managing member of CT Solar Lease 2 LLC (CT SL2) lent these funds to CT SL2 through the execution of a subordinated promissory note of same date. CT SL2 used these funds to finance the acquisition of renewable energy equipment and installation of energy efficiency measures by eleven housing developments owned by municipalities throughout Connecticut.

Future maturities on borrowings under CHFA is as follows:

Years Ending June 30,	Principal	Interest	Total
2020	$ 94,788	$ 40,187	$ 134,975
2021	94,788	37,817	132,605
2022	94,788	35,448	130,236
2023	94,788	33,078	127,866
2024	94,788	30,708	125,496
2025-2029	473,953	117,994	591,947
2030-2034	473,953	58,850	532,803
2035-2038	229,085	7,158	236,243
	$ 1,650,931	$ 361,240	$ 2,012,171

9. FINANCING ACTIVITIES (CONTINUED)

Line of Credit - Discretely Presented Component Unit - CT Solar Lease 2, LLC

CT Solar Lease 2, LLC has a $27,600,000 line of credit agreement (Additional LOC) with Key Bank as the Administrative Agent and Lender along with an additional participating lender. The additional LOC is broken down by lender as follows:

Key Bank	$ 17,250,000
Webster Bank, National Association	10,350,000
	$ 27,600,000

Funds may be drawn down in no more than ten total advances by March 31, 2017. With the exception of the final advance, each advance must be in the principal amount of $2,760,000 or a whole multiple of $100,000 in excess of $2,760,000. Each loan funding will be shared by all participating lenders in accordance with their pro-rata share of the total facility commitment. As of June 30, 2017, $27,500,633 had been advanced under the additional LOC through March 31, 2017 the advance termination date. Principal repayments as of June 30, 2019 and 2018, were $681,547 and $1,442,241, respectively.

Each advance will be amortized separately. CT Solar Lease 2 LLC has the option with each advance of selecting between the LIBOR rate or the base rate which is defined as the highest of (a) the Federal Funds Effective Rate plus one-half of 1 percent, (b) Key Bank's prime rate, and (c) the LIBOR rate plus 1%. CT Solar Lease 2 LLC may also elect to convert an advance from one rate to the other by following the process outlined in the credit agreement.

Payments of interest with respect to any LIBOR rate advances are due on the 15th day of the month following each calendar quarter end. Payments of interest with respect to any base rate advances are due monthly. Payments of principal with respect to all advances are due on the 15th day of the month following each calendar quarter end. Principal payments on each advance will be based on a modified 15-year amortization schedule and are calculated as the lessor of 2.1675% of the initial principal amount of each advance or the net operating income with respect to the projects purchased with each advance as defined in the credit agreement.

Within one month of each advance, CT Solar Lease 2 LLC is required to enter into an interest rate swap contract with respect to a minimum amount of 75% of such advance. If one of the participating lenders is the counterparty to the swap contract, such contract will be secured by the collateral of the credit agreement; otherwise, the swap contract will be unsecured. See Note 9.

Certain obligations of CT Solar Lease 2 LLC under the credit agreement are guaranteed by the Green Bank. This credit agreement is secured by all assets of CT Solar Lease 2 LLC as well as CEFIA Solar Services (the Managing Member) interest in CT Solar Lease 2 LLC. There are no prepayment penalties. There are certain debt service coverage ratios CT Solar Lease 2 LLC must maintain related to each separate advance and which require the separate measurement of the net operating income with respect to the projects purchased with each advance.

10. INTEREST RATE SWAP AGREEMENT

CT Solar Lease 2 LLC entered into a multi-year interest rate swap agreement with Key Bank (the KeyBank Agreement) in September 2014 in anticipation of making its first draw down on the credit agreement with KeyBank. Payments made and received were based on a notional amount of $13,912,275 and $15,732,975 as of June 30, 2019 and 2018, respectively. The KeyBank Agreement provides for CT Solar Lease 2 LLC to receive payments based on the 1 month USD-LIBOR-BBA (2.39425% and 2.07325% at June 15, 2019 and 2018, respectively, the dates of the last reset) and to make payments based on fixed interest rates ranging from 1.96% to 2.78%. The KeyBank Agreement matures on December 15, 2025. The fair value of the KeyBank Agreement as of June 30, 2019 and 2018 was reported as a liability of $500,465 and an asset of $130,401, respectively, which is represented as the fair value of the interest rate swap on the accompanying 2019 and 2018 statement of net position.

CT Solar Lease 2 LLC entered into an interest rate swap agreement with Webster Bank (the Webster Agreement) in June of 2017 to meet certain requirements under its credit agreement with KeyBank in which Webster Bank also participates. Payments made and received were based on a notional amount of $1,653,200 and $1,826,600 as of June 30, 2019 and 2018, respectively. The Webster Agreement provides for CT Solar Lease 2 LLC to receive payments based on the 1 month USD-LIBOR-BBA (2.39425% at June 30, 2019 and 2.07325% at June 22, 2018, the date the Webster Agreement became effective) and to make payments based on a fixed rate of 2.10%. The Webster Agreement matures on June 15, 2027. The fair value of the Webster Agreement as of June 30, 2019 and 2018 was reported as a liability of $22,759 and an asset of $41,077, respectively, which is a component of the fair value of interest rate swap on the accompanying 2019 and 2018 statement of net position.

CT Solar Lease 2 LLC uses the dollar-offset method for evaluating effectiveness of the interest rate swap agreements.

11. RELATED PARTY TRANSACTIONS AND OPERATING LEASES

Due to outside agency

The Green Bank utilizes the services of CI when needed for certain operating expenses. CI provides these services at cost. Such services include, but are not limited to, staff for human resources, office space, equipment leases and office expenses. Expenses billed to the Green Bank by CI totaled $0 and $71,824 for the years ended June 30, 2019 and 2018, respectively. As of June 30, 2019 and 2018, no amounts was due to CI.

Unused Commitment Fee

The Investor Member of CT Solar Lease 3 LLC is entitled to an annual fee due within 30 days of the end of each calendar quarter, calculated on a monthly basis, based on the amount of the Investor Member's unfunded capital contributions. The fee for each month is equal to 1.25% times the amount by which the Investor Member's contribution cap exceeds the total capital contributions funded as of the last day of the month in question divided by twelve. Amounts not paid timely accrue interest at the US Bank Prime Rate in effect on the due date plus 2%. The unused commitment fee totaled $27,848, and $61,520 for the years ended June 30, 2019 and 2018, respectively.

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11. RELATED PARTY TRANSACTIONS AND OPERATING LEASES (CONTINUED)

Priority Return

The Investor Member is the Tax-Equity Investor and is entitled to substantially all of the tax benefits of both CT Solar Lease 2 LLC and CT Solar Lease 3, LLC until January 1 of the year which is five years after the date the last project is installed, which is anticipated to be January 1, 2023 for CT Solar Lease 2 LLC and January 1, 2024 for CT Solar Lease 3, LLC, the Flip Date.

The Investor Member of CT Solar Lease 2 LLC shall be due a cumulative, quarterly distribution, payable by CT Solar Lease 2 LLC, equal to 0.5% of its paid-in capital contributions in respect of projects beginning at the end of the first quarter after the first project acquisition capital contribution is made and continuing until the Flip Date. To the extent the priority return is not paid in a quarter until the Flip Date, unpaid amounts will accrue interest at the lower of 24% per annum or the highest rate permitted by law.

In accordance with the Operating Agreement, all amounts and accrued interest due on the priority return are to be paid from net cash flow prior to certain required payments due under the Credit Agreement. The Investor Member was paid priority returns of $510,142 and $504,046 for the years ended June 30, 2019 and 2018, respectively.

The Investor Member of CT Solar Lease 3 LLC shall be due a cumulative, quarterly distribution, payable by CEFIA Solar Services, Inc, its managing member, equal to 0.5% of its paid-in capital contributions in respect of projects beginning at the end of the first quarter after the first project acquisition capital contribution is made and continuing until the Flip Date. To the extent the priority return is not paid in a quarter until the Flip Date, unpaid amounts will accrue interest at the lower of 24% per annum or the highest rate permitted by law.

In accordance with the Operating Agreement, all amounts and accrued interest due on the priority return are to be paid from net cash flow prior to certain required payments due under the Credit Agreement. The Investor Member was paid priority returns of $109,128 and $30,607 for the years ended June 30, 2019 and 2018, respectively.

Administrative Services Fee

The Managing Member of CT Solar Lease 2 LLC, CEFIA Solar Services, Inc., provides administrative and management services and earns a quarterly fee initially equal to $30,000 per quarter beginning July 1, 2013. The amount of the fee increased 2.5% each July 1st beginning July 1, 2014. The administrative services fee totaled $135,769 and $132,458 for the years ended June 30, 2019 and 2018, respectively, and is included in accounts payable and accrued expenses on the accompanying statement of net position.

Payroll Taxes and Fringe Benefit Charges

Pursuant to state statute, the Green Bank is subject to fringe benefit charges for pension plan and medical plan contributions which are paid at the state level. The Green Bank's employer payroll taxes are also paid at the state level. The Green Bank reimburses the state for these payments. The reimbursement for 2019 and 2018 was $3,734,571 and $ 4,101,094, respectively, comprising 89.01% and 79.85% respectively, of gross salaries.

11. RELATED PARTY TRANSACTIONS AND OPERATING LEASES (CONTINUED)

Operating Leases

During 2014, the Green Bank entered into a noncancelable operating lease with an unrelated entity for its main office space. The lease calls for monthly escalating payments beginning at $12,567 through December 31, 2020. Rent expense related to this lease for the years ended June 30, 2019 and 2018 was $175,571 and $167,913, respectively.

In addition, the Green Bank has a noncancelable operating lease for an additional office space from an unaffiliated entity which calls for initial monthly payments of $7,333, with escalating payments through December 2020. Rent expense related to this lease for the years ended June 30, 2019 and 2018, amounted to $ 97,722 each year. The Green Bank also began subleasing additional office space from CI in March 2016. Initial monthly payments are $5,666 with escalating payments through December 2020. Rent expense related to this sublease was $0 and $70,707 for the years ended June 30, 2019 and 2018, respectively. This sublease with CI was terminated without penalty on June 30, 2018.

In addition, the Green Bank leases office equipment on a month-to-month basis. Rent expense related to the office equipment for the years ended June 30, 2019 and 2018, was $13,425 and $9,973, respectively.

Future minimum lease payments for office rentals are as follows:

Years Ending June 30,	
2020	$ 275,168
2021	139,146
	$ 414,314

12. CAPITAL ASSETS

Capital asset activity for reporting entity for the years ended June 30, 2019 and 2018, are as follows:

Primary Government:

2019	Balance, July 1, 2018	Additions	Deletions	Adjustments	Balance, June 30, 2019
Capital assets being depreciated:					
Solar lease equipment	$	$ 8,282,230	$	$	$ 8,282,230
Furniture and equipment	4,084,161	649,479			4,733,640
Computer hardware and software	215,458	17,506	(31,830)		201,134
Leasehold improvements	192,027				192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	4,491,646	8,949,215	(31,830)	-	13,409,031
Less accumulated depreciation and amortization:					
Solar lease equipment		105,017			105,017
Furniture and equipment	282,278	177,354			459,632
Computer hardware and software	174,621	26,176	(30,207)		170,590
Leasehold improvements	166,723	10,597			177,320
	623,622	319,144	(30,207)	-	912,559
Capital Assets, Net	$ 3,868,024	$ 8,630,071	$ (1,623)	$ -	$ 12,496,472

2018	Balance, July 1, 2017	Additions	Deletions	Adjustments	Balance, June 30, 2018
Capital assets being depreciated:					
Furniture and equipment	$ 169,955	$ 3,914,206	$	$	$ 4,084,161
Computer hardware and software	234,137	7,976	(26,655)		215,458
Leasehold improvements	250,981		(58,954)		192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	655,073	3,922,182	(85,609)	-	4,491,646
Less accumulated depreciation and amortization:					
Furniture and equipment	136,379	145,899			282,278
Computer hardware and software	164,972	36,302	(26,653)		174,621
Leasehold improvements	155,236	34,406	(22,919)		166,723
	456,587	216,607	(49,572)	-	623,622
Capital Assets, Net	$ 198,486	$ 3,705,575	$ (36,037)	$ -	$ 3,868,024

12. CAPITAL ASSETS (CONTINUED)

Discretely presented component units:

2019	Balance, July 1, 2018	Additions	Deletions	Adjustments	Balance, June 30, 2019
Capital assets being depreciated:					
Solar lease equipment	$ 75,602,983	$ 1,348,000	$	$ (313,919)	$ 76,637,064
Capital assets not being depreciated:					
WIP solar lease equipment					-
	75,602,983	1,348,000	-	(313,919)	76,637,064
Less accumulated depreciation and amortization:					
Solar lease equipment	6,053,786	2,900,971		(344,261)	8,610,496
	6,053,786	2,900,971	-	(344,261)	8,610,496
Capital Assets, Net	$ 69,549,197	$ (1,552,971)	$ -	$ 30,342	$ 68,026,568

2018	Balance, July 1, 2017	Additions	Deletions	Adjustments	Balance, June 30, 2018
Capital assets being depreciated:					
Solar lease equipment	$ 64,930,842	$ 11,467,421	$	$ (795,280)	$ 75,602,983
Capital assets not being depreciated:					
WIP solar lease equipment					-
	64,930,842	11,467,421	-	(795,280)	75,602,983
Less accumulated depreciation and amortization:					
Solar lease equipment	3,619,121	2,760,599		(325,934)	6,053,786
	3,619,121	2,760,599	-	(325,934)	6,053,786
Capital Assets, Net	$ 61,311,721	$ 8,706,822	$ -	$ (469,346)	$ 69,549,197

12. CAPITAL ASSETS (CONTINUED)

Total Reporting Entity:

2019	Balance, July 1, 2018	Additions	Deletions	Adjustments	Balance, June 30, 2019
Capital assets being depreciated:					
Solar lease equipment	$ 75,602,983	$ 9,630,230	$	$ (313,919)	$ 84,919,294
Furniture and equipment	4,084,161	649,479			4,733,640
Computer hardware and software	215,458	17,506	(31,830)		201,134
Leasehold improvements	192,027				192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	80,094,629	10,297,215	(31,830)	(313,919)	90,046,095
Less accumulated depreciation and amortization:					
Solar lease equipment	6,053,786	3,005,988		(344,261)	8,715,513
Furniture and equipment	282,278	177,354			459,632
Computer hardware and software	174,621	26,176	(30,207)		170,590
Leasehold improvements	166,723	10,597			177,320
	6,677,408	3,220,115	(30,207)	(344,261)	9,523,055
Capital Assets, Net	$ 73,417,221	$ 7,077,100	$ (1,623)	$ 30,342	$ 80,523,040

2018	Balance, July 1, 2017	Additions	Deletions	Adjustments	Balance, June 30, 2018
Capital assets being depreciated:					
Solar lease equipment	$ 64,930,842	$ 11,467,421	$	$ (795,280)	$ 75,602,983
Furniture and equipment	169,955	3,914,206			4,084,161
Computer hardware and software	234,137	7,976	(26,655)		215,458
Leasehold improvements	250,981		(58,954)		192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	65,585,915	15,389,603	(85,609)	(795,280)	80,094,629
Less accumulated depreciation and amortization:					
Solar lease equipment	3,619,121	2,760,599		(325,934)	6,053,786
Furniture and equipment	136,379	145,899			282,278
Computer hardware and software	164,972	36,302	(26,653)		174,621
Leasehold improvements	155,236	34,406	(22,919)		166,723
	4,075,708	2,977,206	(49,572)	(325,934)	6,677,408
Capital Assets, Net	$ 61,510,207	$ 12,412,397	$ (36,037)	$ (469,346)	$ 73,417,221

13. FEDERAL GRANT PROGRAMS

The Green Bank, the primary government, recognizes grant revenue based on expenditures or fulfillment of program requirements. For the year ended June 30, 2019 and 2018, the Green Bank recognized related grant revenue of $100,779 and $56,953, respectively under Department of Energy programs.

14. COMMITMENTS AND LOAN GUARANTEES

Commitments

As of June 30, 2019 and 2018, the Board of Directors designated a portion of the Green Bank's unrestricted net position to fund financial incentives for specific commercial and residential projects in the following areas:

Primary Government	Type	June 30, 2019	Type	June 30, 2018
Connecticut Green Bank				
Solar PV	Incentive	$ 51,517,641	Incentive	$ 48,732,057
AD/CHP Programs	Loan	-	Loan	-
Fuel Cells	Loan	13,500,000	Loan	5,000,000
CPACE	Loan	6,093,805	Loan	8,743,524
Multifamily/LMI Solar PV & Energy Eff.	Loan	3,751,054	Loan	3,296,573
Small Business Energy Advantage	Loan	1,113,352	Loan	-
Hydropower	Loan	945,173		
Other Technologies	Loan	161,302	Loan	271,795
		77,082,327		66,043,949
Solar PV commitments payable to CT Solar Lease 2 LLC		(504,399)		(3,587,224)
Total Reporting Entity		$ 76,577,928		$ 62,456,725

These commitments are expected to be funded over the next one to six fiscal years and are contingent upon the completion of performance milestones by the recipient. All commitments are those of the primary government.

14. COMMITMENTS AND LOAN GUARANTEES (CONTINUED)

Loan Guarantees

As of June 30, 2019 and 2018, the following financial guarantees, approved by the Board of Directors, were outstanding. As of June 30, 2019, CGB has not recognized a liability or made any payments pursuant to these guarantees. Should payments be made in the future, the Green Bank will utilize standard collection efforts to recover payments made on behalf of issuers to those entitled to receive payments pursuant to the obligation guaranteed. All guarantees are those of the primary government.

Guarantor	Issuer	Relationship of Guarantor to Issuer	Type of Obligation Guaranteed	Maximum Amount of Guaranty	Guaranty Obligation as of 6/30/2019	Guaranty Obligation as of 6/30/2018
CGB	Owners of multifamily dwellings in Connecticut	Issuers participate in program administered by CGB and the Housing Development Fund to install energy upgrades in multifamily dwellings.	Commercial and consumer loan products with various terms	$ 5,000,000	$ 4,335,449	$ 3,743,966
CGB	CT Solar Loan I LLC	Blended unit of primary government	Nonrevolving term note	2,510,837	1,367,686	1,588,934
CGB	CT Energy Efficiency Finance Company	Issuer provides loans for the installation of energy efficiency measures in single family homes to credit challenged households to meet the goals outlined in CGB's Comprehensive Plan.	Guarantee limited to $600,000 on revolving credit note of $6,000,000	600,000	600,000	600,000
CGB	New England Hydropower Company	Issuer is the developer of hydropower project in Connecticut approved by the CGB Board of Directors.	Line of credit	300,000	300,000	300,000
CEFIA Holdings LLC	CEFIA Solar Services Inc.	Holdings is the sole shareholder of Services and an affiliate of CGB	Promissory Note for funds received from CHFA upon their issuance of Qualified Energy Conservation Bonds (QECBs) for State Sponsored Housing Projects (SSHP)	1,895,807	1,650,931	1,745,722
CGB	Canton Hydro, LLC	Issuer is the developer of hydropower project in Connecticut approved by the CGB Board of Directors.	Unfunded guaranty not to exceed $500,000	500,000	500,000	-
				$ 10,806,644	$ 8,754,066	$ 7,978,622

New England Hydropower Company repaid its outstanding line of credit obligation to Key Bank in full during fiscal year 2018 and the Green Bank's obligation to guaranty repayment was terminated.

All commitments and guaranty obligations will be funded from current and future unrestricted cash balances.

15. STATE EMPLOYEES' RETIREMENT SYSTEM

All employees of the Green Bank participate in the State Employees' Retirement System (SERS), which is administered by the State Employees' Retirement Commission. The latest actuarial study was performed on the plan as a whole, as of June 30, 2018, and does not separate information for employees of the Green Bank. Therefore, certain pension disclosures pertinent to the Green Bank otherwise required pursuant to accounting principles generally accepted in the United States of America are omitted. Based upon the 2018 valuation, the Plan, as a whole, utilized the project unit credit cost method to develop employer contributions, and included the following actuarial assumptions: 1) investment return of 6.9%; 2) price inflation of 2.5% for cost of living adjustments; 3) projected salary increases of 3.5% to 19.5%, Social Security wage base increases of 3.50% per annum; 4) payroll growth of 3.5% per annum; and 5) the RP-2014 White Collar Mortality Table. Information on the total plan funding status and progress, contribution required and trend information can be found in the State of Connecticut's Comprehensive Annual Financial Report available from the Office of the State Comptroller, 55 Elm Street, Hartford, CT 06106.

Plan Description

SERS is a single-employer defined benefit public employee retirement system (PERS) established in 1939 and governed by Sections 5-152 and 5-192 of the Connecticut General Statutes. Employees are covered under one of four tiers, Tier I, Tier II, Tier IIA and Tier III all of which are contributory plans.

Members who joined the retirement system prior to July 1, 1984 are enrolled in Tier I. Tier I employees who retire at or after age 65 with 10 years of credited service, at or after age 55 with 25 years of service, or at age 55 with 10 years of credited service with reduced benefits are entitled to an annual retirement benefit payable monthly for life, in an amount of 2 percent of the annual average earnings (which are based on the three highest earning years of service) over $4,800 plus 1 percent of $4,800 for each year of credited service.

Employees hired on and after July 2, 1984 are covered under the Tier II plan. Tier II requires employee contributions of 1.5 percent of salary. Tier II employees who retire at or after age 60 with 25 years of service, or at age 62 with 10 years of service, or at age 65 with 5 years of service, are entitled to one and one-third percent of the average annual earnings plus one-half of one percent of the average annual earnings in excess of the salary breakpoint in the year of retirement for each year of credited service. Tier II employees between the ages of 55 and 62 with 10 years but less than 25 years of service may retire with reduced benefits. In addition, Tier II and Tier IIA members with at least five but less than ten years of actual state service who terminate their state employment July 2, 1997 or later and prior to attaining age 62 will be in deferred vested status and may commence receipt of normal retirement benefits on the first of the month on or following their sixty-fifth (65) birthday.

Employees hired on and after July 1, 1997 are covered under the Tier IIA plan. Tier IIA plan is essentially the existing Tier II plan with the exception that employee contributions of 3.5 percent of salary are required. Tier I members are vested after ten years of service, while Tier II and Tier IIA members may be vested after five years of service under certain conditions, and all three plans provide for death and disability benefits.

15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)

Employees hired on or after July 1, 2011 are covered under the Tier III plan. Tier III requires employee contributions of 3.5 percent of salary up to a $250,000 limit after which no additional contributions will be taken on earnings above this limit. The normal retirement date will be the first of any month on or after age 63 if the employee has at least 25 years of vested service or age 65 if the employee has at least 10 but less than 25 years of vested service. Tier III members who have at least 10 years of vested service can receive early reduced retirement benefits if they retire on the first of any month on or following their 58th birthday. Tier III normal retirement benefits include annual retirement benefits for life, in the amount of one and one-third percent of the five-year average annual earnings plus one-half of one percent of the five-year average annual earnings in excess of the salary breakpoint in the year of retirement for each year of credited service plus one and five-eighths of the five-year annual average salary times years of credited service over 35 years.

The total payroll for employees of the Green Bank covered by SERS for the years ended June 30, 2019 and 2018, was $4,406,561 and $5,120,449, respectively.

Contributions Made

Green Bank's contribution is determined by applying a State mandated percentage to eligible salaries and wages as follows for the years ended June 30:

	2019	2018	2017
Contributions made:			
By employees	$ 162,555	$ 176,270	$ 100,113
Percent of current year covered payroll	3.7%	3.4%	2.0%
Percent of required contributions	100.0%	100.0%	100.0%
By Green Bank	$ 1,743,395	$ 1,717,420	$ 1,713,946
Percent of current year covered payroll	39.6%	33.5%	33.9%
Percent of required contributions	100.0%	100.0%	100.0%

The Green Bank has contributed the required amount for each of the past three years.

The implementation of GASB 68 resulted in the Green Bank's reporting an initial net pension liability for fiscal year 2015. The Statement required the Green Bank to recognize a net pension liability for the difference between the present value of the projected benefits for the past service known as the Total Pension Liability (TPL) and the restricted resources held in trust for the payment of pension benefits, known as the Fiduciary Net Position (FNP). For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the FNP of SERS and additions to/deductions from SERS FNP have been determined on the same basis as they are reported by SERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit term. Investments are recorded at fair value.

15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)

At June 30, 2019 and 2018, the Green Bank reported a liability of $25,805,346 and $24,636,114, respectively, for its proportionate share of the net pension liability. The net pension liability as of June 30, 2019 was measured as of June 30, 2018, and the total pension liability used to calculate the net pension liability was determined by the actuarial valuation as of that date based on actuarial experience studies. The Green Bank's allocation of the net pension liability was based on the 2019 covered payroll multiplied by the SERS 2019 contribution rate of 62.25%. As of June 30, 2019 and 2018, the Green Bank's proportion was 0.118992% and 0.116920%, respectively.

For the years ended June 30, 2019 and 2018, the Green Bank recognized pension expense of $3,966,895 and $2,354,279, respectively. Pension expense is reported in the Green Bank's financial statements as part of general and administration expense. At June 30, 2019 and 2018, the Green Bank reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

As of June 30, 2019:	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ 910,835	$
Net difference between projected and actual earnings on pension plan investments		80,906
Change of assumptions	2,811,782	
Change in proportion and differences between employer contributions and proportionate share of contributions	2,290,223	
Green Bank contributions subsequent to the measurement date	1,743,395	
	$ 7,756,235	$ 80,906

As of June 30, 2018:	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ 588,152	$
Net difference between projected and actual earnings on pension plan investments		47,042
Change of assumptions	3,774,843	
Change in proportion and differences between employer contributions and proportionate share of contributions	2,698,456	
Green Bank contributions subsequent to the measurement date	1,717,219	
	$ 8,778,670	$ 47,042

15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)

The contributions subsequent to the measurement date of the net pension liability but before the end of the reporting period will be recognized as a reduction of the net pension liability in the subsequent fiscal period. The amount recognized as deferred inflows and outflows of resources, representing the net differences between expected and actual experience and changes in assumptions or other inputs, is amortized over a five-year closed period beginning in the year in which the difference occurs and will be recognized in expense as follows:

Year 1 (2020)	$ 2,191,740
Year 2 (2021)	2,029,206
Year 3 (2022)	1,314,909
Year 4 (2023)	290,008
Year 5 (2024)	106,071
	$ 5,931,934

Actuarial Methods and Assumption

The total pension liability in the June 30, 2018 actuarial valuation was determined based on the results of standard actuarial rollforward techniques. The key actuarial assumptions are summarized below:

Inflation	2.50%
Salary increase	3.50% -19.50% including inflation
Investment rate of return	6.90%, net of pension plan investment expense, including inflation
Cost of living adjustment	1.95%-3.25% for certain tiers

Mortality rates were based on the RP-2014 White Collar Mortality Table projected to 2020 by scale BB at 100% for males and 95% for females is used for the period after service retirement and for dependent beneficiaries. The RP-2014 Disabled Retiree Mortality Table at 65% for males and 85% for females is used for the period after disability.

Discount Rate

The discount rate used to measure the total pension liability at June 30, 2018 was the long term expected rate of return, 6.90%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rates and that employer contributions will be made equal to the difference between the projected actuarially determined contribution and member contributions. Projected future benefit payments for all current plan members were projected through the year 2138.

Expected Rate of Return on Investments

The long term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rate of return by the target asset allocation percentage and by adding expected inflation.

15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)

The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Large Cap U.S. Equities	21.0%	5.8%
Developed Non-U.S. Equities	18.0%	6.6%
Emerging Market (non-U.S.)	9.0%	8.3%
Real Estate	7.0%	5.1%
Private Equity	11.0%	7.6%
Alternative Investments	8.0%	4.1%
Fixed Income (Core)	8.0%	1.3%
High Yield Bonds	5.0%	3.9%
Emerging Market Bond	4.0%	3.7%
TIPS	5.0%	1.0%
Cash	4.0%	0.4%
	100.0%	

Sensitivity of Green Bank Proportionate Share of the Net Pension Liability to Changes in the Discount Rates

The following presents the Green Bank's proportionate share of the net pension liability calculated using the discount rate of 6.90%, as well as the proportionate share of the net pension liability using a 1.00% increase or decrease from the current discount rate.

	1% Decrease	Discount Rate	1% Increase
Green Bank's proportionate share of the net pension liability	$ 30,793,742	$ 25,805,346	$ 21,643,071

16. POST EMPLOYMENT BENEFITS

In addition to the pension benefits described in Note 15, the State single-employer plan provides post-employment health care and life insurance benefits in accordance with State statutes, Sections 5-257(d) and 5 259(a), to all eligible employees who retire from the State, including employees of Connecticut Green Bank.

Plan Description

Currently, 4 employees meet those eligibility requirements. When employees retire, the State pays up to 100% of their health care insurance premium cost (including dependent's coverage) depending upon the plan. The State currently pays up to 20% of the cost for retiree dental insurance (including dependent's coverage) depending upon the plan. In addition, the State pays 100% of the premium cost for a portion of the employees' life insurance continued after retirement. The amount of life insurance, continued at no cost to the retiree, is determined based on the number of years of service that the retiree had with the State at time of retirement as follows: (a) if the retiree had 25 years or more of service, the amount of insurance will be one-half of the amount of insurance for which the retiree was insured immediately prior to retirement, but the reduced amount cannot be less than $10,000; (b) if the retiree had less than 25 years of service, the amount of insurance will be the proportionate amount that such years of service is to 25, rounded to the nearest $100. The State finances the cost of post-employment health care and life insurance benefits on a pay-as you-go basis through an appropriation in the General Fund.

In accordance with the Revised State Employees Bargaining Agent Coalition (SEBAC) 2011 Agreement between the State of Connecticut and the SEBAC, all employees shall pay the three percent (3%) retiree health care insurance contribution for a period of ten (10) years or retirement, whichever is sooner. In addition, participants of Tier III shall be required to have fifteen (15) years of actual State service to be eligible for retirement health insurance. Deferred vested retirees who are eligible for retiree health insurance shall be required to meet the rule of seventy-five (75), which is the combination of age and actual State service equaling seventy-five (75) in order to begin receiving retiree health insurance based on applicable SEBAC agreement.

Contributions Made

Green Bank's contribution is determined by applying a State mandated percentage to eligible salaries and wages as follows for the years ended June 30:

	2019	2018	2017
Contributions made:			
By employees	$ 125,622	$ 130,954	$ 139,356
Percent of current year covered payroll	2.9%	2.6%	2.8%
Percent of required contributions	100.0%	100.0%	100.0%
By Green Bank	$ 1,164,217	$ 1,264,900	$ 956,207
Percent of current year covered payroll	26.4%	24.7%	18.9%
Percent of required contributions	100.0%	100.0%	100.0%

16. POST EMPLOYMENT BENEFITS (CONTINUED)

OPEB Liabilities, OPEB Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources

The implementation of GASB 75 resulted in the Green Bank reporting an initial net OPEB liability for fiscal year 2017. The Statement required the Green Bank to recognize a net OPEB liability for the difference between the present value of the projected benefits for the past service known as the Total OPEB Liability (TOL) and the restricted resources held in trust for the payment of OPEB benefits, known as the Fiduciary Net Position (FNP). For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the FNP and additions to/deductions from FNP have been determined on the same basis as they are reported by SERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit term. Investments are recorded at fair value.

At June 30, 2019 and 2018, the Green Bank reported a liability of $24,000,448 and $24,875,889, respectively, for its proportionate share of the net OPEB liability. The net OPEB liability as of June 30, 2019 was measured as of June 30, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by the actuarial valuation as of that date based on actuarial experience studies. The Green Bank's allocation of the net OPEB liability was based on the 2018 covered payroll multiplied by the OPEB 2018 contribution rate of 37.06%. As of June 30, 2018 and 2017, the Green Bank's proportion was 0.139017% and 0.143273%, respectively.

For the years ended June 30, 2019 and June 30, 2018, the Green Bank recognized OPEB expense of $1,783,370 and $1,919,366, respectively. OPEB expense is reported in the Green Bank's financial statements as part of salaries and benefits. At June 30, 2019 and June 30, 2018, the Green Bank reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

As of June 30, 2019:	Deferred Outflows of Resources	Deferred Inflows of Resources
Net difference between projected and actual earnings on pension plan investments	$	$ 10,273
Change of assumptions		1,282,713
Change in proportion and differences between employer contributions and proportionate share of contributions	567,930	602,613
Green Bank contributions subsequent to the measurement date	1,164,217	
	$ 1,732,147	$ 1,895,599

16. POST EMPLOYMENT BENEFITS (CONTINUED)

As of June 30, 2018:	Deferred Outflows of Resources	Deferred Inflows of Resources
Net difference between projected and actual earnings on pension plan investments	$	$ 28,159
Change of assumptions		596,791
Change in proportion and differences between employer contributions and proportionate share of contributions	733,992	
Green Bank contributions subsequent to the measurement date	1,265,019	
	$ 1,999,011	$ 624,950

The contributions subsequent to the measurement date of the net pension liability but before the end of the reporting period will be recognized as a reduction of the net pension liability in the subsequent fiscal period. The amount recognized as deferred outflows of resources, representing change in proportion and differences between employer contributions and proportionate share of contributions, deferred inflows of resources, representing the net difference between projected and actual earnings, and changes in plan assumptions, is amortized over a five-year closed period beginning in the year in which the difference occurs and will be recognized in expense as follows:

Year 1 (2020)	$ 295,356
Year 2 (2021)	295,356
Year 3 (2022)	295,359
Year 4 (2023)	306,326
Year 5 (2024)	135,272
	$ 1,327,669

Actuarial Methods and Assumption

The total OPEB liability in the June 30, 2018 actuarial valuation was determined based on standard actuarial rollforward techniques. The key actuarial assumptions are summarized below:

Payroll growth rate	3.50%
Salary increase	3.25% to 19.50% varying by years of service and retirement system
Discount rate	3.95% as of June 30, 2018 and 3.68% as of June 30, 2017
Health care cost trend rates	
Medical	6.5% graded to 4.5% over 4 years
Prescription Drug	8.0% graded to 4.5% over 7 years
Dental and Part B	4.5%
Administrative Expense	3.0%

16. POST EMPLOYMENT BENEFITS (CONTINUED)

Mortality rates were based on the RP-2014 White Collar Mortality Table projected to 2020 by scale BB at 100% for males and 95% for females is used for the period after service retirement and for dependent beneficiaries. The RP-2014 Disabled Retiree Mortality Table at 65% for males and 85% for females is used for the period after disability.

Discount Rate
The discount rate is a blend of the long-term expected rate of return on OPEB Trust assets (6.9% as of June 30, 2018 and June 30, 2017) and a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rate of AA/Aa or higher (3.87% as of June 30, 2018 and 3.58% as of June 30, 2017). The final discount rate used to measure to total OPEB liability was 3.95% as of June 30, 2018 and 3.68% as of June 30, 2017. The blending is based on the sufficiency of projected assets to make projected benefit payments.

Expected Rate of Return on Investments
The long term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rate of return by the target asset allocation percentage and by adding expected inflation.

The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Large Cap U.S. Equities	21.0%	5.8%
Developed Non-U.S. Equities	18.0%	6.6%
Emerging Market (non-U.S.)	9.0%	8.3%
Real Estate	7.0%	5.1%
Private Equity	11.0%	7.6%
Alternative Investments	8.0%	4.1%
Fixed Income (Core)	8.0%	1.3%
High Yield Bonds	5.0%	3.9%
Emerging Market Bond	4.0%	3.7%
Inflation Linked Bonds	5.0%	1.0%
Cash	4.0%	0.4%
	100.0%	

16. POST EMPLOYMENT BENEFITS (CONTINUED)

Sensitivity of Green Bank Proportionate Share of the Net OPEB Liability to Changes in the Discount Rates

The following presents the Green Bank's proportionate share of the net OPEB liability calculated using the discount rate of 3.95%, as well as the proportionate share of the net OPEB liability using a 1.00% increase or decrease from the current discount rate.

	1% Decrease	Current Discount Rate	1% Increase
Total OPEB liability	$ 27,838,767	$ 24,000,448	$ 20,883,487

Sensitivity of Green Bank Proportionate Share of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the Green Bank's proportionate share of the net OPEB liability, as well as what the Green Bank's share of the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1 percentage point lower or 1 percentage point higher than the current healthcare cost trend rates:

	1% Decrease	Healthcare Cost Trend Rates	1% Increase
Total OPEB liability	$ 20,442,821	$ 24,000,448	$ 28,508,476

17. RESTRICTED NET POSITION

Restricted net position at June 30, 2019 and 2018, consisted of the following:

	2019	2018
Primary Government		
Nonexpendable:		
Connecticut Innovations, Inc. equity interest	$ -	$ 95,745
Energy Programs:		
Connecticut Green Bank:		
Assets restricted for maintaining loan loss and interest rate buydown reserves	4,060,359	5,464,519
Assets restricted by contractual obligations under Clean Renewable Energy Bond	3,568,162	10,556,220
Assets restricted by contractual obligations for maintaining pledge accounts for loan guarantees	1,207,665	1,383,254
Assets restricted by contractual obligations for health and safety revolving loan fund	20,000	1,500,000
Assets restricted by contractual obligations for Kresge loan	1,000,000	
SHREC ABS 1 LLC:		
Assets restricted by contractual obligations for maintaining liquidity and trustee reserves	1,249,920	
CT Solar Loan I LLC:		
Assets restricted by contractual obligations for maintaining loan loss reserve	301,481	301,063
	11,407,587	19,205,056
Discretely Presented Component Units		
CT Solar Lease 2 LLC:		
Nonexpendable:		
Firstar Development Corporation equity interest	16,411,193	16,786,995
Firstar Development Corporation invested in capital assets net of related debt	31,164,155	32,547,026
Firstar Development Corporation assets restricted for maintaining loan loss reserve	3,623,241	3,476,188
Firstar Development Corporation assets restricted for operating and maintenance reserve	990,000	990,000
	52,188,589	53,800,209
Energy Programs:		
Assets restricted for maintaining loan loss reserve	36,598	35,113
Assets restricted for operating and maintenance reserve	10,000	10,000
	46,598	45,113
CEFIA Solar Services:		
Energy Programs:		
Assets restricted for maintaining loan loss reserve	83,000	
CT Solar Lease 3 LLC:		
Nonexpendable:		
Firstar Development Corporation equity interest	3,768,040	2,296,604
Firstar Development Corporation invested in capital assets net of related debt	10,944,990	10,303,746
	14,713,030	12,600,350
	$ 78,438,804	$ 85,746,473

18. RISK MANAGEMENT

The Green Bank is subject to normal risks associated with its operations including property damage, personal injury and employee dishonesty. All risks are managed through the purchase of commercial insurance. There have been no losses exceeding insurance coverage, and there have been no decreases in insurance coverage over the last three years.

19. RENEWABLE ENERGY CREDITS (PRIMARY GOVERNMENT)

The Green Bank owns Class 1 Renewable Energy Credits (RECs) that are generated by certain commercial renewable energy facilities for which the Green Bank provided the initial funding. Through its Residential Solar Incentive Program (RSIP), the Green Bank owns the rights to future RECs generated by facilities installed on residential properties placed in service prior to January 1, 2015. The Green Bank has entered into contracts with various third parties to sell RECs generated through vintage year 2019. For the years ended June 30, 2019 and 2018 the Green Bank generated and sold its contractual obligations of 30,000 RECs for vintage year 2019 and 48,471 RECs for vintage year 2018, respectively. Revenues generated from REC sales for the years ending June 30, 2019 and 2018 were $420,000 and $547,551, respectively.

As of June 30, 2019, the Green Bank has contractual obligations to sell RECs by vintage year as follows:

Vintage	Quantity
2019	40,000
2020	41,000
2021	40,000
2022	12,000
	133,000

Based on historical performance, management believes that the RECs it will receive from these commercial and residential facilities will exceed its contractual obligations.

RECs trade on the New England Power Pool (NEPOOL) market. The market price of Connecticut Class 1 RECs as of June 30, 2019 ranged from $21.25 to $24.25. The Green Bank's inventory of RECs generated by commercial facilities as of June 30, 2019 and 2018, was $30,542 and $40,520, respectively. The Green Bank recorded its inventory as of June 30, 2019 at cost, which is below market price.

19. RENEWABLE ENERGY CREDITS (PRIMARY GOVERNMENT) (CONTINUED)

Public Act No.15-194 (the Act) enacted on October 1, 2015 and as amended by Public Act 16-212 created a Solar Home Energy Credit (SHREC) associated with energy generated from qualifying residential solar PV systems that have received incentives under the Green Bank's RSIP. Each SHREC represents 1 megawatt hour of electrical generation. Under the Act, the Green Bank will own these SHRECs. The Act requires these SHRECs to be purchased by the State's two investor owned public utilities from the Green Bank through a Master Purchase Agreement (MPA) which was executed on February 7,2017. The MPA commences on January 1, 2015 and terminates the earlier of the year ending December 31, 2022 or with the deployment of solar PV systems that in the aggregate can generate 300 megawatts of electricity. During each year of the MPA's term, solar PV facilities that commence operation will be aggregated into a tranche agreement between the Green Bank and the utility companies which will be approved by the State's Public Utility Regulatory Authority (PURA) prior to its execution. Each tranche will state the price set by the Green Bank for the purchase of a SHREC generated by the PV systems within that tranche for a period of 15 years. As of June 30, 2019, the following tranche agreements have been entered into with the public utilities:

	Date	REC Price	Megawatts
Tranche 1	7/1/2017	$ 50.00	47.176
Tranche 2	7/15/2018	49.00	59.836
Tranche 3	6/28/2019	48.00	39.275
			146.287

SHRECs are created and certificated in the New England Power Pool Generation System (NEPOOL GIS). SHRECs are certificated by NEPOOL GIS during the fifth month subsequent to the end of the quarter in which the electricity was generated. Once certificated ownership of the SHRECs is transferred to each public utility, payment is received by the Green Bank 30 days later. The Green Bank recognizes income upon the delivery of the SHRECs to each public utility. The Green Bank is not committed to deliver a specific amount of SHRECs to each utility during the term of the MPA. For the years ending June 30, 2019 and 2018 the Green Bank recognized $4,916,117 and $2,259,250 in SHREC sales, respectively.

20. PRIOR PERIOD ADJUSTMENT AND RESTATEMENT

The following restatement was recorded to the beginning net position as a result an error consisting of warranty management costs previously expensed as incurred for CT Solar Lease 2 LLC. These amounts should have been amortized as a prepaid expense over the life of the contracted warranty management period which is 20 years. The effect of the error to the Company's financials as of June 30, 2018 resulted in the following restatements as follows:

Net position at June 30, 2017, as previously reported	$	39,397,390
Adjustments:		
Record prepaid warranty management costs		1,946,685
Net position at July 1, 2018, as restated	$	41,344,075

REQUIRED SUPPLEMENTARY INFORMATION

CONNECTICUT GREEN BANK
SCHEDULE OF GREEN BANK'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY
LAST FIVE FISCAL YEARS*

As of June 30,

	2019	2018	2017	2016	2015
Green Bank's portion of the net pension liability	0.11899%	0.11692%	0.10994%	0.09741%	0.09304%
Green Bank's proportionate share of the net pension liability	$ 25,805,346	$ 24,636,114	$ 25,245,439	$ 16,096,113	$ 14,899,766
Green Bank's covered employee payroll	$ 4,406,561	$ 5,120,449	$ 5,061,287	$ 4,695,647	$ 4,013,411
Green Bank's proportionate share of the net pension liability as a percentage of its covered payroll	585.61%	481.11%	498.79%	342.79%	371.25%
Plan fiduciary net position as a percentage of the total pension liability	36.62%	36.25%	31.69%	39.23%	39.54%

*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available.

CONNECTICUT GREEN BANK
SCHEDULE OF GREEN BANK'S PROPORTIONATE CONTRIBUTIONS TO THE STATE EMPLOYEES' RETIREMENT SYSTEM (SERS)
LAST EIGHT FISCAL YEARS*

	2019	2018	2017	2016	2015	2014	2013	2012*
Contractually required contribution	$ 1,743,395	$ 1,717,420	$ 1,713,946	$ 1,615,681	$ 1,974,507	$ 1,669,961	$ 1,125,649	$ 601,014
Contributions in relation to the contractually required contribution	1,743,395	1,717,420	1,713,946	1,615,681	1,974,507	1,669,961	1,125,649	601,014
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Green Bank's covered payroll	$ 4,406,561	$ 5,120,449	$ 5,061,287	$ 4,695,647	$ 4,013,411	$ 3,121,583	$ 2,517,190	$ 1,541,308
Contributions as a percentage of covered payroll	39.56%	33.54%	33.86%	34.41%	49.20%	53.50%	44.72%	38.99%

*Note: The Green Bank had no employees prior to 2012. Years 2015 through 2012 include contributions for other post employment benefits (OPEB) in addition to contributions for the SERS plan. The allocation of the total contribution between SERS and OPEB is not available for this period.

CONNECTICUT GREEN BANK
SCHEDULE OF GREEN BANK'S PROPORTIONATE SHARE OF THE NET OPEB LIABILITY
LAST THREE FISCAL YEARS*

As of June 30,

	2019	2018	2017
Green Bank's portion of the net OPEB liability	0.13902%	0.14327%	0.13805%
Green Bank's proportionate share of the net OPEB liability	$ 24,000,448	$ 24,875,889	$ 23,803,688
Green Bank's covered employee payroll	$ 4,406,561	$ 5,120,449	$ 5,061,287
Green Bank's proportionate share of the net OPEB liability as a percentage of its covered payroll	544.65%	485.81%	470.31%
Plan fiduciary net position as a percentage of the total OPEB liability	4.69%	3.03%	1.94%

*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available.

CONNECTICUT GREEN BANK
SCHEDULE OF GREEN BANK'S PROPORTIONATE CONTRIBUTIONS TO THE STATE EMPLOYEES' OTHER POST EMPLOYMENT BENEFIT PLAN
LAST FOUR FISCAL YEARS*

	2019	2018	2017	2016
Contractually required contribution	$ 1,164,217	$ 1,264,900	$ 956,207	$ 840,178
Contributions in relation to the contractually required contribution	1,164,217	1,264,900	956,207	840,178
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Green Bank's covered employee payroll	$ 4,406,561	$ 5,120,449	$ 5,061,287	$ 4,695,647
Contributions as a percentage of covered payroll	26.42%	24.70%	18.89%	17.89%

*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available.

STATISTICAL SECTION

(unaudited)

FINANCIAL STATISTICS

CONNECTICUT GREEN BANK
STATISTICAL SECTION INTRODUCTION

This part of the Connecticut Green Bank's (CGB's) comprehensive annual financial report presents detailed information as a context for understanding what the information about the primary government and the discretely presented component units in the financial statements, note disclosures, and required supplementary information says about the benefits of CGB's investments.

FINANCIAL STATISTICS

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CONNECTICUT GREEN BANK
NET POSITION BY COMPONENT
Last Eight Fiscal Years*

	Year Ended June 30,							
	2019	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Primary Government								
Invested in capital assets, net of related debt	$ 2,511,829	$ 963,469	$ 198,486	$ 248,752	$ 263,839	$ 289,932	$ 362,505	$ 91,329
Restricted Net Position:								
Nonexpendable		95,745	91,121	79,179	41,845	8,379	1,000	
Restricted - energy programs	11,407,587	19,205,056	16,798,606	5,249,983	4,299,005	4,595,715	5,036,656	176,974
Unrestricted	51,057,268	59,233,709	(1) 79,830,841	116,273,628	104,840,938	97,747,386	93,717,230	80,920,002
	64,976,684	79,497,979	96,919,054	121,851,542	109,445,627	102,641,412	99,117,391	81,188,305
CT Solar Lease 2 LLC								
Invested in capital assets, net of related debt	1,330,432	1,347,368	1,356,697	485,108	278,307	35,390		
Restricted Net Position:								
Nonexpendable	60,294,483	62,208,324	64,596,932	66,364,332	36,508,164	7,617,084	4,691,594	
Restricted - energy programs	46,598	45,113	45,028	45,000	45,000	45,000	45,000	
Unrestricted (deficit)	(22,648,568)	(22,283,629)	(25,125,419)	(32,934,704)	(21,703,932)	(4,105,401)	(1,853,380)	
	39,022,945	41,317,176	40,873,238	33,959,736	15,127,539	3,592,073	2,883,214	-
CEFIA Solar Services, Inc.								
Restricted Net Position:								
Nonexpendable								
Restricted - energy programs	83,000							
Unrestricted (deficit)	432,139	559,958	486,565	346,379	224,754	109,223	100	
	515,139	559,958	486,565	346,379	224,754	109,223	100	-
CT Solar Lease 3 LLC								
Net investment in capital assets	121,106	111,852						
Restricted Net Position:								
Nonexpendable	15,757,514	13,369,938						
Restricted - energy programs								
Unrestricted (deficit)	(3,527,528)	(4,076,898)						
	12,351,092	9,404,892	-	-	-	-	-	-
Eliminations	(40,583,744)	(39,454,629)	(31,562,901)	(28,795,323)	(15,630,676)	(5,549,471)	(3,500,100)	
Total Net Position	$ 76,282,116	$ 91,325,376	$ 106,715,956	$ 127,362,334	$ 109,167,244	$ 100,793,237	$ 98,500,605	$ 81,188,305

*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

(1) Restated

CONNECTICUT GREEN BANK
CHANGES IN NET POSITION
Last Eight Fiscal Years*

	Year Ended June 30,							
	2019	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Primary Government								
Operating Revenues	$ 39,929,257	$ 44,481,207	$ 44,040,016	$ 69,250,883	$ 72,038,472	$ 52,301,283	$ 43,343,093	$ 39,753,684
Operating Expenses								
Cost of good sold - energy systems	4,601,431	12,979,629	11,333,034	28,826,974	22,526,874	2,794,270		
Grants and program expenditures	15,598,111	18,932,920	18,128,022	11,539,070	10,686,366	13,798,012	17,767,885	27,977,688
Program administration expenditures	13,586,373	13,206,508	13,228,749	13,964,097	10,833,325	9,150,664	5,866,580	3,144,667
General and administrative expenses	5,484,608	5,431,801	5,228,711	4,445,648	2,984,178	2,408,715	1,811,227	1,387,854
Total Operating Expenses	39,270,523	50,550,858	47,918,516	58,775,789	47,030,743	28,151,661	25,445,692	32,510,209
Operating Income (Loss)	658,734	(6,069,651)	(3,878,500)	10,475,094	25,007,729	24,149,622	17,897,401	7,243,475
Nonoperating Revenue (Expenses)								
Interest income - promissory notes	3,907,759	3,291,701	2,921,710	2,895,504	2,625,308	1,034,953	583,575	589,007
Interest income - short-term investments	400,407	311,730	189,237	92,536	83,761	98,383	103,928	140,786
Interest income	64,544	62,981	61,455	60,127	58,511	57,407		
Interest expense - long-term debt	(772,225)	(172,817)	(228,502)	(61,796)	(26,985)			
Interest expense - component units	(429)							
Debt issuance costs	(1,738,746)							
Distributions to former members	(1,000)							
Realized gain (loss) on investments	(104,466)	(510,207)	(93,974)	(33,723)	(1,180,285)	(350,000)	(1,034,605)	
Unrealized gain (loss) on investments			(999,998)			349,999	378,059	434,702
Provision for loan losses	(2,908,974)	(361,711)	(956,489)	(1,021,826)	(563,825)	(1,310,933)		
Net Nonoperating Revenues (Expenses)	(1,153,130)	2,621,677	893,439	1,930,822	996,485	(120,191)	30,957	1,164,495
Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)	(494,396)	(3,447,974)	(2,985,061)	12,405,916	26,004,214	24,029,431	17,928,358	8,407,970
Capital Contributions							1,000	
Transfers to State of Connecticut	(14,000,000)	(14,000,000)			(19,200,000)	(6,200,000)		
Change in Net Position	$ (14,494,396)	$ (17,447,974)	$ (2,985,061)	$ 12,405,916	$ 6,804,214	$ 17,829,431	$ 17,929,358	$ 8,407,970

*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

CONNECTICUT GREEN BANK
CHANGES IN NET POSITION (CONTINUED)
Last Eight Fiscal Years*

	Year Ended June 30,							
	2019	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
CT Solar Lease 2 LLC								
Operating Revenues	$ 3,940,415	$ 3,836,228	$ 3,659,883	$ 2,416,597	$ 210,869	$ 1,770	$	$
Operating Expenses								
Program administration expenditures	3,517,018	4,083,177	3,884,129	3,078,633	1,201,123	600,186		
General and administrative expenses	274,833	288,724	620,912	305,217	124,748	127,511	853,480	
Total Operating Expenses	3,791,851	4,371,901	4,505,041	3,383,850	1,325,871	727,697	853,480	
Operating Income (Loss)	148,564	(535,673)	(845,158)	(967,253)	(1,115,002)	(725,927)	(853,480)	-
Nonoperating Revenue (Expenses)								
Interest on short-term investments	16,741	23,541	17,615	27,777	9,207	8,642		
Interest expense	(1,281,591)	(1,281,262)	(1,054,848)	(729,170)	(150,871)	(57,407)		
Unrealized gain (loss) on investments	(694,702)	712,355	1,086,987	(967,791)	(660,073)			
Net Nonoperating Revenues (Expenses)	(1,959,552)	(545,366)	49,754	(1,669,184)	(801,737)	(48,765)	-	-
Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)	(1,810,988)	(1,081,039)	(795,404)	(2,636,437)	(1,916,739)	(774,692)	(853,480)	
Capital Contributions		114,755	8,145,358	21,770,182	13,556,783	1,496,135	3,736,694	
Distributions to Members	(510,142)	(509,564)	(436,452)	(301,548)	(104,579)	(12,584)		
Change in Net Position	$ (2,321,130)	$ (1,475,848)	$ 6,913,502	$ 18,832,197	$ 11,535,465	$ 708,859	$ 2,883,214	$ -

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CONNECTICUT GREEN BANK
CHANGES IN NET POSITION (CONTINUED)
Last Eight Fiscal Years*

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
CEFIA Solar Services, Inc.								
Operating Revenues	$ 176,938	$ 132,458	$ 129,227	$ 126,075	$ 123,000	$ 120,000	$	$
Operating Expenses								
Grants and program expenditures	223,512	61,520						
General and administrative expenses	4,600	4,601	4,998	4,750	8,450	10,877		
Total Operating Expenses	228,112	66,121	4,998	4,750	8,450	10,877	-	-
Operating Income (Loss)	(51,174)	66,337	124,229	121,325	114,550	109,123	-	-
Nonoperating Revenue (Expenses)								
Interest on short-term investments	585	4,827	16,446	300	981			
Interest income	48,129	46,958	31,437					
Interest expense long-term debt	(42,359)	(44,729)	(31,926)					
Net Nonoperating Revenues (Expenses)	6,355	7,056	15,957	300	981	-	-	-
Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)	(44,819)	73,393	140,186	121,625	115,531	109,123	-	-
Capital Contributions							100	
Change in Net Position	$ (44,819)	$ 73,393	$ 140,186	$ 121,625	$ 115,531	$ 109,123	$ 100	$ -

*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
CT Solar Lease 3 LLC								
Operating Revenues	$ 776,695	$ 343,814	$	$	$	$	$	$
Operating Expenses								
Grants and program expenditures	513,289	354,566						
General and administrative expenses	94,125	37,332						
Total Operating Expenses	607,414	391,898	-	-	-	-	-	-
Operating Income (Loss)	169,281	(48,084)	-	-	-	-	-	-
Nonoperating Revenue (Expenses)								
Interest on short-term investments	261	15						
Net Nonoperating Revenues	261	15	-	-	-	-	-	-
Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)	169,542	(48,069)	-	-	-	-	-	-
Capital Contributions	2,855,179	9,483,568						
Distributions to Members	(78,521)	(30,607)						
Change in Net Position	$ 2,946,200	$ 9,404,892	$ -	$ -	$ -	$ -	$ -	$ -

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CONNECTICUT GREEN BANK
OPERATING REVENUE BY SOURCE
Last Eight Fiscal Years Ending June 30,

	Total Operating Revenues	Utility Remittances		RGGI Auction Proceeds		Grant Revenue		Sales of Energy Equipment		Sales of Renewable Energy Certificates		Other Revenues	
		Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual
Primary Government													
2019	$ 39,929,256	$ 26,094,682	65.4 %	$ 2,130,255	5.3 %	$ 200,779	0.5 %	$ 4,833,647	12.1 %	$ 5,348,537	13.4 %	$ 1,321,357	3.3 %
2018	44,481,207	$ 25,943,182	58.3 %	1,250,260	2.8 %	81,952	0.2 %	13,559,517	30.5 %	2,827,682	6.4 %	818,614	1.8 %
2017	44,040,016	26,404,349	60.0 %	2,392,647	5.4 %	98,486	0.2 %	12,689,540	28.8 %	2,214,000	5.0 %	240,994	0.5 %
2016	69,250,883	26,605,084	38.4 %	6,481,562	9.4 %	589,917	0.9 %	32,767,009	47.3 %	2,419,990	3.5 %	387,321	0.6 %
2015	72,038,471	27,233,987	37.8 %	16,583,545	23.0 %	192,274	0.3 %	25,912,414	36.0 %	1,474,488	2.0 %	641,763	0.9 %
2014	52,301,283	27,779,345	53.1 %	20,074,668	38.4 %	321,642	0.6 %	3,548,840	6.8 %	376,559	0.7 %	200,229	0.4 %
2013	43,343,093	27,621,409	63.7 %	4,744,657	10.9 %	10,035,250	23.2 %	--	- %	147,000	0.3 %	794,777	1.8 %
2012	39,753,684	27,025,088	68.0 %	2,052,748	5.2 %	10,435,251	26.2 %	--	- %	142,738	0.4 %	97,860	0.2 %
CT Solar Lease 2 LLC													
2019	$ 3,940,415	$ --	- %	$ --	- %	$ --	- %	$ --	- %	$ 738,153	18.7 %	$ 3,202,263	81.3 %
2018	3,836,228	--	- %	--	- %	--	- %	--	- %	700,015	18.2 %	3,136,213	81.8 %
2017	3,659,883	--	- %	--	- %	--	- %	--	- %	356,647	9.7 %	3,303,236	90.3 %
2016	2,416,597	--	- %	--	- %	--	- %	--	- %	233,793	9.7 %	2,182,804	90.3 %
2015	210,869	--	- %	--	- %	--	- %	--	- %	--	- %	210,869	100.0 %
2014	1,770	--	- %	--	- %	--	- %	--	- %	--	- %	1,770	100.0 %
2013	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
2012	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
CEFIA Solar Services Inc.													
2019	$ 176,938	$ --	- %	$ --	- %	$ --	- %	$ --	- %	$ --	- %	$ 176,938	100.0 %
2018	132,458	--	- %	--	- %	--	- %	--	- %	--	- %	132,458	100.0 %
2017	129,227	--	- %	--	- %	--	- %	--	- %	--	- %	129,227	100.0 %
2016	126,075	--	- %	--	- %	--	- %	--	- %	--	- %	126,075	100.0 %
2015	123,000	--	- %	--	- %	--	- %	--	- %	--	- %	123,000	100.0 %
2014	120,000	--	- %	--	- %	--	- %	--	- %	--	- %	120,000	100.0 %
2013	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
2012	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
CT Solar Lease 3 LLC													
2019	$ 776,695	$ --	- %	$ --	- %	$ --	- %	$ --	- %	$ 402,789	51.9 %	$ 373,906	48.1 %
2018	343,814	--	- %	--	- %	--	- %	--	- %	$ 131,823	38.3 %	211,991	61.7 %
2017	--	--	- %	--	- %	--	- %	--	- %	--	-- %	--	-- %
2016	--	--	- %	--	- %	--	- %	--	- %	--	-- %	--	-- %
2015	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	-- %
2014	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	-- %
2013	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
2012	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
Eliminations													
2019	$ (3,100,440)	$ --	- %	$ --	- %	$ --	-- %	$ (2,038,310)	65.7 %	$ --	- %	$ (1,062,130)	34.3 %
2018	(11,912,052)	$ --	- %	--	- %	--	-- %	(10,777,111)	90.5 %	--	- %	(1,134,941)	9.5 %
2017	(13,862,578)	--	- %	--	- %	--	-- %	(12,689,540)	91.5 %	--	- %	(1,173,038)	8.5 %
2016	(34,005,320)	--	- %	--	- %	--	-- %	(32,767,009)	96.4 %	--	- %	(1,238,311)	3.6 %
2015	(26,077,923)	--	- %	--	- %	--	- %	(25,895,727)	99.3 %	--	- %	(182,196)	0.7 %
2014	(3,668,840)	--	- %	--	- %	--	- %	(3,548,840)	96.7 %	--	- %	(120,000)	3.3 %
2013	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
2012	--	--	- %	--	- %	--	- %	--	- %	--	- %	--	- %
Total Reporting Entity													
2019	$ 41,722,864	$ 26,094,682	62.5 %	$ 2,130,255	5.1 %	$ 200,779	0.5 %	$ 2,795,336	6.7 %	$ 6,489,479	15.6 %	$ 4,012,333	9.6 %
2018	36,881,655	$ 25,943,182	70.3 %	1,250,260	3.4 %	81,952	0.2 %	2,782,406	7.5 %	3,659,520	9.9 %	3,164,335	8.6 %
2017	33,966,548	26,404,349	77.7 %	2,392,647	7.0 %	98,486	0.3 %	--	- %	2,570,647	7.6 %	2,500,419	7.4 %
2016	37,788,235	26,605,084	70.4 %	6,481,562	17.2 %	589,917	1.6 %	--	- %	2,653,783	7.0 %	1,457,889	3.9 %
2015	46,294,417	27,233,987	58.8 %	16,583,545	35.8 %	192,274	0.4 %	16,687	0.0 %	1,474,488	3.2 %	793,436	1.7 %
2014	48,754,213	27,779,345	57.0 %	20,074,668	41.2 %	321,642	0.7 %	--	- %	376,559	0.8 %	201,999	0.4 %
2013	43,343,093	27,621,409	63.7 %	4,744,657	10.9 %	10,035,250	23.2 %	--	- %	147,000	0.3 %	794,777	1.8 %
2012	39,753,684	27,025,088	68.0 %	2,052,748	5.2 %	10,435,251	26.2 %	--	- %	142,738	0.4 %	97,860	0.2 %

CONNECTICUT GREEN BANK
SIGNIFICANT SOURCES OF OPERATING REVENUE
Last Eight Fiscal Years

	Year Ended June 30,															
	2019		2018		2017		2016		2015		2014		2013		2012	
	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total
Utility Remittances [1][4]																
Eversource	$ 20,975,361	80.4 %	$ 20,842,169	80.3 %	$ 21,135,147	80.0 %	$ 21,223,577	79.8 %	$ 21,899,541	80.4 %	$ 22,322,100	80.4 %	$ 22,144,093	80.2 %	$ 22,037,771	81.5 %
United Illuminating	5,119,321	19.6 %	5,101,013	19.7 %	5,269,202	20.0 %	5,381,507	20.2 %	5,334,446	19.6 %	5,457,245	19.6 %	5,477,316	19.8 %	4,987,317	18.5 %
Total	$ 26,094,682	$ 100.0 %	$ 25,943,182	$ 100.0 %	$ 26,404,349	$ 100.0 %	$ 26,605,084	$ 100.0 %	$ 27,233,987	100.0 %	$ 27,779,345	100.0 %	$ 27,621,409	100.0 %	$ 27,025,088	100.0 %
RGGI Auction Proceeds [2]																
Renewables	$ 2,130,255	100.0 %	$ 1,250,260	100.0 %	$ 2,392,647	100.0 %	$ 6,481,562	100.0 %	$ 5,631,156	34.0 %	$ 7,476,158	37.2 %	$ 4,744,657	100.0 %	$ 2,052,748	100.0 %
Energy Efficiency	--	-- %	--	-- %	--	-- %	--	-- %	10,952,389	66.0 %	12,598,510	62.8 %	--	-- %	--	-- %
Total	$ 2,130,255	100.0 %	$ 1,250,260	100.0 %	$ 2,392,647	100.0 %	$ 6,481,562	100.0 %	$ 16,583,545	100.0 %	$ 20,074,668	100.0 %	$ 4,744,657	100.0 %	$ 2,052,748	100.0 %
Grant Revenue																
Federal ARRA Grants	$ --	-- %	$ --	-- %	$ --	-- %	$ --	-- %	$ --	-- %	$ --	-- %	$ 8,376,681	83.5 %	$ 8,738,726	83.8 %
DOE Grants	100,779	50.2 %	56,953	69.5 %	73,486	74.6 %	589,917	100.0 %	143,614	74.7 %	321,642	100.0 %	1,622,569	16.2 %	1,645,525	15.8 %
Private Foundation	100,000	49.8 %	24,999	30.5 %	25,000	25.4 %	--	-- %	48,660	25.3 %	--	-- %	36,000	0.4 %	50,000	0.5 %
Total	$ 200,779	100.0 %	$ 81,952	100.0 %	$ 98,486	100.0 %	$ 589,917	100.0 %	$ 192,274	100.0 %	$ 321,642	100.0 %	$ 10,035,250	100.0 %	$ 10,434,251	100.0 %
Sales of Renewable Energy Certificates [3]																
Gross Proceeds	$ 6,493,229	100.1 %	$ 3,670,367	100.3 %	$ 2,584,147	100.5 %	$ 2,677,317	100.9 %	$ 1,474,488	100.0 %	$ 381,444	101.3 %	$ 150,000	102.0 %	$ 146,038	102.3 %
Commissions	(3,750)	(0.1 %)	(10,847)	(0.3 %)	(13,500)	(0.5 %)	(23,534)	(0.9 %)	--	-- %	(4,885)	(1.3 %)	(3,000)	(2.0 %)	(3,300)	(2.3 %)
Total	$ 6,489,479	100.0 %	$ 3,659,520	100.0 %	$ 2,570,647	100.0 %	$ 2,653,783	100.0 %	$ 1,474,488	100.0 %	$ 376,559	100.0 %	$ 147,000	100.0 %	$ 142,738	100.0 %

(1) Revenue based on Statutory rate of 1 mil per kWh generated by the utility.

(2) The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort among nine Northeastern and Mid-Atlantic states to reduce greenhouse gas emissions. RGGI holds quarterly auctions of the member state's CO2 allowances. At auction, a market-based clearing price is determined from prices submitted in the winning bids and is used to value proceeds returned to the states. The Connecticut Green Bank receives a portion of Connecticut's auction proceeds which is recognized as revenue and invested in clean energy programs.

(3) CGB owns Class 1 Renewable Energy Credits (RECs) generated by certain commercial renewable energy facilities for which CGB provided the initial funding. Through its RSIP program, CGB owns the rights to future RECs generated by facilities installed on residential properties. CGB enters into contracts to sell RECs generated during specified time periods. RECs trade on the New England Power Pool (NEPOOL) market.

(4) In fiscal years 2018 and 2019 the Green Bank made a cash payments to the State of Connecticut of $14,000,000 per year sourced primarily from utility remittances, a major component of its operating revenues. During fiscal year 2019 the Green Bank will make an additional payment of $14,000,000 to the State of Connecticut sourced primarily from utility remittances.

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CONNECTICUT GREEN BANK
OUTSTANDING DEBT BY TYPE
Last Eight Fiscal Years

	Year Ended June 30,							
	2019	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Primary Government								
Line of Credit (including adjustments)	$ 1,100,000	$ 1,100,000	$ 1,100,000	$ 1,100,000	$ 1,100,000	$ 4,000,000	$ --	$ --
Cumulative Advances	1,085,956	1,085,956	1,085,956	1,085,956	1,085,956	126,088	--	--
Cumulative Repayments	(789,396)	(712,478)	(577,162)	(394,249)	(232,431)	--	--	--
Cumulative Outstanding Debt	296,560	373,478	508,794	691,707	853,525	126,088	--	--
Available LOC	--	--	--	--	--	3,873,912	--	--
Primary Government								
Line of Credit (including adjustments)	$ --	$ 16,000,000	$ --	$ --	$ --	$ --	$ --	$ --
Cumulative Advances	16,000,000	1,000,000	--	--	--	--	--	--
Cumulative Repayments	(16,000,000)	--	--	--	--	--	--	--
Cumulative Outstanding Debt	--	1,000,000	--	--	--	--	--	--
Available LOC	--	15,000,000	--	--	--	--	--	--
Primary Government								
Original Term Note	2,510,837	2,510,837	2,510,837	2,510,837	--	--	--	--
Repayments	(1,143,151)	(921,903)	(541,664)	(8,619)	--	--	--	--
Cumulative Outstanding Debt	1,367,686	1,588,934	1,969,173	2,502,218	--	--	--	--
Primary Government								
Clean Renewable Energy Bond	2,957,971	2,957,971	2,957,971	--	--	--	--	--
Repayments	(159,640)	(53,417)	--	--	--	--	--	--
Cumulative Outstanding Debt	2,798,331	2,904,554	2,957,971	--	--	--	--	--
Primary Government								
Clean Renewable Energy Bond	9,101,729	9,101,729	--	--	--	--	--	--
Repayments	--	--	--	--	--	--	--	--
Cumulative Outstanding Debt	9,101,729	9,101,729	--	--	--	--	--	--
Primary Government								
SHREC ABS Bond	38,600,000	--	--	--	--	--	--	--
Discount	(71,243)	--	--	--	--	--	--	--
Repayments	(101,000)	--	--	--	--	--	--	--
Cumulative Outstanding Debt	38,427,757	--	--	--	--	--	--	--
Primary Government								
Original Term Note	1,000,000	--	--	--	--	--	--	--
Repayments	--	--	--	--	--	--	--	--
Cumulative Outstanding Debt	1,000,000	--	--	--	--	--	--	--
CT Solar Lease 2 LLC								
Line of Credit (including adjustments)	27,600,000	27,600,000	27,600,000	24,000,000	26,700,000	26,700,000	26,700,000	--
Cumulative Advances	27,500,633	27,500,633	27,500,633	18,000,000	3,000,000	--	--	--
Cumulative Repayments	(4,516,713)	(3,835,166)	(2,392,925)	(832,325)	--	--	--	--
Cumulative Outstanding Debt	22,983,920	23,665,467	25,107,708	17,167,675	3,000,000	--	--	--
Available LOC	--	--	--	6,000,000	23,700,000	26,700,000	26,700,000	--
CEFIA Solar Services Inc.								
Original Term Note	1,895,807	1,895,807	1,895,807	--	--	--	--	--
Repayments	(244,875)	(150,085)	(55,295)	--	--	--	--	--
Cumulative Outstanding Debt	1,650,932	1,745,722	1,840,512	--	--	--	--	--
Total Reporting Entity								
Cumulative Outstanding Debt	$ 77,626,915	$ 40,379,884	$ 32,384,158	$ 20,361,600	$ 3,853,525	$ 126,088	$ --	$ --
Connecticut Population [1]	3,570,000	3,572,665	3,573,880	3,578,674	3,587,509	3,594,783	3,594,915	3,594,395
Total Outstanding Debt Per Capita	$ 21.7	$ 11.3	$ 9.1	$ 5.7	$ 1.1	$ 0.0	$ --	$ --

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

[1] 2019 population estimate per World Population Review website

CONNECTICUT GREEN BANK
DEMOGRAPHIC AND ECONOMIC STATISTICS - FOR THE STATE OF CONNECTICUT
Last Eight Fiscal Years

Fiscal Year	Population [1]	Median Age [2]	Per Capita Income [3]	Median Household Income [3]	Population 3 Years and Over Enrolled in Public School [4]	Unemployment Rate [5]
2019	n/a	n/a	n/a	n/a	n/a	3.7%
2018	3,572,665	41.0	$ 44,026	$ 76,348	720,366	4.4%
2017	3,573,880	40.9	$ 42,029	$ 74,168	718,887	5.0%
2016	3,578,674	40.9	$ 41,087	$ 73,433	724,486	5.2%
2015	3,587,509	40.8	$ 39,430	$ 71,346	730,132	5.5%
2014	3,594,783	40.7	$ 39,373	$ 70,048	733,536	6.5%
2013	3,594,915	40.6	$ 37,726	$ 67,098	751,810	7.8%
2012	3,594,395	40.5	$ 36,891	$ 67,276	760,146	8.5%

Sources: (1) US Census Bureau - Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018
(2) US Census Bureau - Annual Population Estimates for Selected Age Groups by Sex
(3) US Census Bureau - SELECTED ECONOMIC CHARACTERISTICS
American Community Survey 1-Year Estimates
(4) US Census Bureau - SCHOOL ENROLLMENT
American Community Survey 1-Year Estimates
(5) US Department of Labor - Databases, Tables & Calculators by Subject
Local Area Unemployment Statistics

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are

CONNECTICUT GREEN BANK
PRINCIPAL EMPLOYERS - FOR THE STATE OF CONNECTICUT
Last Six Calendar Years

	2018			2017			2016			2015			2014			2013		
Employer	Employees [1]	Rank	Percentage of Total State Employment [2]	Employees [1]	Rank	Percentage of Total State Employment [2]	Employees [1]	Rank	Percentage of Total State Employment [2]	Employees [1]	Rank	Percentage of Total State Employment [2]	Employees [1]	Rank	Percentage of Total State Employment [2]	Employees [1]	Rank	Percentage of Total State Employment [2]
State of Connecticut	48,129	1	2.61%	47,752	1	2.63%	48,912	1	2.71%	51,646	1	2.89%	54,230	1	3.05%	53,951	1	3.10%
Yale New Haven Health System	19,416	2	1.05	21,867	2	1.21	19,920	2	1.10	20,071	3	1.12	18,869	3	1.06	18,639	3	1.07
Hartford Healthcare	18,652	3	1.01	18,425	3	1.02	18,135	3	1.01	18,107	4	1.01	18,597	4	1.05	16,951	4	0.98
United Technologies	18,000	4	0.97	16,000	5	0.88	15,000	5	0.83	24,000	2	1.34	25,000	2	1.40	27,000	2	1.55
Yale University	14,440	5	0.78	16,184	4	0.89	15,018	4	0.83	14,787	5	0.83	14,787	5	0.83	14,750	5	0.85
General Dynamics Electric Boat	11,862	6	0.64	11,430	6	0.63	10,230	6	0.57	9,583	6	0.54	8,896	7	0.50	8,817	6	0.51
University of Connecticut	9,760	7	0.53	10,019	7	0.55	9,861	7	0.55									
Wal-Mart Stores Inc.	8,835	8	0.48	8,974	8	0.50	8,800	8	0.49	8,800	7	0.49	9,289	6	0.52	8,761	7	0.50
Sikosrsky, A Lockheed Martin Company	7,900	9	0.43	7,730	9	0.43	8,000	9	0.44	N/A	---	--	N/A	---	--	N/A	---	--
The Travelers Cos. Inc.	7,400	10	0.40	7,400	10	0.41	7,400	10	0.41	7,300	8	0.41	7,400	9	0.42	7,400	9	0.43
Mohegan Sun	7,150	11	0.39	6,800	11	0.38	6,735	12	0.37	6,900	10	0.39	7,300	10	0.41	7,300	10	0.42
The Hartford Financial Services Group	6,800	12	0.37	6,800	11	0.38	7,000	11	0.39	7,000	9	0.39	7,000	11	0.39	7,700	11	0.44
Foxwoods Resort Casino	5,500	14	0.30	6,500	13	0.36	6,500	13	0.36	5,301	14	0.30	7,600	8	0.43	7,667	8	0.44

Sources: (1) Hartford Business Journal, Book of Lists: Connecticut's largest employers
(Beginning in 2017, reduced employee count for #1 State of Connecticut by employee count for #7 University of Connecticut due to double counting of the employees.)
(2) Total State Employment from US Department of Labor - Databases, Tables & Calculators by Subject - Local Area Unemployment Statistics

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

CONNECTICUT GREEN BANK
FTEs BY FUNCTION
Last Eight Fiscal Years

	Year Ended June 30,							
	2019[1]	2018	2017	2016	2015	2014	2013	2012
Program Services								
Statutory & Infrastructure	8.00	9.00	9.00	9.00	8.00	7.00	7.00	9.00
Residential	1.00	6.00	6.00	6.00	6.00	5.00	3.00	1.00
Commercial & Industrial	4.00	4.00	4.00	4.00	2.00	4.00	2.00	--
Institutional	--	--	--	--	1.00	1.00	1.00	1.00
Subtotal Program Services	13.00	19.00	19.00	19.00	17.00	17.00	13.00	11.00
Administrative & Support								
Executive	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Finance	4.00	6.00	5.00	6.00	5.00	4.00	3.00	1.00
Accounting	5.75	5.75	5.75	5.75	5.30	3.50	2.75	2.20
Legal & Policy	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00
Marketing	5.00	5.00	6.00	6.00	6.00	5.00	5.00	5.00
Operations	3.00	3.50	3.50	3.90	3.50	3.80	4.00	3.85
Subtotal Administrative & Support	24.75	27.25	27.25	28.65	26.80	22.30	20.75	18.05
Total FTEs by Function	37.75	46.25	46.25	47.65	43.80	39.30	33.75	29.05

[1] Reflects staff reductions as a result of the cash payments of $14,000,000 made to the State of Connecticut in FY 2019 and FY 201

Source: Connecticut Green Bank internal payroll records

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

CONNECTICUT GREEN BANK
OPERATING INDICATORS BY FUNCTION
Last Eight Fiscal Years

	Year Ended June 30,							
	2019	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Clean Energy Investment *($s in Millions)*								
CGB Dollars Invested	$ 40.7	$ 34.8	$ 33.6	$ 39.3	$ 57.1	$ 32.5	$ 18.7	$ 3.4
Private Dollars Invested	312.8	218.1	172.6	282.9	267.1	75.3	92.7	6.5
Total Project Investment	353.5	252.9	206.2	322.1	324.1	109.8	111.4	9.9
Number of Clean Energy Projects	12,815	6,743	4,911	7,274	6,492	2,454	1,115	288
Annual Energy Savings of Clean Energy *(MMBtu)*	306,383	309,190	529,664	364,057	705,025	245,243	463,274	7,539
Installed Capacity of Clean Energy *(MW)*								
Anaerobic Digesters	--	--	--	1.0	--	--	--	--
Biomass	--	--	--	--	0.6	--	--	--
CHP	0.6	--	--	--	0.3	3.0	0.7	--
CHP/Microgrid	--	--	0.8	--	--	--	--	--
Fuel Cell	--	--	--	--	--	--	--	--
Energy Efficiency	--	--	--	--	--	--	14.8	--
Geothermal	--	--	--	--	--	--	--	--
Hydro	--	--	0.2	--	0.9	--	--	--
Solar PV	72.5	57.5	49.0	65.1	55.6	20.4	8.0	1.9
Wind	--	--	--	--	5.0	--	--	--
Other	0.3	--	--	--	--	--	--	--
Total	73.4	57.5	50.0	66.1	62.4	23.4	23.5	1.9
Lifetime Production of Clean Energy *(MWh)*								
Anaerobic Digesters	--	--	--	106,171	--	--	--	--
Biomass	--	--	--	--	--	--	--	--
CHP	65,197	--	--	--	31,930	354,780	81,008	--
CHP/Microgrid	--	--	94,017	--	--	--	--	--
Energy Efficiency	47,082	124,068	71,474	109,434	43,781	57,214	4,846	--
Fuel Cell	--	--	--	--	--	--	1,166,832	--
Geothermal	76	152	329	295	38	84	--	--
Hydro	--	--	20,711	--	96,579	--	--	--
Solar PV	2,155,881	1,721,309	1,469,668	1,893,418	1,591,539	581,578	226,886	55,238
Wind	--	--	--	--	118,260	--	--	--
Other	--	--	--	--	--	--	--	--
Total	2,268,236	1,845,529	1,656,199	2,109,318	1,882,127	993,656	1,479,572	55,238
Jobs Created by Year								
Direct Jobs *(# of Jobs)*	1,453	941	841	1,872	1,730	586	572	58
Indirect and Induced Jobs *(# of Jobs)*	1,902	1,228	1,153	2,983	2,673	935	1,149	93
Lifetime CO2 Emission Reductions *(Tons)*								
Avoided Emissions	1,183,050	993,233	847,708	1,129,276	1,047,450	358,049	210,346	31,046
Homes' Energy Use for One Year	128,517	107,897	91,842	122,675	113,120	38,885	22,010	3,373
Passenger Vehicles Driven for One Year	227,865	191,305	163,253	217,508	201,686	68,962	40,437	5,980
Acres of U.S. Forests in One Year	1,263,126	1,060,461	905,105	1,205,712	1,118,400	382,285	224,650	33,148

Source: Internal Connecticut Green Bank Reporting: Key Performance Indicators Data File
Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

CONNECTICUT GREEN BANK
CAPITAL ASSETS STATISTICS BY FUNCTION
Last Eight Fiscal Years*

	Year Ended June 30,							
	2019	**2018**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**
Capital assets being depreciated:								
Solar lease equipment	$ 84,919,294	$ 75,602,983	$ 64,930,842	$ 47,534,491	$ 21,011,832	$ 1,035,159	$	$
Furniture and equipment	4,733,640	4,084,161	169,955	169,423	222,701	338,938	335,744	13,049
Computer hardware and software	201,134	215,458	234,137	212,832	128,628	88,337	136,659	28,460
Leasehold improvements	192,027	192,027	250,981	225,844	153,657	139,682	71,470	56,224
Capital assets not being depreciated:								
WIP solar lease equipment				11,931,740	6,014,560	1,759,111		
Construction in progress				4,502	7,141	7,141		
	90,046,095	80,094,629	65,585,915	60,078,832	27,538,519	3,368,368	543,873	97,733
Less accumulated depreciation and amortization:								
Solar lease equipment	8,715,513	6,053,786	3,619,121	1,600,070	319,144	9,865		
Furniture and equipment	459,632	282,278	136,379	103,079	122,149	205,820	146,560	626
Computer hardware and software	170,590	174,621	164,972	151,573	50,906	33,845	18,093	3,807
Leasehold improvements	177,320	166,723	155,236	109,196	75,232	44,501	16,715	1,971
	9,523,055	6,677,408	4,075,708	1,963,918	567,431	294,031	181,368	6,404
Capital assets, net	$ 80,523,040	$ 73,417,221	$ 61,510,207	$ 58,114,914	$ 26,971,088	$ 3,074,337	$ 362,505	$ 91,329

*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available. The Connecticut Green Bank was established in July 2011.

NON-FINANCIAL STATISTICS

Contents

1. Statement of the Connecticut Green Bank

June 30, 2019

Re: Statement of the Connecticut Green Bank on the Non-Financial Statistics Contents of the Comprehensive Annual Financial Report for FY 2019 - Background and Market, Measures of Success, and Market Transformation

Dear Reader:

This is the "Non-Financial Statistics" section of the Comprehensive Annual Financial Report for FY 2019.

In FY 2019, our eighth year of operation, we continued building public private partnerships that leverage limited public funds by attracting private capital to spark the growth of green energy in Connecticut. Despite the challenges of operating on reduced revenues, the Green Bank enjoyed a year of successes including:

- The establishment of a new source of capital for Eversource's Small Business Energy Advantage (SBEA) program where the Green Bank and Amalgamated Bank provided $55 million dollars to provide zero interest loans to small businesses and lowered the cost of capital for the state's ratepayers;
- The establishment of a partnership with Inclusive Prosperity Capital (IPC), a mission driven 501(C)3 lender with significant energy program management and capital raising experience, where IPC manages specific programs and scopes of work on behalf of the Green Bank;
- The issuance of our first asset-backed security which securitized the income from long term purchase contracts for the Solar Home Renewable Energy Credits (SHRECs) generated by the organization's RSIP. This milestone transaction represents the first REC backed bond and is the first of many for the Green Bank;
- Additional hydroelectric projects financing for a project in Canton, CT and another in Putnam, CT;
- The refinancing of debt for Capital for Change, a local Community Development Financial Institution with a mission aligned to that of the Green Bank's;
- Continued support for the local fuel cell industry with term and construction financing facilities for a project in Groton, CT and the refinancing of the Bridgeport Fuel Cell Park with Dominion energy;
- Programmatically, the Residential Solar Incentive Program (RSIP) surpassed $1 Billion of capital deployed and is making significant progress toward its statutory goal of 350MW deployed;

- And the participation of the Green Bank in the Aspen Institute's MBA Case Study competition where participants were given a Yale School of Management written case study about the Green Bank's history and challenges and asked to present a strategy to advance the organization.

The year to come also presents the organization with new opportunities. Governor Lamont issued his first Executive Order (EO1[1]) in that mandates state agencies improve their sustainability use and reaffirmed the states commitment to fighting climate change with Executive Order 3 (EO3[2]). The State has a Renewable Portfolio Standard of 40% by 2030. These will undoubtedly take the Green Bank down new roads and drive continued innovation. And the Green Bank intends to apply the lessons learned through the issuance of or bonds in FY 2019 in the years to come and build our bonding capability as central to our operation.

We are making steady progress ensuring that the green economy is accessible to everyone – and throughout this report, the reader will see the progress we are making in underserved markets.

The assembly of the "Non-Financial Statistics" section of the Comprehensive Annual Financial Report is a process of continuous improvement, at the forefront of such is having established methodologies for monitoring and evaluating impact. During FY2019, we continued to make great strides in terms of our Evaluation, Measurement, and Verification agenda. Building on our economic development (i.e., job creation), environmental protection (i.e., air emission reductions), and public health benefits (e.g. reduced hospitalizations, sick days, etc.) from clean energy deployment, we operationalized our methodology to estimate corporate, individual, and sales tax revenues generated for the State of Connecticut from clean energy investment. In FY2020, we intend to focus our efforts to develop methodologies to estimate the energy burden reduction from the deployment of clean energy in Connecticut with a focus on renewable energy as well as working with the Department of Banking on Community Reinvestment Act Investments.

As we continue to bolster our work on social impact methodology and transparency, we have re-engaged Kestrel to assess the Green Bank's methods for representing impact using our indicators. The team from Kestrel has reviewed and endorsed the Green Bank's current methodologies and found the Connecticut Green Bank's reporting to provide a high degree of transparency both in terms of activity and the underlying methodologies used to calculate this activity. They also reviewed the Green Bank's calculations.

[1] https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-1.pdf
[2] https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-3.pdf

The result is an ever evolving and more transparent Non-Financial Statistics section that we hope is useful to those striving to learn from the successes and challenges of the Connecticut Green Bank.

Regards,

Bryan Garcia
President and CEO

Eric Shrago
Director of Operations

2. Statement of Non-Financial Statistics Auditor

Connecticut Green Bank
845 Brook Street
Rocky Hill, CT 06067

September 20, 2019

To the Board of Directors
Connecticut Green Bank:

Report on Non-Financial Metrics Included in the 2019 CAFR

In September 2019, the Connecticut Green Bank engaged Kestrel Verifiers (Kestrel) to conduct an independent external review of the metrics and underlying data collection and calculation methods outlined in the non-financial statistics section of Connecticut Green Bank's Comprehensive Annual Financial Report (CAFR or "Report") for FY2019.

Kestrel evaluated data collection methods and performance calculation methodologies described in the Report and assessed the degree of transparency exhibited in reporting on the following metrics: staff diversity, clean energy generated, job years created, public health benefits, carbon dioxide (CO_2) emissions avoided, and nitrogen oxides (NO_x), Sulfur Dioxide (SO_2), and particulate matter ($PM_{2.5}$) avoided. Kestrel also made recommendations for addressing social and environmental impacts in the report.

We note that the Green Bank's efforts in FY2019 resulted in improved air quality, benefits to public health and productivity, including avoiding premature deaths and lost work days. In total, the cumulative health benefits from CTGB's 2019 efforts are estimated at between $1,737,717 and $3,923,485. The Green Bank's FY2019 efforts also resulted in 1,453 direct jobs, an increase of 512 jobs over the previous year, and $17,883,751 in individual, corporate and sales tax revenue, which supports public programs and services.

Our firm also reviewed non-financial statistics disclosures in the CAFR for alignment with the United Nations Sustainable Development Goals. We determined that the organization meets 8 out of 17 Sustainable Development Goals including: health, affordable and clean energy, economic growth, innovation, sustainable cities/communities, climate action, strong institutions, and partnerships. Most of the other United Nations Sustainability Goals are not relevant to the activities of Connecticut Green Bank.

Based on the information provided to Kestrel Verifiers by Connecticut Green Bank and our understanding of best practices in goal setting, measurement and disclosure, it is our opinion that Connecticut Green Bank's metrics, data collection and calculation methodologies are sound and represent best practice. It is our opinion that Connecticut Green Bank adequately reports on these metrics and performance against them and demonstrates a high level of transparency.

Sincerely,

Monica Reid

Monica Reid
CEO
Kestrel Verifiers

+1 541.399.6806 info@kestrelverifiers.com www.kestrelverifiers.com 2700 Wells Drive, Hood River, OR 97031

3. Organizational Background

The Connecticut Green Bank is the nation's first green bank. The organization is creating a thriving marketplace to accelerate clean energy adoption in Connecticut by making clean energy financing accessible and affordable for homeowners, businesses and institutions.

Governance

Board of Directors

Pursuant to Section 16-245n of the General Statutes of Connecticut, the powers of the Connecticut Green Bank are vested in and exercised by the Board of Directors that is comprised of eleven voting and one non-voting member each with knowledge and expertise in matters related to the purpose of the organization – see Table 1.

Table 1. Composition of the Board of Directors of the Connecticut Green Bank for FY 2019

Position	Name	Status	Voting
Commissioner of DECD (or designee)	Catherine Smith[3] Binu Chandy[4]	Ex Officio	Yes
Commissioner of DEEP (or designee)	Rob Klee[5] Mary Sotos[6]	Ex Officio	Yes
State Treasurer (or designee)	Bettina Bronisz	Ex Officio	Yes
Finance of Renewable Energy	Unfilled	Resigned	Yes
Finance of Renewable Energy	Kevin Walsh	Appointed	Yes
Labor Organization	John Harrity	Appointed	Yes
R&D or Manufacturing	Gina McCarthy[7]	Appointed	Yes
Investment Fund Management	Eric Brown	Appointed	Yes
Environmental Organization	Matthew Ranelli	Appointed	Yes
Finance or Deployment	Tom Flynn	Appointed	Yes
Residential or Low Income	Betsy Crum	Appointed	Yes
President of the Green Bank	Bryan Garcia	Ex Officio	No

[3] Commissioner Smith served on the Green Bank Board of Directors through the end of her term as DECD Commissioner, January 9, 2019.
[4] Ms. Chandy was appointed to the Green Bank Board of Directors on February 21, 2019.
[5] Commissioner Klee served on the Green Bank Board of Directors through the end of his term as DEEP Commissioner, January 9, 2019.
[6] Deputy Commissioner Sotos was appointed to the Green Bank Board of Directors on January 16, 2019.
[7] Former EPA Administrator McCarthy served on the Green Bank Board of Directors through December 31, 2018.

The Board of Directors of the Connecticut Green Bank is governed through statute, as well as an Ethics Statement[8] and Ethical Conduct Policy[9], Resolutions of Purposes[10], Bylaws[11], Joint Committee Bylaws[12], and Comprehensive Plan[13]. The Comprehensive Plan for the Connecticut Green Bank provides a multi-year strategy to support the vision and mission of the organization and the public policy objective of delivering consumers cheaper, cleaner, and more reliable sources of energy while creating jobs and supporting local economic development. An Employee Handbook and Operating Procedures[14] have also 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.

As noted above, the Connecticut Green Bank's Board of Directors is comprised of eleven (11) ex officio and appointed voting members and two (2) ex officio non-voting members. The leadership of the Board of Directors, includes:

- **Chair** - Presently Vacant
- **Vice Chair** - Mary Sotos, Deputy Commissioner of DEEP (voted in by her peers of the Connecticut Green Bank Board of Directors); acting as Chair in absence of a designee
- **Secretary** - Matthew Ranelli, Partner at Shipman and Goodwin (voted in by his peers of the Connecticut Green Bank Board of Directors)
- **Staff Lead** – Bryan Garcia, President and CEO

During FY 2019, the Board of Directors of the Connecticut Green Bank met nine (9) times, including seven (7) regularly scheduled meetings and two (2) special meetings. There was an attendance rate of 70% by the Board of Directors and 42 approved resolutions. For a link to the materials from the Board of Directors meetings that are publicly accessible – click here[15].

Committees of the Board of Directors

There are four (4) committees of the Board of Directors of the Connecticut Green Bank, including:

- Audit, Compliance, and Governance
- Budget and Operations
- Deployment
- Joint Committee of the Energy Efficiency Board and the Connecticut Green Bank

[8]Ethics Statement: http://www.ctgreenbank.com/wp-content/uploads/2017/02/Green-Bank_Ethics-Statement-CLEAN-REVISED-102214.pdf
[9] Ethical Conduct Policy: https://www.ctgreenbank.com/wp-content/uploads/2017/08/Green-Bank_Ethical-Conduct-Policy_BOD_CLEAN_REVISED-101714.pdf
[10] Resolutions of Purposes: https://www.ctgreenbank.com/wp-content/uploads/2016/01/Financial-and-Gov._-CT-Green-Bank-Resolution-of-Purpose.pdf
[11] Bylaws: https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Bylaws-sec16-245n-CTGS-r12162016.pdf
[12] Joint Committee Bylaws: http://www.ctgreenbank.com/wp-content/uploads/2015/12/ECMB_CGB_Joint_Committee_Bylaws_October_2014FINAL.pdf
[13] Comprehensive Plan: https://www.ctgreenbank.com/wp-content/uploads/2018/08/Comp-Plan_FY17-FY19_Final_072718.pdf
[14] Operating Procedures: https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Operating-Procedures-sec16-245n-CTGS-r12162016.pdf
[15] Board of Directors meetings: http://www.ctgreenbank.com/about-us/governance/connecticut-grboard-meetings/

Audit, Compliance and Governance Committee

The Connecticut Green Bank's Audit, Compliance and Governance (ACG) Committee is comprised of three (3) ex officio and appointed voting members. The leadership of the ACG Committee includes:

- **Chair** – Matthew Ranelli, Partner and Shipman and Goodwin (designated as the Chair by former Chair of the Green Bank, Commissioner Catherine Smith)
- **Members**[16] –Gina McCarthy and Tom Flynn (designated as a member of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith)

During FY 2019, the ACG Committee of the Connecticut Green Bank met one (1) time, with one scheduled meeting cancelled. There was an attendance rate of 100% by the Committee members and 2 approved resolutions. For a link to the materials from the ACG Committee meetings that are publicly accessible – click here[17].

Budget and Operations Committee

The Connecticut Green Bank's Budget & Operations (B&O) Committee is comprised of three (3) ex officio and appointed voting members. The leadership of the B&O Committee, includes:

- **Chair** - John Harrity, retired President of the Connecticut State Council of Machinists (designated as the Chair by former Chair of the Green Bank, Commissioner Catherine Smith)
- **Members**[18] - Eric Brown (designated as member of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith) and Mary Sotos (designated as member of the Committee by herself as current Vice Chair of the Green Bank).

During FY 2019, the B&O Committee of the Connecticut Green Bank met four (4) times, including three (3) regularly scheduled meetings and one (1) special meeting. There was an attendance rate of 73% by the Committee members and 3 approved resolutions. For a link to the materials from the B&O Committee meetings that are publicly accessible – click here[19].

Deployment Committee

The Connecticut Green Bank's Deployment Committee is comprised of four (4) ex officio and appointed voting members. The leadership of the Deployment Committee includes:

- **Chair** - Mary Sotos, Senior Policy Advisor to DEEP (designated as the Chair by herself as Vice Chair of the Green Bank).
- **Members** - Bettina Bronisz (ex officio per bylaws), Matthew Ranelli, and / Betsy Crum (designated as members of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith)

[16] Note – the Chair and/or Vice Chair of the Board of Directors of the Connecticut Green Bank can attend the Audit, Compliance, and Governance Committee meeting to establish a quorum.
[17] ACG, B&O, Deployment Committee meetings: https://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/
[18] Note – the Chair and/or Vice Chair of the Board of Directors of the Connecticut Green Bank can attend the Audit, Compliance, and Governance Committee meeting to establish a quorum.
[19] ACG, B&O, Deployment Committee meetings: http://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/

During FY 2019, the Deployment Committee of the Connecticut Green Bank met five (5) times, including four (4) regularly scheduled meetings and one (1) special meetings. There was an attendance rate of 80% by Committee members and 10 approved resolutions. For a link to the materials from the Deployment Committee meetings that are publicly accessible – click here[20].

Joint Committee

A Joint Committee of the Energy Efficiency Board and the Connecticut Green Bank was established pursuant to Section 16-245m(d)(2) of the Connecticut General Statutes. Per by-laws established and approved by the EEB and Connecticut Green Bank, the Joint Committee is comprised of four (4) appointed and voting members, one (1) ex officio and voting member, and four (4) ex officio and non-voting members. The leadership of the Joint Committee includes:

- **Chair** - Eric Brown, Attorney with CBIA (voted in by his peers of the EEB and the Connecticut Green Bank)
- **Vice Chair** - Mary Sotos, Senior Policy Advisor to DEEP
- **Secretary** - Bryan Garcia (non-voting), Connecticut Green Bank, and Craig Diamond, Connecticut Energy Efficiency Fund (voted in by their peers of the EEB and the Connecticut Green Bank)
- **Members**[21] - Bert Hunter (non-voting), and John Harrity (designated as members of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith)

During FY 2019, the Joint Committee of the EEB and the Connecticut Green Bank met four (4) times, including four (4) regularly scheduled meetings and no special meetings. There was an attendance rate of 88% by the Joint Committee members and 0 approved resolutions. For a link to the materials from the Joint Committee meetings that are publicly accessible – click here[22].

Open Connecticut

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, as of Public Act 19-102, quasi-public agencies are required to provide checkbook-level vendor payment data for display on Open Connecticut. The Connecticut Green Bank was among the first to voluntarily submit this information to the State Comptroller since the inception of Open Connecticut, and it will continue doing so to satisfy this obligation. To access this information, click here[23].

Ethics and Transparency

Statement of Financial Interest

It is required by state ethics laws and a determination of the Governor's standard that senior-level staff (i.e. Director-level and above) and members of the Board of Directors annually file a Statement of Financial Interest (SFI). The Governor's standard is the following:

[20] ACG, B&O, Deployment Committee meetings: http://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/
[21] Note – these members are representatives from the Connecticut Green Bank.
[22] Joint Committee meeting: http://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/
[23] Open Connecticut: http://www.osc.ct.gov/openCT/quasi.html

"Governor Malloy has established a standard which requires "filing of Annual Statements of Financial Interests by all persons in the Executive Branch and Quasi-Public Agencies who exercise (i) significant policy-making, regulatory or contractual authority; (ii) significant decision-making and/or supervisory responsibility for the review and/or award of State contracts; or (iii) significant decision-making and/or supervisory responsibility over staff that monitor State contracts."

These statements include information such as names of all associated business, income over $1,000, a list of all real property, and a list of creditors. SFIs that have been filed are available to the public under the Freedom of Information Act. The SFIs serve two purposes. First, the financial disclosure provides a checklist or reminder to the official/employee to be mindful of potential conflicts of interest. Second, the statements serve as a tool to maximize public confidence in governmental decision making.

With respect to the 2019 SFI filing - required by May 1, 2019 - the Connecticut Office of State Ethics received the following from the Connecticut Green Bank – see Table 2.

Table 2. Summary of State of Financial Interest Filings with the Office of State Ethics for FY 2019

	Number of SFIs Submitted	% Submitted on Time
Senior Staff	9	100%
Board of Directors	8	100%

The Connecticut Green Bank received a Certificate of Excellence Ethics Compliance from the Connecticut Office of State Ethics. The organization has received this designation in each of its first eight years of operation.

Small and Minority Business Procurement

The State of Connecticut's Supplier Diversity Program was established to ensure Connecticut small businesses have an opportunity to bid on a portion of the State's purchases. Through Fiscal Year 2015, the program required agencies and political subdivisions to set aside 25% of their annual budgets for construction, housing rehabilitation, and purchasing goods and services (after approved exemptions by the Department of Administrative Services) to be awarded to certified small businesses, with 25% of this amount to be awarded to certified minority business enterprises. Although reporting is no longer required, the Connecticut Green Bank is performing the analysis to ensure we are still committed to voluntarily meeting our set aside goals.

Table 3. Small Business Procurement

Year	Goal	Actual	Percentage
2012	$ 59,775	$ 39,520	66%
2013	$ 62,598	$ 59,340	95%
2014	$ 135,320	$ 120,560	89%
2015	$ 221,750	$ 251,980	113%
2016	$ 238,550	$ 510,797	214%
2017	$ 209,725	$ 379,246	180%
2018	$ 187,142	$ 537,962	287%
2019	$ 137,355	$ 334,575	244%

Table 4. Minority Business Enterprise Procurement

Year	Goal	Actual	Percentage
2012	$ 14,944	$ 31,474	211%
2013	$ 15,649	$ 52,308	334%
2014	$ 33,830	$ 88,427	261%
2015	$ 55,438	$ 153,319	277%
2016	$ 9,638	$ 96,020	161%
2017	$ 52,431	$ 107,974	205%
2018	$ 46,785	$ 28,075	60%
2019	$ 34,339	$ 15,423	45%

Operational Efficiency

As a result of the Connecticut General Assembly's sweeps for FY 2018 and FY2019, the Green Bank has reduced financial resources, real estate, and human capital. As demonstrated in the following table, staff has grown by 1.6 FTEs, office space has increased by 3.4 times, and general administration has increased by 2.8 times since 2012. As a result of the FY 2019 sweeps, CEF and RGGI revenues have declined by over 55 percent and nearly 40 percent respectively.

Table 5. Human and Financial Resources of the Green Bank FY 2012 vs FY 2019

	Human Resources		Financial Resources				
Fiscal Year	FTE	Office Space (ft2)	Total Expenses	General Admin & Program Admin	General Admin	SBC Revenue	RGGI Revenue
2012	29.1	3,626	$32,510,209	$4,532,520	$1,387,854	$27,025,088	$2,052,748
2019	39.42	12,4966	$42,434,0178	$12,442,6139	$5,610,7882	$26,094,682	$2,130,2545
Multiple	1.35x	3.4x	1.3x	2.75x	4x	.97x	1x

With a sixty percent increase in FTEs, the impact of the organization has grown significantly. The Green Bank has also had to do more with less due to the sweeps of its funding and has significantly cut its expenses, not reflected in the above numbers. Private Investment and clean energy deployment have increased over 19-fold as demonstrated in Table 6.

Table 6. Green Bank Impact FY 2012 vs FY 2019

	Impact					
Fiscal Year	Private Investment	Clean Energy Deployment (MW)	Expected Annual Generation (MWh)	Annual Saved / Produced (MMBtu)	Job Years Supported	Annual CO2 Emissions Avoided (tons)
2012	$10,184,827	2.9	3,278	11,183	231	1,833
2019	$312,779,716	73.3	94,508	306,383	3,355	48,402
Multiple	30.7x	25.3x	28.8x	27.4x	14.5x	26.4x

As a quasi-public organization, the Connecticut Green Bank strives to leverage its resources in attracting investment and in deploying clean energy as efficiently as possible. Reviewing the Green Bank's human capital, real estate, and expenses versus the amount of private investment and clean energy deployed shows a marked increase during the organization's first seven years of existence.

Table 7. Green Bank Deployment Efficiency FY 2012 vs FY 2019

Impact Delivered to Human and Financial Resources Used						
Fiscal Year	**Private Investment / FTE**	**Clean Energy Deployment / FTE**	**Private Investment / Total Expenses**	**Private Investment / General Admin**	**Private Investment / Office Space**	**Clean Energy Deployment / Office Space**
	($/FTE)	**(kW/FTE)**			**($/ft2)**	**(kW/ft2)**
2012	$349,994	100	0.31	7.34	$2,809	0.8
2019	$7,934,543\	1,859	7.37	55.75	$25,030	.006
Multiple	22.7x	18.6x	23.8x	7.6x	8.9x	.01x

Workforce and Diversity

In order to achieve its mission, the Connecticut Green Bank is primarily reliant upon its most valuable asset: its people. The organization's staff is comprised of Program Staff, charged with designing and implementing products and programs that bring clean energy into the targeted markets in the state, Investment Staff, charged with tapping and leveraging efficient sources of capital, and Support Staff including marketing, legal, operations, and accounting functions.

In Fiscal Year 2019, the Green Bank added no new positions and eliminated two positions due to the FY2018 sweeps. There were two new members hired to fill open vacancies. The organization had a turnover rate of 10%.

The Green Bank realizes that part of having a strong team is ensuring that different perspectives are included in its workforce. To that end, the Green Bank monitors the diversity of its team and, per Connecticut regulations, informs the Governor's office of this. The following is the report that will be filed for the fiscal year ending June 30, 2018.

Table 8. Green Bank Workforce Analysis FY 2019

Category or class	Grand Total	Total Male	Total Female	White Male	White Female	Black Male	Black Female	Hispanic Male	Hispanic Female	Other Male	Other Female
ALL CATEGORIES											
Officials/Managers	27	15	12	16	10	0	0	1	0	2	2
Professionals	7	1	6	1	6	0	0	0	0	0	0
Administrative - Clerical	3	0	3	0	1	0	2	0	0	0	0
TOTALS	37	16	21	17	17	0	2	1	0	2	2

4. Measures of Success

The Green Bank develops a comprehensive plan every two to three years, establishing performance targets associated with its overall Green Bank and individual program objectives. Results are reported in this document through Key Performance Indicators at various levels of detail about the Green Bank's performance. This section presents results across all the programs – that is, at the Green Bank portfolio level. At the highest level, management is interested in the number of "Closed" Projects, the amount of Capital Deployed, the amount Clean Energy Generated, and fossil generation avoided. Table 9 below highlights these indicators. It is, of course, important to recognize that these data show the summation of numbers of projects, deployed funds, and clean energy generated across all of the Green Bank's programs, each of which has its own unique set of projects, funds, clean energy generation, and avoided fossil generation. These are each presented in the later sections of this report, in the program specific presentations.

Table 9. Green Bank Actuals vs Targets by FY Closed[24]

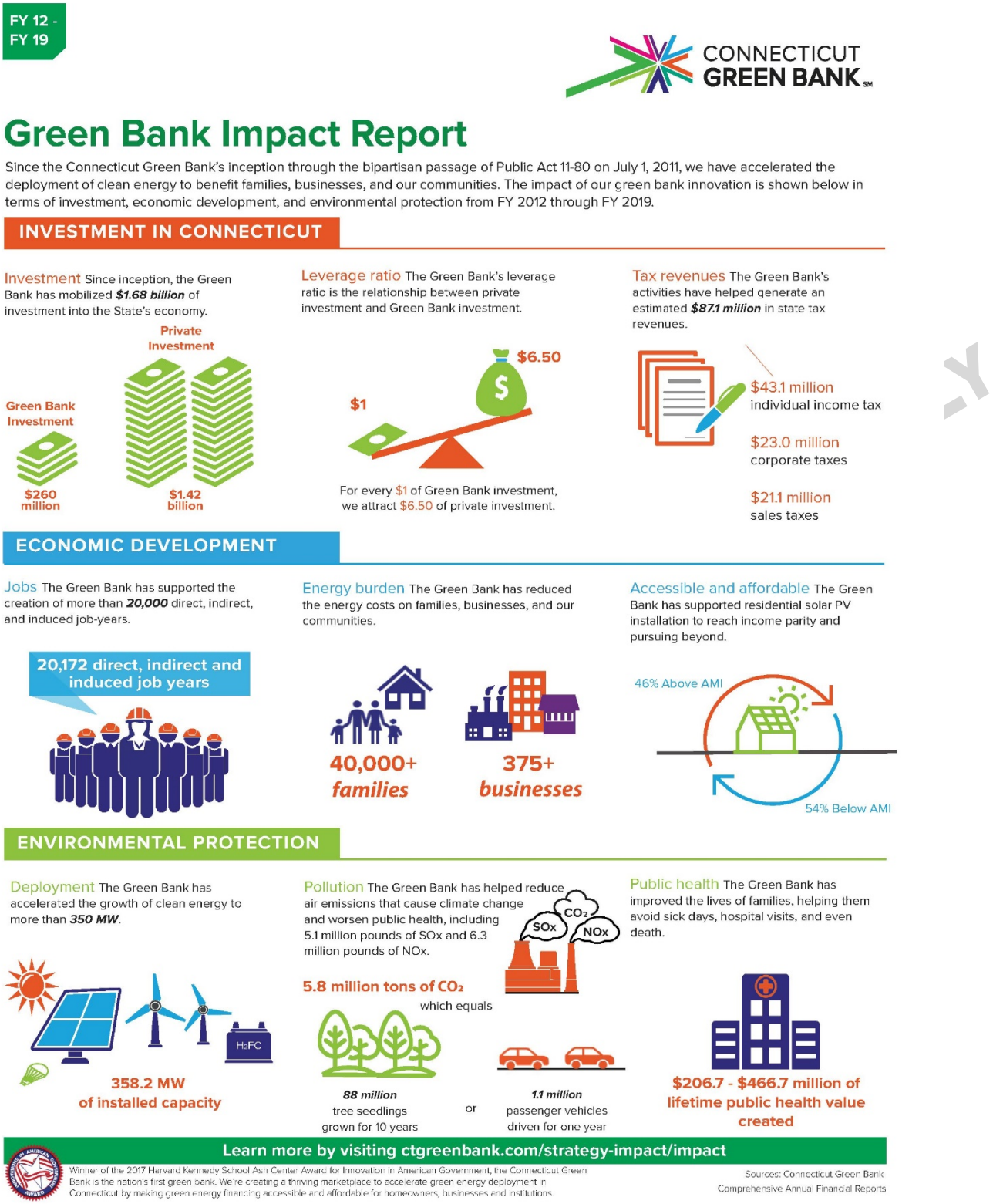
	Target	Actual	% of Target
Fiscal Year	**Closed Projects**		
2012	-	288	0%
2013	-	1,115	0%
2014	4,396	2,454	56%
2015	4,485	6,492	145%
2016	14,252	7,274	51%
2017	6,846	4,911	72%
2018	5,566	6,743	121%
2019	7,748	12,815	165%
Total	**43,293**	**42,092**	**97%**
	Capital Deployed[25]		
2012	$0	$9,901,511	0%
2013	$0	$111,066,476	0%
2014	$56,439,000	$101,830,141	180%
2015	$291,602,500	$312,039,701	107%
2016	$591,131,745	$316,923,441	54%
2017	$264,858,518	$200,400,602	76%
2018	$211,296,752	$241,187,125	114%
2019	$258,917,500	$351,734,649	136%
Total	**$1,674,246,015**	**1,645,083,646**	**98%**
	Capacity Installed (MW)		
2012	-	1.9	-
2013	-	23.5	-
2014	29.6	23.4	79%
2015	55.5	62.4	112%
2016	119.5	66.1	55%
2017	66.2	50.0	76%
2018	48.6	57.5	118%
2019	72.3	73.3	101%
Total	**391.7**	**358.2**	**91%**

The above metrics show that the Green Bank continues to deploy capital to new projects that lead to increased deployment of clean energy.

[24] Residential solar projects that receive financing also receive an incentive under the Residential Solar Incentive Program and Multifamily and Commercial Lease projects may also use C-PACE, so they are counted in each sector's results. In this document, unless we are separating out a specific program, these projects have been removed from the total to avoid double counting.

[25] Capital Deployment is defined by the Green Bank as the total project cost of projects financed or incentivized by the organization except for the residential programs where capital deployment only includes the amount financed.

The following info-graphic illustrates the activity and impact of the Connecticut Green Bank from FY 2012 through FY 20 19:



Activity

The Connecticut Green Bank tracks projects through three phases as they move through the pipeline from application until the completed implementation – Approved, Closed, and Completed. "Approved" signifies that the appropriate authority within the Connecticut Green Bank, whether President & CEO, Deployment Committee, or Board of Directors, has approved the Connecticut Green Bank's investment in the project per the Comprehensive Plan and Budget. "Closed" indicates all financial and legal documents have been executed and any additional funding has been secured. "Completion" indicates the project has closed, all construction and installation are completed, and the project is operational. The full forward -looking estimates of the energy, economic, and environmental benefits from these projects begin to be fully accounted and reported after they close. Table 10 below presents annual project activity by these three phases.

Table 10. Green Bank Project Activity by FY Closed

Fiscal Year	Approved	Closed	Completed
2012	288	288	17
2013	1,132	1,115	756
2014	2,467	2,454	1,155
2015	6,429	6,492	3,893
2016	7,396	7,274	9,651
2017	5,031	4,911	5,429
2018	6,717	6,743	5,884
2019	12,992	12,815	6,834
Total	**42,452**	**42,092**	**33,619**

Summary by fields such as "Number of projects" does not capture the extent of the organization's activities in a year as different projects have different sizes. Further demonstration of the organization's reach can be seen in the number of multi-family units impacted by closed projects each year.

Table 11. Green Bank Number of Multifamily Housing Units Impacted by FY Closed

Fiscal Year	Affordable	Market Rate	Total
2014	120	-	120
2015	326	82	408
2016	1,576	191	1,767
2017	1,435	100	1,535
2018	1,792	-	1,792
2019	2,225	-	2,225
Total	**7,474**	**373**	**7,847**

Capital Deployed

Clean Energy Investment

The Connecticut Green Bank's intent, stated in the Comprehensive Plan, is to use public funds to attract multiples of private investment into Connecticut's green energy economy, both to decrease the reliance on public funds over time, as well as expand the scale of clean energy investments in the state. Several of the tables below, including Tables 12-14 show activity to date on this subject.

Table 12. Green Bank Clean Energy Investment by Source - Public and Private by FY Closed

Fiscal Year	CGB Investment	Private Investment	Total Investment
2012	$3,401,642	$6,499,869	$9,901,511
2013	$18,668,534	$92,702,675	$111,371,209
2014	$32,500,513	$75,322,080	$107,822,593
2015	$57,055,549	$267,075,720	$324,131,269
2016	$39,286,015	$282,853,528	$322,139,543
2017	$33,632,162	$172,567,243	$206,199,405
2018	$34,812,393	$218,096,359	$252,908,752
2019	$40,732,511	$312,779,716	$353,512,226
Total	**$260,089,318**	**$1,427,897,190**	**$1,687,986,508**

The table above shows the average total investment of public and private funds per project, by fiscal year, and in total. In reviewing the results from year to year it is important to note that the mix, size, and financial requirements of projects differ significantly across the program portfolio offered by the Green Bank.

Table 13. Green Bank Actuals by FY Closed

	Closed Projects									
Fiscal Year	CPACE	Commercial Lease	Solar Lease	Residential Solar	Smart-E	Low Income Leases	Multi-Family	Solar Loan	AD & CHP	Strategic
2012	-	-	-	288	-	-	-	-	-	-
2013	3	-	-	1,109	4	-	-	3	2	1
2014	23	-	107	2,382	143	-	1	140	1	-
2015	49	16	610	6,397	282	4	6	136	2	2
2016	53	27	472	6,807	226	340	31	-	1	-
2017	38	30	-	4,469	539	666	19	-	1	1
2018	66	30	-	5,239	1,772	647	19	-	-	-
2019	38	20	-	7,657	838	847	19	-	-	-
Total	270	123	1,189	34,348	3,804	2,504	95	279	7	4
	Total Investment									
2012	$0	$0	$0	$9,901,511	$0	$0	$0	$0	$0	$0
2013	$1,512,144	$0	$0	$35,426,043	$275,174	$0	$0	$91,924	$3,189,000	$70,800,000
2014	$21,785,167	$0	$4,324,454	$73,853,653	$2,606,746	$0	$428,739	$4,461,833	$6,300,000	$0
2015	$33,716,566	$11,547,562	$23,672,593	$214,705,219	$8,698,493	$109,380	$5,843,311	$4,505,386	$642,578	$56,500,000
2016	$36,669,384	$16,711,392	$18,325,441	$218,226,286	$6,551,956	$9,776,138	$33,782,328	$0	$10,500,000	$0
2017	$15,487,305	$34,878,766	$0	$120,904,517	$11,442,115	$18,257,090	$25,501,271	$0	$3,401,392	$4,538,212
2018	$26,732,114	$26,037,540	$0	$150,222,182	$35,969,802	$18,039,049	$26,868,739	$0	$0	$0
2019	$22,628,489	$13,421,345	$0	$229,643,988	$10,054,247	$24,705,401	$35,719,734	$0	$0	$0
Total	$158,531,169	$102,596,605	$46,322,488	$1,052,883,398	$75,598,531	$70,887,057	$128,144,124	$9,059,143	$24,032,970	$131,838,212
	Capacity Installed (MW)									
2012	-	-	-	1.9	-	-	-	-	-	-
2013	0.1	-	-	7.9	0.0	-	-	0.0	0.7	14.8
2014	3.6	-	0.8	17.1	0.4	-	-	1.1	3.0	-
2015	7.3	3.5	4.9	48.7	1.3	0.0	0.9	1.1	0.1	5.0
2016	6.4	5.5	3.8	53.4	0.9	2.2	1.3	-	1.0	-
2017	3.9	11.6	-	34.8	1.3	4.2	2.1	-	0.8	0.2
2018	7.3	8.4	-	42.7	3.9	4.3	0.1	-	-	-
2019	5.4	4.1	-	65.1	0.9	6.0	0.3	-	-	-
Total	34.0	33.1	9.6	271.6	8.8	16.7	4.8	2.2	5.6	20.0

Table 14. Green Bank Clean Energy Projects - Average Public and Private Investments by FY Closed

Fiscal Year	Average Investment
2012	$34,380.25
2013	$99,884.49
2014	$43,937.49
2015	$49,927.80
2016	$44,286.44
2017	$41,987.25
2018	$37,506.86
2019	$27,585.82
Total	**$40,102.31**

Leverage Ratio

The table below shows in ratio form the extent to which public monies are driving private investment into the Green Bank's programs and the clean energy economy. The Green Bank's "leverage ratio," as it is commonly referenced, is calculated by dividing the total monies available in each period – here the Green Bank's fiscal year periods – by the amount of public investment. The table presents these ratios by fiscal year and the Green Bank's program categories. The leverage ratios for the Connecticut Green Bank shows a trending increase through FY2019. Due to the Green Bank's financing solution for the SBEA program, the organization achieved an all-time high leverage ratio in FY2019 of 8.7:1.

Table 15. Green Bank Sector Leverage Ratios by FY Closed

Fiscal Year	Commercial	Infrastructure	Residential	Strategic	Total
2012	0.0	2.9	0.0	0.0	2.9
2013	3.8	3.2	2.0	12.2	6.0
2014	2.2	3.9	9.2	0.0	3.3
2015	2.8	6.5	4.5	17.5	5.7
2016	4.6	11.0	7.5	0.0	8.2
2017	4.7	10.3	5.7	1.2	6.1
2018	4.7	11.7	6.9	0.0	7.3
2019	4.7	13.2	9.7	0.0	8.7
Total	**3.9**	**8.1**	**6.8**	**10.2**	**6.5**

Clean Energy Produced and Avoided Energy Use

The data below present the output of the projects supported by the Green Bank: electric capacity (megawatts [MW]), electricity production (megawatt hours [MWh]), and Energy Saved or Produced (MMBtu) – see Table 16.

Table 16. Green Bank Installed Capacity, Estimated Generation and Energy Saved and/or Produced by FY Closed[26]

		Estimated Generation (MWh)			Energy Saved/Produced (MMBtu)[27]		
Fiscal Year	MW	Annual	Lifetime[28]	Lifetime Clean Energy Produced (kWh) / Green Bank Investment ($)	Annual	Lifetime	Green Bank Investment ($) / Lifetime Combined Energy Generated & Saved (MMBtu)
2012	1.9	2,210	55,238	16.2	7,539	188,473	18.0
2013	23.5	131,563	1,479,573	79.3	463,274	5,266,888	3.5
2014	23.4	51,694	993,656	30.6	245,243	4,507,634	7.2
2015	62.4	209,806	1,882,128	33.0	705,025	6,168,294	9.2
2016	66.1	91,988	2,109,318	53.7	364,057	8,150,643	4.8
2017	50.0	71,868	1,656,199	49.2	529,664	9,776,863	3.4
2018	57.5	79,212	1,845,529	53.0	309,190	7,219,075	4.8
2019	73.3	94,508	2,268,236	55.7	306,383	7,174,436	6.5
Total	**358.2**	**732,849**	**12,289,877**	**47.3**	**2,930,374**	**48,452,307**	**5.4**

Clean Energy Technology Deployment

The Connecticut Green Bank takes a technology-agnostic approach to its financing products, with any commercially available technology that meets eligibility guidelines. The tables below present the number of projects by technology and project type by FY closed.

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.[29]

[26] Residential solar projects that receive financing also receive an incentive under the Residential Solar Incentive Program and Multifamily and Commercial Lease projects may also use C-PACE, so they are counted in each sector's results. These projects have been removed from the total to avoid double counting.
[27] The MMBTU's include those forecast to be saved from green bank energy efficiency projects and the forecast MWh from generation projects converted to MMBTU's.
[28] The lifetime numbers are based on the aggregation of projects' impact for one year multiplied by the useful life of the technology for each project
[29] https://www.cga.ct.gov/current/pub/chap_277.htm#sec_16-1, updated by Connecticut Public Act 11-80

Table 17. Green Bank Projects by Technology[30] by FY Closed [31]

	2012	2013	2014	2015	2016	2017	2018	2019	Total
	# of Projects								
AD	0	0	0	0	1	0	0	0	1
Biomass	0	0	0	1	0	0	0	0	1
CHP	0	2	1	4	0	0	0	2	9
CHP/Microgrid	0	0	0	0	0	1	0	0	1
EE	0	4	101	134	127	390	1,352	5,055	7,163
Fuel Cell	0	1	0	0	0	0	0	0	1
Geothermal	0	0	2	1	8	7	5	9	32
Hydro	0	0	0	1	0	1	0	0	2
PV	288	1,107	2,343	6,337	7,128	4,497	5,343	7,711	34,754
Waste Heat Recovery	0	0	0	1	0	0	0	0	1
Wind	0	0	0	1	0	0	0	0	1
Other	0	1	7	12	10	15	43	38	126
Total	**288**	**1,115**	**2,454**	**6,492**	**7,274**	**4,911**	**6,743**	**12,815**	**42,092**
	MW								
AD	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
Biomass	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6
CHP	0.0	0.7	3.0	0.3	0.0	0.0	0.0	0.6	4.5
CHP/Microgrid	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8
EE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.0	14.8
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydro	0.0	0.0	0.0	0.9	0.0	0.2	0.0	0.0	1.1
PV	1.9	8.0	20.4	55.6	65.1	49.0	57.5	72.5	330.0
Waste Heat Recovery	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wind	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	5.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
Total	**1.9**	**23.5**	**23.4**	**62.4**	**66.1**	**50.0**	**57.5**	**73.3**	**358.2**
	Expected Lifetime Savings or Generation (MWh)								
AD	0	0	0	0	106,171	0	0	0	106,171
Biomass	0	0	0	0	0	0	0	0	0
CHP	0	81,008	354,780	31,930	0	0	0	65,197	532,915
CHP/Microgrid	0	0	0	0	0	94,017	0	0	94,017
EE	0	4,846	57,214	43,781	109,434	71,474	124,068	47,082	457,899
Fuel Cell	0	1,166,832	0	0	0	0	0	0	1,166,832
Geothermal	0	0	84	38	295	329	152	76	974
Hydro	0	0	0	96,579	0	20,711	0	0	117,290
PV	55,238	226,886	581,578	1,591,539	1,893,418	1,469,668	1,721,309	2,155,881	9,695,519
Waste Heat Recovery[32]	0	0	0	0	0	0	0	0	0
Wind	0	0	0	118,260	0	0	0	0	118,260
Other	0	0	0	0	0	0	0	0	0
Total	**55,238**	**1,479,573**	**993,656**	**1,882,128**	**2,109,318**	**1,656,199**	**1,845,529**	**2,268,236**	**12,289,877**

[30] Commercial and Residential projects can be a combination of RE and EE measures and the data presented includes the EE generation for those projects, but it is assigned to the applicable RE technology.
[31] 98% of RSIP projects are accompanied by energy efficiency measures made by the energy assessment required by the program. See the Residential Solar Investment Program case study for more information.
[32] The expected annual generation for the Bridgeport Heating Loop project is 12,611 MWh. Lifetime generation is not available.

Solar PV deployment makes up the largest portion of Connecticut Green Bank's projects by technology: about 83% of all clean energy projects deployed are from solar PV. When comparing deployment to clean energy production, solar PV produces the most energy (79% of all clean energy production), fuel cells also contribute a large proportion given the efficiency of the technology (9% of all clean energy production), both providing highly reliable power. The Green Bank also supports additional deployment of energy efficiency not captured in the above tables by requiring an energy assessment for all residential solar PV projects incentivized through the Residential Solar Investment Program (RSIP). RSIP-wide, energy assessments have been performed for an estimated 98% of completed RSIP projects, of which approximately 87% were performed through the utility-administered Home Energy Solutions (HES) program or via the DOE Home Energy Score (DOE HES) overall. If the Green Bank were to include residential energy assessments (or audits) in the number of projects supported through its residential solar PV program, then nearly 55% of all projects are energy efficiency.

Table 18. Green Bank Project Types by FY Closed[33]

	2012	2013	2014	2015	2016	2017	2018	2019	Total
	# of Projects								
EE	0	4	101	134	127	390	1,352	5,055	7,163
RE	288	1,109	2,337	6,267	6,902	3,996	4,817	6,970	32,686
RE/EE	0	1	9	78	238	511	534	754	2,125
Other	0	1	7	13	7	14	40	36	118
Total	**288**	**1,115**	**2,454**	**6,492**	**7,274**	**4,911**	**6,743**	**12,815**	**42,092**
	MW								
EE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RE	1.9	23.4	22.8	60.5	63.9	46.2	52.3	67.6	338.6
RE/EE	0.0	0.1	0.6	1.8	2.2	3.8	5.2	5.8	19.5
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**1.9**	**23.5**	**23.4**	**62.4**	**66.1**	**50.0**	**57.5**	**73.3**	**358.1**
	Expected Lifetime Savings or Generation (MWh)								
EE	0	4,846	57,214	43,781	109,434	71,474	124,068	47,082	457,899
RE	55,238	1,471,851	918,047	1,783,447	1,913,324	1,425,400	1,517,724	1,975,010	11,060,041
RE/EE	0	2,875	18,395	54,900	86,560	159,325	203,737	246,144	771,937
Other	0	0	0	0	0	0	0	0	0
Total	**55,238**	**1,479,573**	**993,656**	**1,882,128**	**2,109,318**	**1,656,199**	**1,845,529**	**2,268,236**	**12,289,877**

[33] Note that projects that are part of the Residential Solar Investment Program have an EE component not reflected in this table.

The Green Bank Model

Assets – Current and Non-Current

The Connecticut Green Bank's successful shift to a financing model from one formerly driven by grants and subsidies is evidenced by a net positive change in assets since its inception. The growth of the Green Bank's financing programs has led to a steady increase in non-current assets over time as more and more loans and leases are closed. Since 2012, the Green Bank's balance sheet has grown by a factor of 2.3x representing the value of it investments.

Table 19. Current and Non-Current Assets

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
Current Assets								
Cash and cash equivalents	$ 18,947,212	$ 19,830,102	$ 37,148,283	$ 48,072,061	$ 39,893,649	$ 71,411,034	$ 68,105,014	$ 64,672,910
Receivables	6,673,737	5,036,838	3,682,469	4,531,258	2,867,233	8,253,318	4,545,661	3,305,301
Prepaid expenses and other assets	6,090,135	5,815,523	10,012,025	4,245,806	1,030,251	619,639	520,814	350,302
Contractor loans	--	--	--	2,272,906	3,112,663	--	--	--
Current portion of solar lease notes	942,056	908,541	869,831	845,479	803,573	766,086	704,032	670,645
Current portion of SBEA Promissory Notes	1,709,491	--	--	--	--	--	--	--
Current portion of program loans	3,756,932	2,138,512	1,910,048	1,378,242	10,264,825	652,447	--	--
Total Current Assets	38,119,563	33,729,516	53,622,656	61,345,752	57,972,194	81,702,524	73,875,521	68,999,158
Noncurrent Assets								
Portfolio investments	1	1	1	1,000,000	1,000,000	1,000,000	1,000,000	2,155,525
Fair Value of interest rate swap	--	171,478	--	--	--	--	--	--
Bonds receivable	3,288,655	3,328,530	3,328,530	3,492,282	1,600,000	1,600,000	--	--
Solar lease notes - less current portion	5,361,206	6,358,184	7,242,822	8,162,635	9,015,437	9,778,315	10,536,136	11,064,879
SBEA Promissory Notes - less current portion	1,799,007	--	--	--	--	--	--	--
Program loans - less current portion	64,800,014	43,525,021	40,296,113	31,889,275	30,253,119	12,750,457	3,788,094	--
Renewable energy certificates	468,736	547,556	654,767	812,770	933,054	1,069,390	1,217,491	1,324,614
Capital assets, net of depreciation and amortization	80,523,040	73,417,221	61,510,207	58,114,914	26,971,087	3,074,337	362,505	91,329
Asset retirement obligation, net	2,828,461	2,927,687	2,535,104	2,261,472	1,029,196	--	--	--
Restricted assets:								
Cash and cash equivalents	16,667,797	24,368,185	22,063,406	9,749,983	8,799,005	9,513,715	9,536,656	8,540,684
Total noncurrent assets	175,736,917	154,643,863	137,630,950	115,483,331	79,600,898	38,786,214	26,440,882	23,177,031
Total Assets	$213,856,480	$ 188,373,379	$191,253,606	$176,829,083	$137,573,092	$120,488,738	$100,316,403	$ 92,176,189

Ratio of Public Funds Invested

As highlighted below – in Figures 1 and 2, the Connecticut Green Bank has moved towards this model by increasing the overall ratio of financing investments from subsidies. In addition, it should be noted that funds used for subsidies through the RSIP (including administrative and financing costs) are recovered through the sale of SHRECs to the electric distribution companies (i.e., Avangrid and Eversource Energy) through 15-year Master Purchase Agreements ("MPA"), and that RSIP subsidies continue to decrease and leverage private capital at an increasing rate. This trend has developed even as total investment in clean energy has increased to $1.7 billion in total from 2012 through 2019, enabling the Connecticut Green Bank to do more at a faster pace while managing ratepayer resources more efficiently.

Figure 1. Green Bank Capital Deployment by FY Closed

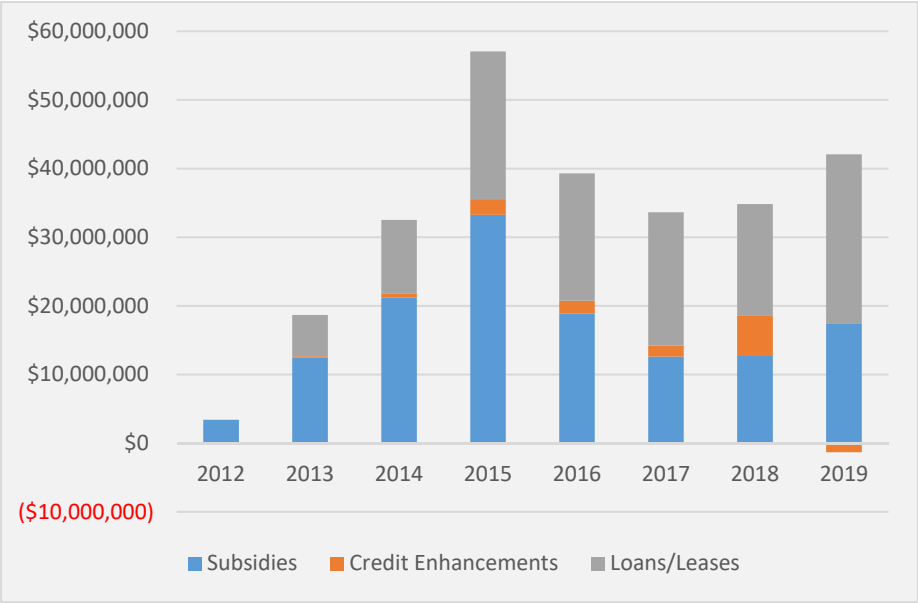


Figure 2. Green Bank Cumulative Green Bank Funds Invested by Type by FY Closed

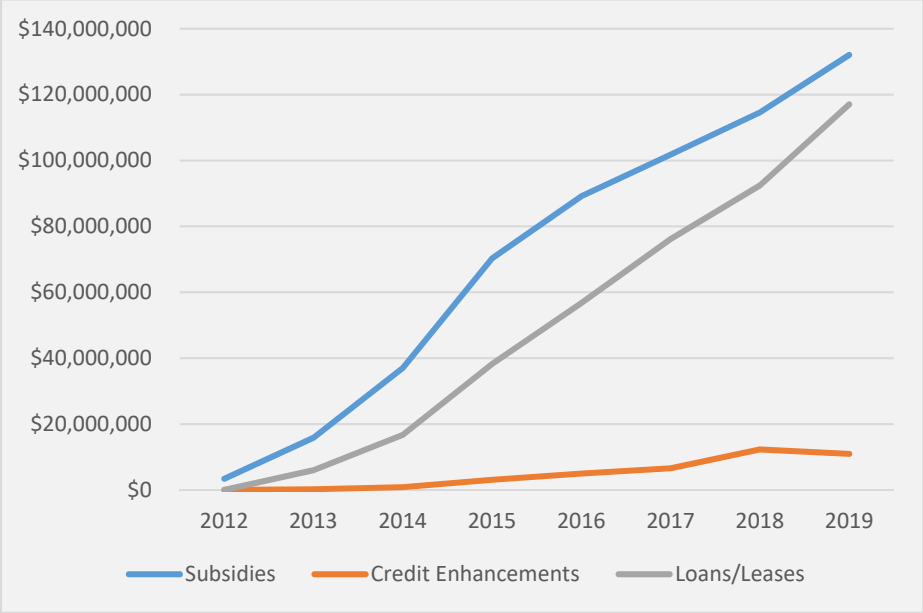


Table 20. Green Bank Ratio of Capital Invested as Subsidies, Credit Enhancements, and Loans and Leases by FY Closed

Fiscal Year	Subsidies *(Grants & Incentives)*	% Subsidies	Credit Enhancements *(LLR & IRB)*	% Credit Enhancements	Loans and Leases *(includes sell downs)*	% Loans and Leases	Total
2012	$3,401,642	100%	$0	0%	$0	0%	$3,401,642
2013	$12,470,374	67%	$187,859	1%	$6,010,302	32%	$18,668,534
2014	$21,179,208	65%	$629,246	2%	$10,692,059	33%	$32,500,513
2015	$33,262,580	58%	$2,269,884	4%	$21,523,084	38%	$57,055,549
2016	$18,853,119	48%	$1,887,806	5%	$18,545,090	47%	$39,286,015
2017	$12,604,142	37%	$1,604,224	5%	$19,423,797	58%	$33,632,162
2018	$12,825,094	37%	$5,706,754	16%	$16,280,545	47%	$34,812,393
2019	$17,460,024	43%	($1,326,518)[34]	-3%	$24,599,005	60%	$40,732,511
Total	**$132,056,183**	**44%**	**$10,959,255**	**4%**	**$117,073,881**	**45%**	**$260,089,318**

Creation of Private Investment Opportunities

As stated above, the Connecticut Green Bank's approach to leveraging limited public resources has created new opportunities for the private market investment. These financial innovations have broad impact in Connecticut and beyond. In FY 2019, the Green Bank, was a part of or a stimulus for upward of $300 million dollars of clean energy financings. These include:

Cargill Falls

In October 2018, the Green Bank, through its CPACE program, provided $1.5 million in gap financing to the multifamily housing and commercial development at Cargill Falls in Putnam CT. The project includes the refurbishment of the historic powerhouse and dam, along with deep energy efficiency retrofits for the mixed-use property and relied on a total Green Bank loan of $2.3 million.

Small Business Energy Advantage facility

In December 2018, the Green Bank and Amalgamated Bank collaborated on a new financing source for the successful Energize CT Small Business Energy Advantage (SBEA) program, which provides loans for energy efficiency retrofit projects at commercial, industrial, and municipal properties. The $55 million facility, including $5.6 million subordinated financing from the Green Bank, lowers the cost of funds for Connecticut ratepayers and frees up money in the Energy Efficiency Fund, specifically for Eversource Energy. The Green Bank's development of the deal will serve as a template for the structuring of future financing solutions to serve Connecticut ratepayers, including more low-cost capital available to reduce the burden of energy costs for the State of Connecticut and municipal facilities.

Sunwealth Commercial PPA

The Green Bank partnered with Sunwealth and sold to them an array of commercial solar power purchase agreement projects developed by the Green Bank team in absence of having a fully operating PPA fund to own the projects long term. The projects were sold for approximately $2 million in December 2018.

[34] The Credit Enhancements for FY2019 show a negative number to reflect a decrease in the loan loss reserves provided due to updated methodologies that require less of a reserve be set aside in the case of a loss for the Smart-E loan program. This is reflective of a greater comfort with energy lending by the program partners and demonstrates a decrease in reliance on public funds for the program.

Growing solar in LMI communities

In January 2019, a three-year, $90 million credit facility was structured by LibreMax Capital, a New York based asset management firm, the Green Bank and Inclusive Prosperity Capital, and provided to PosiGen, a provider of renewable energy and efficiency solutions for low-to-moderate income households. The facility allowed PosiGen to continue to lease solar systems and provide energy efficiency upgrades to low-to-moderate income homeowners in Louisiana, Connecticut, New York and New Jersey. It also enables the company to expand its footprint into additional markets and states.

SHREC backed green bond issuance

In April 2019, the Green Bank sold $38.6 million of investment-grade rated ABS notes in a first-of-its-kind issuance that monetized the solar home renewable energy credits (SHRECs) generated through the Residential Solar Investment Program (RSIP). The sale was comprised of two tranches of SHRECs produced by more than 105 megawatts of 14,000 residential solar photovoltaic (PV) systems. The financing was certified against the Climate Bonds Standard by Kestrel Verifiers, providing investors with assurance of the deal's green credentials, and an independent review of the beneficial impacts of the RSIP was provide by Climate Action Reserve. The funds raised through this sale will recover the costs of administering and managing the RSIP, including the incentives offered to program participants.

Bridgeport Fuel Cell

In May 2019, FuelCell Energy acquired a 14.9-megawatt fuel cell park in Bridgeport, CT, for $35.5 million from Dominion Energy, in a step towards diversification of their generation portfolio. FuelCell Energy funded the acquisition with a combination of third-party financing, restricted cash on hand, a senior project-level debt facility of $25 million from Liberty Bank and Fifth Third Bank, and additional subordinated capital from the Green Bank.

C-PACE

In FY2019, the Green Bank completed $20.7 million in C-PACE financing. This includes $7.2 million in new transactions underwritten throughout the year and the successful repurchase of transactions by the Green Bank from its financing facility with Hannon Armstrong. This warehouse, where every dollar of Green Bank investment was matched by 9 dollars from Hannon, facilitated transactions over the past 4 years.. As part of this transaction, the Green Bank repurchased $13.5 million of C-PACE loans in April 2019 from the warehouse as an investment to strengthen its balance sheet.

Amalgamated Bank Revolving Line of Credit

In May 2019, the Green Bank established a $5 million revolving line of credit from Amalgamated Bank to finance its ongoing investments. The line of credit is secured by the Green Bank's Solar Lease 1 receivables.

Canton Hydro

In May 2019, the Green Bank participated in the $6.6 million capital stack for the development of a dam in Canton, CT. The construction of a 1 megawatt (MW) hydroelectric facility at the Upper Collinsville Dam on the Farmington River is the result of more than a decade of work. The Green Bank's subordinated loan and limited guaranty leveraged Provident Bank's loan through the US Small Business Administration's 504 Loan Program and will preserve the historic dam and powerhouse.

Capital for Change Bridge Loan

Capital for Change (C4C) is a Connecticut Community Development Financial Institution that has long partnered with the Green Bank and the Connecticut Energy Efficiency Fund in the administration of programs. C4C sought out the Green Bank's expertise to source capital in FY2019 to continue to operate as a lender for the energy efficiency fund, the Green Bank's Smart-E program, and its LIME loan program. The Green Bank, while working on a long-term solution provided C4C a $1.5 million bridge loan in May 2019.

Overall, these $300 million financings support the goals, targets and mission of the Green Bank but are not necessarily captured in the capital deployed discussed elsewhere in this document. When exclusively looking at these financings, the Green Bank invested $58.8 million of its own capital into $256.5 in total capital raised for others representing a 4.4:1 leverage ratio. Capital sourced for the Green Bank (the SHREC-backed green bond and revolving line of credit) totaled $43.6m.

Societal Benefits

Societal Benefits and the Evaluation Framework

One of the Connecticut Green Bank's evaluation activities is intended to understand how the increase in investment and deployment of clean energy supported by the Green Bank results in benefits to society. Working with internal and external subject matter experts, the Connecticut 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. The evaluation framework can be found here[35].

Societal Benefits: Jobs

The Connecticut Green Bank stimulates economic activity in the state through the lending and investing conducted by its programs. This economic activity can be measured by job creation. The Green Bank, in conjunction with the Connecticut Department of Economic and Community Development commissioned a study by Navigant Consulting in 2010 to quantify those jobs. This study was updated in 2016 and is the basis for how the Green Bank measures its impact on job creation. This study and calculator were reviewed by the Connecticut Department of Economic and Community Development which deemed them a reasonable estimation and an appropriate tool for assessing this impact For more information on this study and the methodology, click here[36]. An overview of our Jobs methodology can be found here[37]. Essentially, investments into clean energy can be translated into manufacturing, engineering, installation and project management jobs in the clean energy sector. In 2019, the direct jobs showed a 54% increase over the previous year.

[35] CGB Evaluation Framework: https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf
[36] Clean Energy Jobs in Connecticut: http://ctgreenbank.com/wp-content/uploads/2017/02/CTGReenBank-Clean-Energy-Jobs-CT-August102016.pdf
[37] CGB Economic Development Factsheet: https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf

Table 21. Green Bank Job Years Supported by FY Closed[40][41]

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	58	93	151
2013	572	1,149	1,722
2014	586	935	1,522
2015	1,730	2,673	4,404
2016	1,872	2,983	4,855
2017	841	1,153	1,994
2018	941	1,228	2,169
2019	1,453	1,902	3,355
Total	**8,054**	**12,117**	**20,172**

Societal Benefits: Tax Revenue

The aforementioned economic stimulation by the Connecticut Green Bank also generates tax revenue for the state through personal and corporate income taxes as well as through sales and use taxes. Tax revenues go into the State's General Fund, where they are used for a wide variety of public benefit activities such as education, transportation and public safety. In 2018, the Green Bank engaged Navigant Consulting to do a study on the levels of this revenue generation. The result of this study is the Navigant Tax Calculator that the Green Bank has adopted to estimate the impact of its projects to state tax revenues. This study and calculator were reviewed by the Connecticut Department of Revenue Services who have deemed them a reasonable estimation and an appropriate tool for assessing this impact. For more information on this study and the methodology, click ***here***[42]. An overview of our Tax methodology can be found here[43]. In 2019, individual income tax revenue generated increased 48.38% over the previous year, and total tax revenue generated increased 64.2%.

Table 22. Green Bank Tax Revenues Generated by FY Closed[44]

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$1,252,282	$742,909	$174,738	$2,169,929
2013	$3,078,958	$1,159,413	$4,143,940	$8,382,311
2014	$2,805,699	$1,753,706	$810,263	$5,369,668
2015	$8,866,654	$4,798,853	$3,889,787	$17,555,293
2016	$9,002,643	$3,996,175	$2,561,169	$15,559,988
2017	$4,636,139	$2,815,217	$1,899,787	$9,351,143
2018	$5,403,772	$3,247,315	$2,239,729	$10,890,815
2019	$8,018,357	$4,496,047	$5,369,348	$17,883,751
Total	**$43,064,504**	**$23,009,633**	**$21,088,761**	**$87,162,899**

[40] The Green Bank updated its job study in 2016 and implemented new job creation factors in FY2017
[41] See Appendix for Job Year Factors.
[42] Tax Report: https://www.ctgreenbank.com/wp-content/uploads/2018/09/Tax-Study_Final_Report_01-19-18.pdf
[43] Tax Methodology: https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf
[44] See Appendix for Average Emission Rates.

Societal Benefits: Environmental Impacts and Equivalencies

The Green Bank assesses the impact of its projects in terms of the local environmental protection benefits these projects produce. These benefits are primarily in the form of cleaner air in the state and are measured in terms of tons of Carbon Dioxide (CO_2) and pounds of Nitrous Oxide (NO_x), Sulfur Dioxide (SO_x) and particulate matter (PM 2.5) not emitted. The Green Bank has developed its methodology for these measurements in conjunction with outside experts at the Connecticut Department of Energy and Environmental Protection and at the United States Environmental Protection Agency. These agencies have deemed the methodology to be a reasonable estimation and an appropriate tool for assessing this impact. For more information on this methodology, click here[45]. For more information on the EPA's AvERT, click here[46]. Note that the lifetime values are based on the aggregation of projects' impact for one year multiplied by the useful life of the technology for each project.

[45] CGB Environmental Impact Factsheet: https://www.ctgreenbank.com/wp-content/uploads/2017/05/CGB-Environmental-Impact-051617.pdf
[46] Environmental Protection Agency AvERT User Manual: https://www.ctgreenbank.com/wp-content/uploads/2017/05/AVERT_fact_sheet_user_manual_03-01-17.pdf

Table 23. Green Bank Avoided Emissions by FY Closed[47]

CO2 Emissions Avoided (tons)			
Fiscal Year	**Annual**	**Lifetime**	**Green Bank Investment ($) / Project Lifetime Tons of Avoided CO_2 Emissions**
2012	1,242	31,046	$109.57
2013	13,254	210,346	$88.75
2014	15,714	358,049	$90.77
2015	44,644	1,047,450	$54.47
2016	47,831	1,129,276	$34.79
2017	35,553	847,708	$39.67
2018	42,576	993,233	$35.05
2019	48,402	1,183,050	$34.43
Total	**249,217**	**5,800,158**	**$44.84**
NOx Emissions Avoided (pounds)			
Fiscal Year	**Annual**	**Lifetime**	**Green Bank Investment ($) / Project Lifetime Pounds of Avoided NO_X Emissions**
2012	1,640	40,997	$82.97
2013	70,850	822,216	$22.71
2014	20,589	471,875	$68.88
2015	50,296	1,197,186	$47.66
2016	50,802	1,197,328	$32.81
2017	31,355	752,256	$44.71
2018	36,009	846,468	$41.13
2019	41,353	1,013,419	$40.19
Total	**302,894**	**6,341,745**	**$41.01**
SOx Emissions Avoided (pounds)			
Fiscal Year	**Annual**	**Lifetime**	**Green Bank Investment ($) / Project Lifetime Pounds of Avoided SO_X Emissions**
2012	2,119	52,975	$64.21
2013	55,538	699,271	$26.70
2014	23,042	527,440	$61.62
2015	48,271	1,153,343	$49.47
2016	41,068	955,609	$41.11
2017	21,038	505,071	$66.59
2018	23,560	553,868	$62.85
2019	27,051	662,949	$61.44
Total	**241,688**	**5,110,526**	**$50.89**
PM 2.5 Emissions Avoided (pounds)			
Fiscal Year	**Annual**	**Lifetime**	**Green Bank Investment ($) / Project Lifetime Pounds of Avoided PM 2.5 Emissions**
2012	111	2,772	$1,227.29
2013	473	11,604	$1,608.81
2014	1,359	31,726	$1,024.40
2015	3,626	86,374	$660.57
2016	4,133	98,419	$399.17
2017	3,000	71,772	$468.60
2018	3,608	84,596	$411.51
2019	4,130	101,137	$402.75
Total	**20,440**	**488,400**	**$532.53**

[47] See Appendix for Average Emission Rates.

To help put this environmental impact into everyday terms, the Green Bank calculates the environmental "equivalencies" of reduced emissions, as shown in Table 24., The Green Bank calculates environmental equivalencies using factors from the EPA's environmental equivalency calculator, which was also reviewed and deemed to be a reasonable estimation of impact by the Connecticut Department of Energy and Environment. The calculator translates abstract reductions into everyday equivalencies. For example, avoided carbon dioxide emissions can translate to avoided emissions from vehicles, or the number of tree seedlings needed to sequester an equivalent amount of carbon. For more information on this methodology, click here[48]. The EPA environmental equivalency calculator can be found here[49].

Table 24. Green Bank Greenhouse Gas Equivalencies (based on reductions of CO_2 tons) by FY Closed

	Greenhouse gas emissions from:			
	Passenger vehicles driven for one year		**Miles driven by an average passenger vehicle**	
Fiscal Year	**Annual**	**Lifetime of Asset**	**Annual**	**Lifetime of Asset**
2012	239	5,980	2,754,500	68,862,501
2013	2,566	40,437	29,441,808	466,987,842
2014	3,027	68,962	34,854,116	794,177,973
2015	8,606	201,686	99,046,314	2,323,641,449
2016	9,213	217,508	106,091,197	2,504,796,569
2017	6,850	163,253	78,866,354	1,880,388,062
2018	8,201	191,305	94,436,903	2,203,045,237
2019	9,323	227,865	107,359,302	2,624,070,949
Total	**48,024**	**1,116,995**	**552,850,494**	**12,865,970,582**
	CO_2 emissions from:			
	Gallons of gasoline consumed		**Homes' energy use for one year**	
Fiscal Year	**Annual**	**Lifetime of Asset**	**Annual**	**Lifetime of Asset**
2012	126,768	3,169,209	135	3,373
2013	1,353,009	21,472,139	1,356	22,010
2014	1,604,056	36,549,639	1,707	38,885
2015	4,557,295	106,923,647	4,805	113,120
2016	4,882,559	115,276,449	5,196	122,675
2017	3,629,244	86,533,965	3,847	91,842
2018	4,346,202	101,389,164	4,625	107,897
2019	4,940,920	120,765,728	5,258	128,517
Total	**25,440,053**	**592,079,941**	**26,928**	**628,318**
	Carbon sequestered by:			
	Tree seedlings grown for 10 years		**Acres of U.S. forests in one year**	
Fiscal Year	**Annual**	**Lifetime of Asset**	**Annual**	**Lifetime of Asset**
2012	18,628	465,710	1,326	33,148
2013	265,850	3,825,573	14,158	224,650
2014	236,042	5,379,136	16,777	382,285
2015	705,130	16,243,907	47,670	1,118,400
2016	717,484	16,939,693	51,068	1,205,712
2017	545,729	12,912,651	37,961	905,105
2018	638,667	14,898,978	45,458	1,060,461
2019	726,060	17,746,334	51,679	1,263,126
Total	**3,853,593**	**88,411,981**	**266,097**	**6,192,887**

[48] http://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references
[49] EPA Greenhouse Gas Equivalencies Calculator: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

Societal Benefits: Public Health

The avoided emissions described above result in cleaner air which corelates to public health benefits. Air pollution influences the prevalence and severity of asthma, bronchitis, coronary and respiratory disease, and even death.

With the adoption of the AvERT tool for assessing environmental impacts, the Green Bank is now able to leverage this information to can now gauge the public health impacts of its activities. in terms of public health. The Green Bank assesses public health benefits and illnesses, or deaths avoided using data from the AvERT tool. In partnership with the US Environmental Protection Agency, after a 2017 review by the Connecticut Department of Public Health and Connecticut Department of Energy & Environmental Protection, the Green Bank's Board of Directors approved the use of the EPA's Co-Benefit Risk Assessment Tool (CoBRA). These agencies have deemed the methodology to be a reasonable estimation and an appropriate tool for assessing this impact. The CoBRA tool reports back low and high estimates of avoided incidents, locations, and associated costs of the health outcomes described above. These public health impacts are quantified and presented as total estimated public health savings of the policies in dollars. For more information on this methodology, click here44. An overview of CoBRA can be found here45. The factors used to measure impact from CoBRA can be found in the appendix. Table 25. Green Bank Economic Value of Public Health Impact by FY Closed.

Table 25. Economic Savings due to Public Health from Green Bank projects (based on reductions of emissions) by FY Closed

Fiscal Year	Annual		Lifetime		Green Bank Investment ($) / Lifetime Public Health Savings	
	Low	High	Low	High	Low	High
2012	$42,865	$96,778	$1,071,624	$2,419,440	$1.41	$3.17
2013	$1,021,899	$2,309,410	$12,873,272	$29,086,803	$0.64	$1.45
2014	$529,991	$1,196,805	$12,227,083	$27,608,191	$1.18	$2.66
2015	$1,446,287	$3,265,003	$34,128,919	$77,049,244	$0.74	$1.67
2016	$1,619,825	$3,657,564	$38,539,508	$87,017,072	$0.45	$1.02
2017	$1,244,487	$2,810,015	$29,834,570	$67,362,231	$0.50	$1.13
2018	$1,506,361	$3,401,451	$35,441,318	$80,022,883	$0.44	$0.98
2019	$1,737,717	$3,923,485	$42,601,341	$96,184,643	$0.42	$0.96
Total	**$9,149,433**	**$20,660,511**	**$206,717,634**	**$466,750,505**	**$0.56**	**$1.26**

Social Cost of Carbon

The Green Bank using the methodology adopted by the Obama Administration, has estimated the total avoided economic costs of the carbon emissions avoided by its projects. This was done by forecasting out when the projected estimated emissions savings are to occur and then applying the prices identified by the Whitehouse Council on Environmental Quality at the various discount rates adjusted to 2019 dollars[50].

[50] https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf

Table 26 shows the annual forecasted emissions avoided and the social cost of those emissions at various discount rates. Using the 3% discount rate, around which the initial study was created, the overall value of the Green Banks projects in terms of emissions avoided is $389,686,708.

Table 26. Avoided CO_2 Emissions Forecast and the Social Costs of Carbon

Year	Estimated CO_2 annual emissions avoided (tons)	Economic Value of Avoided Emissions at Different Discount Rates			
		5% Average	3% Average	2.5% Average	High Impact (95th Pct at 3%)
2011	1,002	$11,901.27	$34,621.86	$55,178.59	$97,373.99
2012	4,577	$55,889.32	$167,667.96	$269,284.91	$472,518.81
2013	22,952	$282,762.60	$873,993.50	$1,388,107.32	$2,493,452.05
2014	57,192	$717,191.07	$2,281,971.57	$3,585,955.33	$6,585,117.97
2015	116,085	$1,455,700.51	$4,764,110.75	$7,410,838.95	$13,895,323.03
2016	157,946	$2,015,390.07	$6,962,256.59	$10,443,384.89	$19,787,466.11
2017	202,884	$2,633,434.84	$9,336,723.52	$14,124,786.86	$26,813,154.73
2018	251,014	$3,644,721.25	$12,149,070.82	$18,223,606.24	$35,232,305.39
2019	291,276	$4,334,182.56	$14,808,457.10	$22,032,094.70	$43,341,825.65
2020	291,276	$4,334,182.56	$15,169,638.98	$22,393,276.58	$44,425,371.29
2021	291,276	$4,334,182.56	$15,169,638.98	$22,754,458.47	$45,508,916.93
2022	283,400	$4,568,401.39	$15,110,866.14	$22,490,591.46	$45,332,598.42
2023	283,400	$4,568,401.39	$15,462,281.63	$22,842,006.95	$46,386,844.89
2024	280,671	$4,524,422.48	$15,661,462.45	$22,970,144.92	$46,984,387.34
2025	279,236	$4,847,529.50	$15,927,596.91	$23,545,143.26	$47,782,790.74
2026	273,484	$4,747,676.86	$15,938,629.45	$23,399,264.52	$47,815,888.36
2027	271,008	$5,040,743.41	$16,130,378.90	$23,523,469.23	$48,055,087.14
2028	261,802	$4,869,513.48	$15,907,077.37	$23,049,030.47	$47,396,597.87
2029	258,893	$4,815,401.43	$15,730,311.34	$23,113,926.86	$47,832,987.54
2030	258,228	$5,123,246.50	$16,010,145.30	$23,374,812.14	$48,670,841.71
2031	258,228	$5,123,246.50	$16,330,348.21	$23,695,015.04	$49,631,450.43
2032	258,207	$5,442,999.98	$16,649,176.40	$24,013,235.19	$50,587,882.13
2033	258,207	$5,442,999.98	$16,969,352.87	$24,333,411.66	$51,548,411.54
2034	258,207	$5,763,176.45	$17,289,529.34	$24,653,588.13	$52,508,940.95
2035	257,205	$5,740,816.49	$17,541,383.73	$24,876,871.47	$53,580,953.93
2036	253,629	$5,975,510.78	$17,612,031.79	$24,845,544.84	$53,779,597.06
2037	245,881	$5,792,955.89	$17,378,867.67	$24,696,285.63	$53,051,280.24
2038	217,241	$5,387,571.10	$15,623,956.18	$22,089,041.49	$47,680,004.20
2039	164,100	$4,069,688.68	$12,005,581.61	$16,889,208.02	$36,627,198.12
2040	124,715	$3,247,577.82	$9,278,793.77	$12,990,311.28	$28,300,320.99
2041	84,818	$2,208,661.24	$6,415,635.03	$8,939,819.31	$19,562,428.13
2042	39,597	$1,080,218.44	$2,995,151.12	$4,222,672.07	$9,280,058.38
Total	**6,557,634**	**$122,200,298**	**$389,686,708**	**$567,234,366**	**$1,171,049,376**

Other Societal Benefits

The Green Bank is presently working on methodologies to further measure additional societal impacts of its programs. During Fiscal Year 2020, the Green Bank will review Community Reinvestment Act eligibility for projects, equity (i.e., income and race) from investments in clean energy, as well as the economic relief from the energy burden felt by participating property owners and tenants that install clean energy systems annually and over the life of the renewable energy projects.

Community Impacts

Community and Market Descriptions

Communities across Connecticut are demonstrating leadership in their support of clean energy. The Connecticut Green Bank distributes reports to communities on an annual basis to provide them with a breakdown of their performance. There are many leaders of clean energy deployment across the state, and we have assembled the "Top 5" in energy, economy, and environment for both FY 2019 as well as FY 2012 through FY 2019. It should be noted that in a 2016 UN report, an estimated $90 trillion must be invested to further all these Sustainable Development Goals through 2030 in order to confront climate change.[51] This comes to an average annual investment per capita of approximately $790[52].

Table 27. The "Top 5" on Energy, Economy, and Environmental Performance - FY 2019 Closed Activity

Municipality	Watts / Capita
North Stonington	112.0
Stonington	82.9
North Haven	81.8
North Canaan	81.3
Easton	67.6

Municipality	Investment / Capita
New Britain	$408.26
Stonington	$302.39
North Haven	$293.32
North	$290.63
Essex	$265.46

Municipality	Total Lifetime CO2 Emissions (Tons)
Bridgeport	51,400
Hamden	47,476
Hartford	34,733
Waterbury	34,080
Stratford	33,872

Table 28. The "Top 5" on Energy, Economy, and Environmental Performance - FY 2012 – 2019 Closed Activity

Municipality	Watts / Capita
Colebrook	3,459.1
Canaan	367.8
Union	312.8
Woodbridge	307.5
Durham	259.9

Municipality	Investment / Capita
Colebrook	$15,551.91
Deep River	$1,654.73
Canaan	$1,578.13
Bridgeport	$1,285.03
Union	$1,157.05

Municipality	Total Lifetime CO2 Emissions (Tons)
Bridgeport	298,216
Hartford	173,650
Waterbury	136,340
Stratford	132,231
Hamden	129,191

[51] https://www.un.org/pga/71/wp-content/uploads/sites/40/2017/02/Financing-Sustainable-Development-in-a-time-of-turmoil.pdf
[52] $90,000,000,000,000/7.6B people/15 years until 2030 = $790

Projects by Income Bands

In addition to looking at funding and clean energy deployment in distressed municipalities, the Green Bank works to ensure that low to moderate income (LMI) census tracts across the entire state are benefiting from its programs. The Green Bank defines low to moderate income as 100% or less of the Area Median Income (AMI) of a Metropolitan Statistical Area (MSA). Table29 groups the Green Bank's residential projects based upon the average area median income (AMI) of their census tract from the American Community Survey (ACS) 5-Year Estimate data. Table 30 groups the Green Bank's residential projects based upon the average state median income (SMI) of their census tract from the American Community Survey (ACS) 5-Year Estimate data.

Table 29. Overview of Connecticut Population and Households by Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands[53][54]

MSA AMI Band	Total Population	% Total Population Distribution	Total Households	% Total Household Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution
<60%	620,528	17%	227,171	17%	56,843	7%	81,851	35%
60%-80%	485,371	14%	187,979	14%	93,759	11%	43,776	19%
80%-100%	584,823	16%	238,365	18%	145,386	17%	49,089	21%
100%-120%	723,850	20%	283,139	21%	208,761	24%	36,677	16%
>120%	1,171,128	33%	425,060	31%	360,595	42%	23,934	10%
Total	**3,585,700**	**100%**	**1,361,714**	**100%**	**865,344**	**100%**	**235,327**	**100%**

Table 30. Overview of Connecticut Population and Households by Metropolitan Statistical Area (MSA) State Median Income (SMI) Bands[55][56]

MSA SMI Band	Total Population	% Total Population Distribution	Total Households	% Total Household Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution
<60%	629,607	18%	231,843	17%	56,740	7%	85,223	36%
60%-80%	447,148	12%	175,421	13%	84,681	10%	44,523	19%
80%-100%	561,857	16%	227,072	17%	138,187	16%	45,231	19%
100%-120%	770,389	21%	302,853	22%	220,230	25%	39,253	17%
>120%	1,176,699	33%	424,525	31%	365,506	42%	21,097	9%
Total	**3,585,700**	**100%**	**1,361,714**	**100%**	**865,344**	**100%**	**235,327**	**100%**

[53] 2017 American Community Survey (ACS)
[54] The suite of products offered by the Connecticut Green Bank do not currently address rental properties of 1-4 units.
[55] 2017 American Community Survey (ACS)
[56] The suite of products offered by the Connecticut Green Bank do not currently address rental properties of 1-4 units.

Table 31. Green Bank Residential[57] Annual Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed [58]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	<60%	6	2%	0.0	2%	$211,372	2%	228,062	17%	0.0	$0.93	0.1
2012	60%-80%	7	2%	0.0	2%	$246,769	2%	207,439	15%	0.0	$1.19	0.2
2012	80%-100%	31	11%	0.2	10%	$1,264,888	10%	239,356	18%	0.1	$5.28	0.8
2012	100%-120%	84	29%	0.5	28%	$3,812,022	29%	280,563	21%	0.3	$13.59	2.0
2012	>120%	160	56%	1.1	58%	$7,768,100	58%	404,748	30%	0.4	$19.19	2.8
2012	Total	288	100%	1.9	100%	$13,303,152	100%	1,360,168	100%	0.2	$9.78	1.4
2013	<60%	20	2%	0.1	1%	$569,790	1%	224,259	17%	0.1	$2.54	0.4
2013	60%-80%	56	5%	0.4	5%	$2,267,397	5%	222,791	16%	0.3	$10.18	1.7
2013	80%-100%	124	11%	0.8	10%	$4,975,718	11%	236,905	17%	0.5	$21.00	3.4
2013	100%-120%	220	20%	1.5	18%	$8,978,013	19%	264,685	20%	0.8	$33.92	5.5
2013	>120%	688	62%	5.2	66%	$30,415,754	64%	407,204	30%	1.7	$74.69	12.7
2013	Total	1,108	100%	7.9	100%	$47,206,671	100%	1,355,844	100%	0.8	$34.82	5.8
2014	<60%	84	3%	0.4	2%	$2,458,782	3%	224,369	17%	0.4	$10.96	1.9
2014	60%-80%	163	6%	0.9	5%	$5,333,262	6%	216,437	16%	0.8	$24.64	4.2
2014	80%-100%	527	21%	2.6	15%	$14,815,188	16%	231,014	17%	2.3	$64.13	11.1
2014	100%-120%	612	24%	4.3	26%	$23,806,103	26%	278,174	21%	2.2	$85.58	15.6
2014	>120%	1,160	46%	8.5	51%	$45,519,002	50%	406,185	30%	2.9	$112.06	20.9
2014	Total	2,546	100%	16.7	100%	$91,932,338	100%	1,356,179	100%	1.9	$67.79	12.3
2015	<60%	272	4%	1.5	3%	$7,755,519	3%	240,062	18%	1.1	$32.31	6.3
2015	60%-80%	652	10%	3.9	8%	$20,448,189	8%	193,188	14%	3.4	$105.85	20.3
2015	80%-100%	1,234	18%	7.9	16%	$42,436,709	17%	264,609	20%	4.7	$160.38	29.7
2015	100%-120%	1,637	24%	12.3	26%	$63,946,777	26%	240,485	18%	6.8	$265.91	51.0
2015	>120%	2,926	44%	22.2	46%	$112,160,316	45%	414,212	31%	7.1	$270.78	53.5

[57] Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units.
[58] Excludes projects in unknown bands.

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2015	Total	6,721	100%	47.7	100%	$246,747,510	100%	1,352,556	100%	5.0	$182.43	35.3
2016	<60%	886	11%	3.9	7%	$36,768,437	13%	236,643	17%	3.7	$155.38	16.7
2016	60%-80%	1,147	14%	6.5	12%	$29,291,985	10%	199,269	15%	5.8	$147.00	32.4
2016	80%-100%	1,633	20%	10.7	19%	$53,240,448	19%	261,240	19%	6.3	$203.80	41.1
2016	100%-120%	1,907	24%	13.3	24%	$63,613,305	23%	251,604	19%	7.6	$252.83	53.0
2016	>120%	2,516	31%	21.2	38%	$96,172,354	34%	405,921	30%	6.2	$236.92	52.2
2016	Total	8,089	100%	55.6	100%	$279,086,528	100%	1,354,677	100%	6.0	$206.02	41.1
2017	<60%	1,135	19%	3.9	11%	$26,840,826	17%	242,723	18%	4.7	$110.58	16.2
2017	60%-80%	1,100	18%	5.3	15%	$26,775,828	17%	190,564	14%	5.8	$140.51	28.0
2017	80%-100%	1,274	21%	6.8	19%	$27,640,925	18%	250,616	18%	5.1	$110.29	27.0
2017	100%-120%	1,066	17%	7.6	21%	$29,250,931	19%	280,637	21%	3.8	$104.23	27.0
2017	>120%	1,531	25%	11.8	33%	$46,094,261	29%	397,174	29%	3.9	$116.06	29.6
2017	Total	6,106	100%	35.4	100%	$156,602,770	100%	1,361,714	100%	4.5	$115.00	26.0
2018	<60%	2,418	29%	4.1	9%	$43,655,402	21%	242,723	18%	10.0	$179.86	16.7
2018	60%-80%	983	12%	5.6	13%	$23,293,346	11%	190,564	14%	5.2	$122.23	29.6
2018	80%-100%	1,348	16%	8.3	19%	$34,679,581	17%	250,616	18%	5.4	$138.38	33.3
2018	100%-120%	1,532	18%	10.5	24%	$43,255,811	21%	280,637	21%	5.5	$154.13	37.4
2018	>120%	2,123	25%	14.5	34%	$63,401,195	30%	397,174	29%	5.3	$159.63	36.6
2018	Total	8,404	100%	43.1	100%	$208,285,336	100%	1,361,714	100%	6.2	$152.96	31.6
2019	<60%	2,052	20%	6.0	9%	$52,036,326	18%	242,723	18%	8.5	$214.39	24.8
2019	60%-80%	1,579	15%	8.7	13%	$35,269,883	12%	190,564	14%	8.3	$185.08	45.8
2019	80%-100%	1,973	19%	11.6	18%	$47,300,579	16%	250,616	18%	7.9	$188.74	46.4
2019	100%-120%	2,100	20%	17.2	26%	$68,548,227	24%	280,637	21%	7.5	$244.26	61.1
2019	>120%	2,556	25%	21.7	33%	$85,074,442	30%	397,174	29%	6.4	$214.20	54.6
2019	Total	10,260	100%	65.2	100%	$288,229,456	100%	1,361,714	100%	7.5	$211.67	47.9

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
Total	<60%	6,873	16%	20.0	7%	$170,296,455	13%	242,723	18%	28.3	$701.61	82.4
Total	60%-80%	5,687	13%	31.4	11%	$142,926,660	11%	190,564	14%	29.8	$750.02	164.8
Total	80%-100%	8,144	19%	48.9	18%	$226,354,036	17%	250,616	18%	32.5	$903.19	195.1
Total	100%-120%	9,158	21%	67.2	25%	$305,211,189	23%	280,637	21%	32.6	$1,087.57	239.3
Total	>120%	13,660	31%	106.1	39%	$486,605,423	37%	397,174	29%	34.4	$1,225.17	267.1
Total	Total	43,522	100%	273.5	100%	$1,331,393,762	100%	1,361,714	100%	32.0	$977.73	200.9

Table 32. Green Bank Residential[59] Activity in Metropolitan Statistical Area (MSA) State Median Income (SMI) Bands by FY Closed [60]

Fiscal Year Closed	MSA SMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	<60%	8	3%	0.0	2%	$228,043	2%	249,608	18%	0.0	$0.91	0.1
2012	60%-80%	6	2%	0.0	2%	$212,644	2%	204,836	15%	0.0	$1.04	0.2
2012	80%-100%	66	23%	0.4	21%	$2,884,452	22%	293,878	22%	0.2	$9.82	1.4
2012	100%-120%	79	27%	0.5	27%	$3,737,526	28%	260,689	19%	0.3	$14.34	2.0
2012	>120%	129	45%	0.9	47%	$6,240,488	47%	351,157	26%	0.4	$17.77	2.6
2012	Total	288	100%	1.9	100%	$13,303,152	100%	1,360,168	100%	0.2	$9.78	1.4
2013	<60%	30	3%	0.2	2%	$1,061,165	2%	251,171	19%	0.1	$4.22	0.7
2013	60%-80%	50	5%	0.3	4%	$1,923,848	4%	211,049	16%	0.2	$9.12	1.4
2013	80%-100%	194	18%	1.3	16%	$7,864,995	17%	295,748	22%	0.7	$26.59	4.3
2013	100%-120%	224	20%	1.5	19%	$9,478,832	20%	247,329	18%	0.9	$38.32	6.0
2013	>120%	610	55%	4.6	59%	$26,877,830	57%	350,547	26%	1.7	$76.67	13.2
2013	Total	1,108	100%	7.9	100%	$47,206,671	100%	1,355,844	100%	0.8	$34.82	5.8
2014	<60%	120	5%	0.6	4%	$3,536,565	4%	264,100	19%	0.5	$13.39	2.3
2014	60%-80%	163	6%	1.0	6%	$5,566,256	6%	189,153	14%	0.9	$29.43	5.0
2014	80%-100%	708	28%	3.9	23%	$22,173,980	24%	288,116	21%	2.5	$76.96	13.6
2014	100%-120%	598	23%	4.2	25%	$23,090,814	25%	242,617	18%	2.5	$95.17	17.3
2014	>120%	957	38%	7.1	42%	$37,564,723	41%	372,193	27%	2.6	$100.93	19.0
2014	Total	2,546	100%	16.7	100%	$91,932,338	100%	1,356,179	100%	1.9	$67.79	12.3
2015	<60%	428	6%	2.2	5%	$11,872,108	5%	236,756	18%	1.8	$50.14	9.4
2015	60%-80%	855	13%	5.1	11%	$26,080,390	11%	235,289	17%	3.6	$110.84	21.5
2015	80%-100%	1,456	22%	10.3	22%	$54,124,487	22%	262,503	19%	5.5	$206.19	39.3
2015	100%-120%	1,770	26%	12.2	26%	$63,536,446	26%	247,545	18%	7.2	$256.67	49.3
2015	>120%	2,212	33%	17.9	38%	$91,134,080	37%	370,463	27%	6.0	$246.00	48.4
2015	Total	6,721	100%	47.7	100%	$246,747,510	100%	1,352,556	100%	5.0	$182.43	35.3

[59] Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units.
[60] Excludes projects in unknown bands.

Fiscal Year Closed	MSA SMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2016	<60%	991	12%	4.4	8%	$37,816,687	14%	235,940	17%	4.2	$160.28	18.5
2016	60%-80%	1,326	16%	8.6	15%	$38,758,357	14%	235,390	17%	5.6	$164.66	36.4
2016	80%-100%	1,900	23%	12.6	23%	$65,089,081	23%	278,870	21%	6.8	$233.40	45.1
2016	100%-120%	1,721	21%	13.1	23%	$59,753,338	21%	248,827	18%	6.9	$240.14	52.5
2016	>120%	2,151	27%	17.1	31%	$77,669,066	28%	355,650	26%	6.0	$218.39	48.0
2016	Total	8,089	100%	55.6	100%	$279,086,528	100%	1,354,677	100%	6.0	$206.02	41.1
2017	<60%	1,083	18%	3.6	10%	$24,972,275	16%	227,939	17%	4.8	$109.56	15.8
2017	60%-80%	1,465	24%	6.9	19%	$33,135,888	21%	235,460	17%	6.2	$140.73	29.1
2017	80%-100%	1,313	22%	7.8	22%	$30,849,797	20%	285,522	21%	4.6	$108.05	27.4
2017	100%-120%	980	16%	7.2	20%	$28,238,948	18%	242,028	18%	4.0	$116.68	29.6
2017	>120%	1,265	21%	9.9	28%	$39,405,862	25%	370,765	27%	3.4	$106.28	26.8
2017	Total	6,106	100%	35.4	100%	$156,602,770	100%	1,361,714	100%	4.5	$115.00	26.0
2018	<60%	2,278	27%	4.1	9%	$39,382,543	19%	227,939	17%	10.0	$172.78	17.8
2018	60%-80%	1,369	16%	7.1	17%	$33,303,714	16%	235,460	17%	5.8	$141.44	30.3
2018	80%-100%	1,583	19%	10.1	23%	$41,629,614	20%	285,522	21%	5.5	$145.80	35.2
2018	100%-120%	1,363	16%	9.0	21%	$38,024,714	18%	242,028	18%	5.6	$157.11	37.1
2018	>120%	1,811	22%	12.8	30%	$55,944,751	27%	370,765	27%	4.9	$150.89	34.6
2018	Total	8,404	100%	43.1	100%	$208,285,336	100%	1,361,714	100%	6.2	$152.96	31.6
2019	<60%	2,026	20%	5.7	9%	$51,268,738	18%	227,939	17%	8.9	$224.92	25.2
2019	60%-80%	1,915	19%	11.0	17%	$45,924,591	16%	235,460	17%	8.1	$195.04	46.8
2019	80%-100%	2,380	23%	15.4	24%	$61,572,964	21%	285,522	21%	8.3	$215.65	53.8
2019	100%-120%	1,838	18%	14.8	23%	$57,434,511	20%	242,028	18%	7.6	$237.31	61.3
2019	>120%	2,101	20%	18.2	28%	$72,028,653	25%	370,765	27%	5.7	$194.27	49.2
2019	Total	10,260	100%	65.2	100%	$288,229,456	100%	1,361,714	100%	7.5	$211.67	47.9
Total	<60%	6,964	16%	20.8	8%	$170,138,124	13%	227,939	17%	30.6	$746.42	91.1

Fiscal Year Closed	MSA SMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
Total	60%-80%	7,149	16%	39.9	15%	$184,905,688	14%	235,460	17%	30.4	$785.30	169.6
Total	80%-100%	9,600	22%	61.7	23%	$286,189,369	21%	285,522	21%	33.6	$1,002.34	216.3
Total	100%-120%	8,573	20%	62.5	23%	$283,295,128	21%	242,028	18%	35.4	$1,170.51	258.1
Total	>120%	11,236	26%	88.6	32%	$406,865,453	31%	370,765	27%	30.3	$1,097.37	239.0
Total	Total	43,522	100%	273.5	100%	$1,331,393,762	100%	1,361,714	100%	32.0	$977.73	200.9

In recent years the Green Bank has focused on increasing its penetration in the LMI market to deliver inclusive prosperity through the green economy. It has done so through a number of Through such products and initiatives, among them as the LMI solar incentive, its partnership with PosiGen, ongoing education to the market about the good credit quality of low and moderate income homeowners, and market research made available to industry participants for targeting candidate projects (customer segmentation, demographic and geographic data), and its affordable multifamily housing energy financing products, . the Green Bank has focused on increasing its penetration in the LMI market shown in Tables 33 and 34 to deliver inclusive prosperity through the green economy. present annual accomplishments by AMI and SMI bands.

Table 33. Green Bank Residential[61] Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed [62]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	288	244	44	15%	1.9	1.7	0.3	14%	$13,303,152	$11,580,123	$1,723,030	13%
2013	1,108	908	200	18%	7.9	6.6	1.3	16%	$47,206,671	$39,393,766	$7,812,904	17%
2014	2,546	1,772	774	30%	16.7	12.8	3.9	23%	$91,932,338	$69,325,105	$22,607,233	25%
2015	6,721	4,563	2,158	32%	47.7	34.4	13.3	28%	$246,747,510	$176,107,093	$70,640,417	29%
2016	8,089	4,423	3,666	45%	55.6	34.5	21.1	38%	$279,086,528	$159,785,659	$119,300,869	43%
2017	6,106	2,597	3,509	57%	35.4	19.3	16.0	45%	$156,602,770	$75,345,191	$81,257,579	52%
2018	8,404	3,655	4,749	57%	43.1	25.0	18.0	42%	$208,285,336	$106,657,006	$101,628,330	49%
2019	10,260	4,656	5,604	55%	65.2	38.8	26.4	40%	$288,229,456	$153,622,668	$134,606,788	47%
Total	**43,522**	**22,818**	**20,704**	**48%**	**273.5**	**173.2**	**100.3**	**37%**	**$1,331,393,762**	**$791,816,612**	**$539,577,150**	**41%**

[61] Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units
[62] Excludes projects in unknown bands.

Table 34. Green Bank Residential[63] Activity in Metropolitan Statistical Area (MSA) State Median Income (SMI) Bands Above or Below 100% by FY Closed [64]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% SMI	100% or Below SMI	% at 100% or Below	Total	Over 100% SMI	100% or Below SMI	% at 100% or Below	Total	Over 100% SMI	100% or Below SMI	% at 100% or Below
2012	288	208	80	28%	1.9	1.5	0.5	25%	$13,303,152	$9,978,014	$3,325,138	25%
2013	1,108	834	274	25%	7.9	6.1	1.7	22%	$47,206,671	$36,356,662	$10,850,009	23%
2014	2,546	1,555	991	39%	16.7	11.2	5.5	33%	$91,932,338	$60,655,536	$31,276,802	34%
2015	6,721	3,982	2,739	41%	47.7	30.1	17.6	37%	$246,747,510	$154,670,525	$92,076,984	37%
2016	8,089	3,872	4,217	52%	55.6	30.1	25.5	46%	$279,086,528	$137,422,404	$141,664,124	51%
2017	6,106	2,245	3,861	63%	35.4	17.1	18.3	52%	$156,602,770	$67,644,810	$88,957,960	57%
2018	8,404	3,174	5,230	62%	43.1	21.8	21.2	49%	$208,285,336	$93,969,465	$114,315,871	55%
2019	10,260	3,939	6,321	62%	65.2	33.1	32.1	49%	$288,229,456	$129,463,164	$158,766,292	55%
Total	**43,522**	**19,809**	**23,713**	**54%**	**273.5**	**151.1**	**122.4**	**45%**	**$1,331,393,762**	**$690,160,581**	**$641,233,180**	**48%**

Distressed Communities

Connecticut's "distressed communities[65]" are particularly affected by the state's high energy prices. On average, Connecticut's neediest households owe $2,165 more in annual energy bills than they can afford[66]. The Green Bank's financing products and marketing efforts seek to bring lower and more predictable energy costs to homes and businesses in these communities.

Table 35. Distressed and Not Distressed Municipalities, Population, and Households in Connecticut[67]

For more information on DECD Distressed Municipality criterions, click here[68]

[63] Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units.
[64] Excludes projects in unknown bands.
[65] Distressed Municipalities are defined by the Connecticut Department of Economic and community Development by a combination of per capita income, poverty rates, unemployment rates, growth, age of buildings, education. More information can be found here: https://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248
[66] Home Energy Affordability in Connecticut: www.operationfuel.org/wp-content/uploads/2017/12/2017-ConnecticutHEAG-11-27-17-RDC-edits.pdf $2,615 is the average energy affordability gap for Households earning less than 49% of the Federal Poverty Level. For households earning less than 200% FPL (approximately 320,000 households in CT) the average energy affordability gap is $1,404.
[67] As designated by DECD in 2019.
[68] Department of Economic and Community Development: http://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248

2019[69] DECD Distressed Designation				
	Distressed	Not Distressed	Total	% Distressed
# Towns	25	144	169	15%
2017 ACS Population	1,150,554	244,3924	**3,594,478**	32%
2017 ACS Households	435,595	926,160	**1,361,755**	32%

The Green Bank has steadily increased its percentage of projects deployed each year in distressed municipalities.

Table 36. Green Bank Commercial and Residential Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	35	12%	0.2	10%	$1,364,466	10%	447,962	33%	0.1	$3.05	0.4
2012	No	253	88%	1.7	90%	$11,938,686	90%	912,222	67%	0.3	$13.09	1.9
2012	Total	288	100%	1.9	100%	$13,303,152	100%	1,360,184	100%	0.2	$9.78	1.4
2013	Yes	118	11%	0.7	9%	$4,474,378	9%	426,564	31%	0.3	$10.49	1.7
2013	No	990	89%	7.1	91%	$42,732,293	91%	929,285	69%	1.1	$45.98	7.7
2013	Total	1,108	100%	7.9	100%	$47,206,671	100%	1,355,849	100%	0.8	$34.82	5.8
2014	Yes	379	15%	2.4	15%	$13,647,066	15%	416,415	31%	0.9	$32.77	5.8
2014	No	2,167	85%	14.3	85%	$78,285,272	85%	939,791	69%	2.3	$83.30	15.2
2014	Total	2,546	100%	16.7	100%	$91,932,338	100%	1,356,206	100%	1.9	$67.79	12.3
2015	Yes	1,474	22%	9.1	19%	$47,355,564	19%	423,559	31%	3.5	$111.80	21.4
2015	No	5,247	78%	38.7	81%	$199,391,946	81%	929,024	69%	5.6	$214.63	41.6
2015	Total	6,721	100%	47.7	100%	$246,747,510	100%	1,352,583	100%	5.0	$182.43	35.3
2016	Yes	2,430	29%	15.3	27%	$87,388,625	31%	438,710	32%	5.5	$199.19	35.0

[69] https://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2016	No	5,851	71%	40.6	73%	$192,582,015	69%	916,003	68%	6.4	$210.24	44.3
2016	Total	8,281	100%	55.9	100%	$279,970,641	100%	1,354,713	100%	6.1	$206.66	41.3
2017	Yes	2,270	37%	11.6	33%	$55,115,591	35%	435,595	32%	5.2	$126.53	26.6
2017	No	3,853	63%	23.8	67%	$101,686,493	65%	926,160	68%	4.2	$109.79	25.7
2017	Total	6,123	100%	35.4	100%	$156,802,083	100%	1,361,755	100%	4.5	$115.15	26.0
2018	Yes	3,730	44%	13.8	32%	$78,632,297	38%	435,595	32%	8.6	$180.52	31.8
2018	No	4,675	56%	29.3	68%	$129,738,774	62%	926,160	68%	5.0	$140.08	31.6
2018	Total	8,405	100%	43.1	100%	$208,371,071	100%	1,361,755	100%	6.2	$153.02	31.6
2019	Yes	4,676	45%	20.7	32%	$112,299,982	39%	435,595	32%	10.7	$257.81	47.6
2019	No	5,653	55%	44.5	68%	$175,963,947	61%	926,160	68%	6.1	$189.99	48.0
2019	Total	10,329	100%	65.2	100%	$288,263,929	100%	1,361,755	100%	7.6	$211.69	47.9
Total	Yes	15,112	35%	73.9	27%	$400,277,970	30%	435,595	32%	34.7	$918.92	169.7
Total	No	28,689	65%	199.9	73%	$932,319,425	70%	926,160	68%	31.0	$1,006.65	215.8
Total	Total	43,801	100%	273.8	100%	$1,332,597,395	100%	1,361,755	100%	32.2	$978.59	201.1

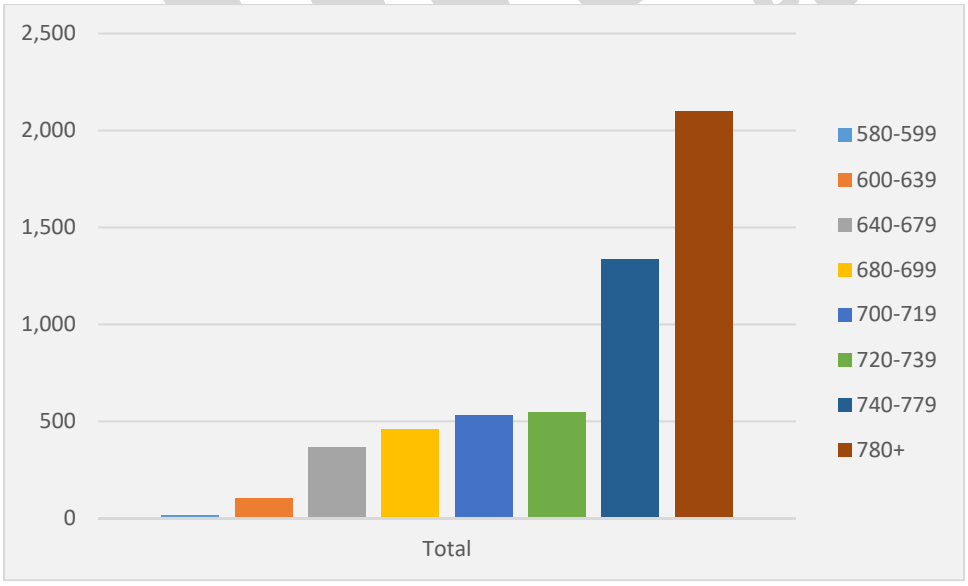
Credit Quality of Homeowners

The credit quality of Green Bank's borrowers in Green Bank residential 1-4 programs that do FICO-based underwriting reflects the relatively high FICO scores in the state; 90% of single-family households that are Green Bank borrowers in these programs have a FICO of 680 or higher. The Green Bank has begun to focus on ensuring that credit challenged customers have access to energy financing products through such initiatives as its partnership with PosiGen (which uses an alternative underwriting approach) and launching a credit-challenged version of the Smart-E program that broadens the credit eligibility and now has six lenders including Capital 4 Change (a Community Development Financial Institution) and all the credit unions participating (all institutions with experience serving this market).

Table 37. Credit Score Ranges of Household Borrowers Using Residential Financing Programs FY2012-FY2019

Program Name	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
Smart-E	16	101	324	407	437	428	982	1,299	3,994
Solar Lease		1	45	39	78	85	264	673	1,185
Solar Loan				11	15	34	90	129	279
Grand Total	**16**	**102**	**369**	**457**	**530**	**547**	**1,336**	**2,101**	**5,458**
	0%	2%	7%	8%	10%	10%	24%	38%	100%

Figure 3. Credit Score Ranges of Household Borrowers Using Residential Financing Programs



Projects by CRA Eligibility

The Community Reinvestment Act was enacted by Congress in 1977 to encourage depository institutions to lend in low-to-moderate-income communities. These lending institutions are rated by regulators as to the volume of their lending to projects in these communities by regulators. Projects are potentially compliant with CRA requirements if they are below 80% of a Metropolitan Statistical Area's (MSA) Adjusted Median Income (AMI) level. For FY 2019, an estimated 35% of projects maybe CRA compliant.

Table 38. Green Bank Commercial and Residential Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 80% by FY Closed[70] [71]

	# Project Units[72]				MW				Total Investment			
Fiscal Year Closed	Total	Over 80% AMI	80% or Below AMI	% at 80% or Below	Total	Over 80% AMI	80% or Below AMI	% at 80% or Below	Total	Over 80% AMI	80% or Below AMI	% at 80% or Below
2012	288	275	13	5%	1.9	1.9	0.1	4%	$13,303,152	$12,845,011	$458,141	3%
2013	1,108	1,032	76	7%	7.9	7.4	0.5	6%	$47,206,671	$44,369,484	$2,837,187	6%
2014	2,546	2,299	247	10%	16.7	15.4	1.3	8%	$91,932,338	$84,140,293	$7,792,045	8%
2015	6,721	5,797	924	14%	47.7	42.3	5.4	11%	$246,747,510	$218,543,802	$28,203,708	11%
2016	8,089	6,056	2,033	25%	55.6	45.2	10.4	19%	$279,086,528	$213,026,106	$66,060,422	24%
2017	6,106	3,871	2,235	37%	35.4	26.1	9.3	26%	$156,602,770	$102,986,117	$53,616,654	34%
2018	8,404	5,003	3,401	40%	43.1	33.4	9.7	23%	$208,285,336	$141,336,587	$66,948,749	32%
2019	10,260	6,629	3,631	35%	65.2	50.5	14.7	23%	$288,229,456	$200,923,247	$87,306,209	30%
Total	**43,522**	**30,962**	**12,560**	**29%**	**273.5**	**222.1**	**51.4**	**19%**	**$1,331,393,762**	**$1,018,170,647**	**$313,223,115**	**24%**

[70] Excludes projects in unknown bands.
[71] This table has been adjusted to include all the Low-Income Solar Lease (ESA) and Multifamily Affordable Housing projects as 80% or Below AMI regardless of which census tract the project falls into as these programs are designed to serve the LMI market.
[72] Project units are counted as 1 for each CI&I, Residential 1-4 project and are the number of units in the multifamily housing development for multifamily projects.

Customer Types and Market Segments

The Connecticut Green Bank targets end users of energy in Connecticut both at work and at home. A breakdown of projects by year (2012-2018) by sector is shown in Table 39.

Table 39. Green Bank Activity in Residential and Commercial Markets by FY Closed

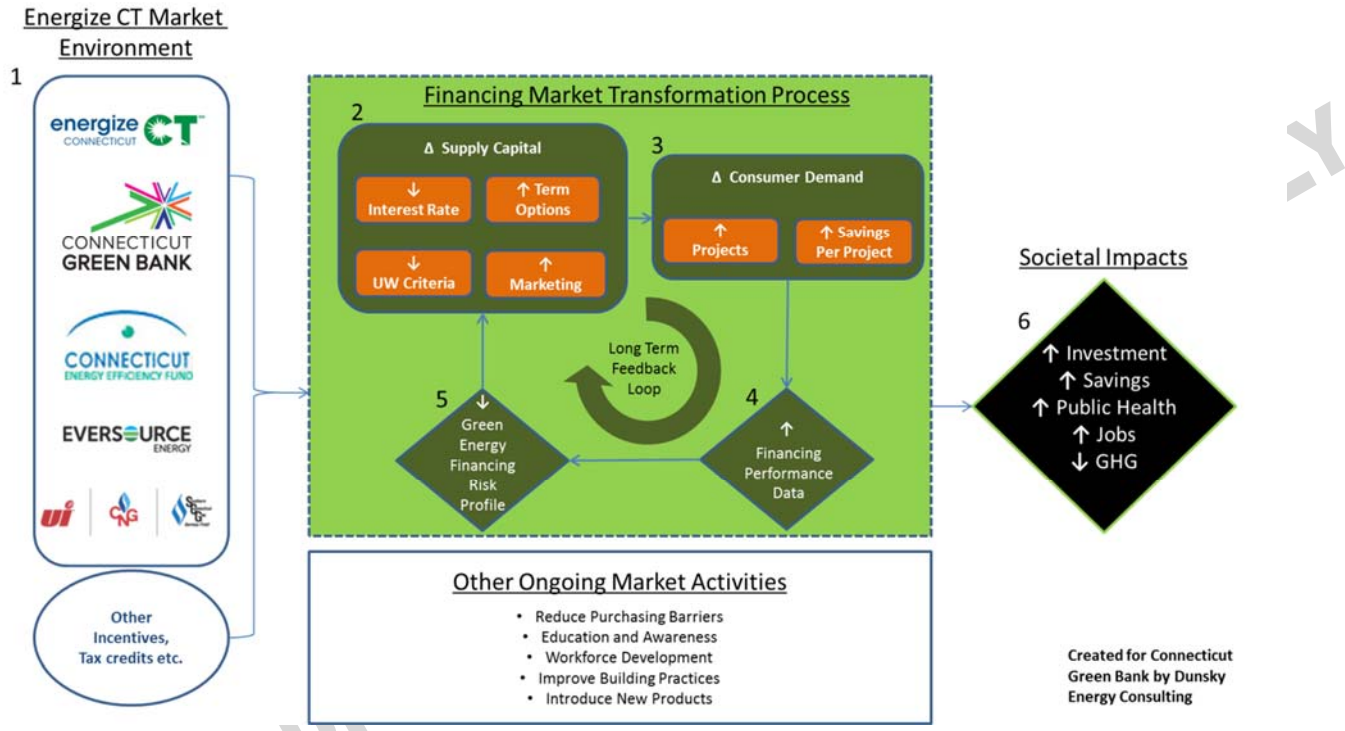
Fiscal Year Closed	Market	# of Projects	# of Project Units	Total Investment	Installed Capacity (MW)	Expected Annual Generation (MWh)	Annual Saved / Produced (MMBtu)
2012	Residential	288	288	$9,901,511	1.9	2,210	7,539
2012 Total		288	288	$9,901,511	1.9	2,210	7,539
2013	Commercial	7	7	$75,751,144	15.6	122,597	432,678
	Residential	1,108	1,108	$35,364,806	7.9	8,966	30,596
2013 Total		1,115	1,115	$111,115,950	23.5	131,563	463,274
2014	Commercial	27	27	$29,371,586	6.7	32,134	179,454
	Residential	2,426	2,426	$74,686,388	16.7	19,543	65,728
	Multifamily	1	120	$428,739		18	61
2014 Total		2,454	2,573	$104,486,713	23.4	51,694	245,243
2015	Commercial	62	62	$98,138,894	14.6	154,405	519,995
	Residential	6,427	6,427	$218,572,018	47.7	55,345	184,818
	Multifamily	3	294	$1,051,296		56	212
2015 Total		6,492	6,783	$317,762,207	62.4	209,806	705,025
2016	Commercial	71	71	$56,438,526	10.2	25,614	115,260
	Residential	7,184	7,184	$232,215,624	55.3	65,284	220,421
	Multifamily	19	1,097	$31,015,866	0.5	1,091	28,376
2016 Total		7,274	8,352	$319,670,016	66.1	91,988	364,057
2017	Commercial	61	61	$54,575,841	14.7	26,289	373,488
	Residential	4,835	4,835	$125,930,738	34.5	44,455	152,069
	Multifamily	15	1,288	$22,309,139	0.8	1,125	4,106
2017 Total		4,911	6,184	$202,815,718	50.0	71,868	529,664
2018	Commercial	86	86	$48,844,889	14.4	18,800	64,593
	Residential	6,639	6,639	$172,435,306	43.0	59,003	197,967
	Multifamily	18	1,768	$26,710,739	0.1	1,409	46,630
2018 Total		6,743	8,493	$247,990,935	57.5	79,212	309,190
2019	Commercial	4,389	4,389	$79,021,789	8.1	13,717	31,743
	Residential	8,411	8,411	$238,721,346	65.2	80,791	274,640
	Multifamily	15	1,918	$34,602,872			0
2019 Total		12,815	14,718	$352,346,006	73.3	94,508	306,383
Total	**Commercial**	**4,703**	**4,703**	**$442,142,668**	**84.3**	**393,555**	**1,717,211**
Total	**Residential**	**37,318**	**37,318**	**$1,107,827,735**	**272.4**	**335,595**	**1,133,777**
Total	**Multifamily**	**71**	**6,485**	**$116,118,652**	**1.5**	**3,699**	**79,386**
Grand Total		**42,092**	**48,506**	**$1,666,089,056**	**358.2**	**732,849**	**2,930,374**

5. Programs

Program Logic Model and the Financing Market Transformation Strategy

The Connecticut Green Bank has prepared an Evaluation Framework[73] and developed a Program Logic Model (PLM) that presents the green bank model of attracting and deploying private capital through financing – see Figure 4. In addition to representing graphically how a program is structured, this PLM serves as a foundation for evaluating clean energy deployment through subsidy and financing programs of the Connecticut Green Bank.

Figure 4. Connecticut Green Bank Program Logic Model – Including Subsidies and Financing



The above figure is a generalized market transformation and impact logic model. It has been adapted to individual Green Bank programs to incorporate the unique circumstances of each of those programs, enabling a clearer definition of program objectives and of metrics for reporting and future evaluation. Additionally, with the continued maturation of the organization's programs, more data are becoming available to quantify and present the societal impacts associated with those programs.

While the Green Bank's capital availability expands to further support clean energy deployment, even greater coordination between the Green Bank's programs and those administered by the utilities is continually sought. As such, various other key participants have been included in this overall logic model. Beginning by identifying the multitude of interactions that occur across their respective programs, the Green Bank and the utilities will be better prepared to accommodate the funding demands of clean energy projects over the short, medium, and long term. In addition, the model

[73] Evaluation Framework – Assessing, Monitoring, and Reporting of Program Impacts and Processes by Opinion Dynamics and Dunsky Energy Consulting for the Connecticut Green Bank (July 2016)

facilitates the identification and capture of known interventions in the clean energy environment that may impact the trajectory of the Green Bank's financing efforts over time.

The PLM includes three (3) components – Energize CT Market Environment (including Other Ongoing Market Activities), Green Bank Financing Market Transformation Process, and Societal Impacts.

Energize CT Market Environment

Energize CT is an initiative of the Green Bank, the Connecticut Energy Efficiency Fund, the State, and the local electric and gas utilities. It provides Connecticut consumers, businesses and communities the resources and information they need to make it simple to save energy and build a clean energy future for everyone in the state. Under this umbrella, the electric and gas investor owned utilities (IOUs) provide information, marketing, and deliver the energy efficiency programs that have been approved by the State and supported by the Connecticut Energy Efficiency Fund. Operating under a statutory mandate that all cost-effective energy efficiency be acquired, with guidance from the Connecticut Energy Efficiency Board and its consultants, the utilities offer a variety of programs and encouragements for residential, commercial, and industrial customers to make decisions to participate in these cost-reducing opportunities. A range of methods is used to encourage customers to participate in the programs, among them targeted information, low cost/no cost measures, financial incentives, discounted retail products, and product and project financing. The Connecticut Green Bank, with a statutorily established residential solar PV target of 350 MW[74] on or before December 31, 2022, also markets and delivers its clean energy programs to residential customers. Informed by aggregate consumer and demographic data, the Green Bank promotes its programs and market offerings with direct incentives and financing opportunities in addition to a host of marketing, communication and outreach tools. [75]

Within the Green Bank's current programs, only participants in the Residential Solar Investment Program (RSIP) are required to receive a home energy assessment through the utility-administered Home Energy Solutions (HES) program[76], the DOE Home Energy Score, or an alternate RSIP-approved energy assessment conducted by a BPI[77] or equivalently credentialed professional. Having satisfied the program's qualifying energy producing measures, RSIP participants may also receive rebates or incentives from the utilities (intended to overcome barriers to customer participation and/or encourage increased selection of energy efficient measures), or other levels of government (e.g., state incentives and Federal tax credits for several energy saving technologies), as well as opportunities to access affordable financing for some or all of the remaining portion of their clean energy project. In the context of a PLM, one may also anticipate similar links between the Green Bank programs and those of the investor owned utilities (IOU's).

The impetus behind increased coordination among the utility administered energy efficiency programs and the Green Bank's programs is threefold: 1) more energy savings, and resulting emissions reductions, are expected to be acquired more economically both to the programs and to the project

[74] Updated by PA 19-35. https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf, passed June 28, 2019
[75] Per Public Act 15-194 "An Act Concerning the Encouragement of Local Economic Development and Access to Residential Renewable Energy," the Connecticut Green Bank administers a rebate and performance-based incentive program to support solar PV.
[76] https://www.energizect.com/your-home/solutions-list/home-energy-solutions-core-services
[77] http://www.bpi.org/about-us

participants, 2) delivery efficiencies and greater savings could be found in coordinating financing that each entity offers to common customer segments within the sphere of program activities that they offer, and 3) coordination through a Joint Committee of the Energy Efficiency Board and the Connecticut Green Bank is required by statute.[78] It is important to note that a number of other ongoing market activities are occurring through Energize CT or outside of the Green Bank's market transformation process. From introducing new products, reducing purchasing barriers, education and awareness programs to workforce development, and improving building practices – there are a variety of activities that help move the market towards more clean energy deployment.

Finance Market Transformation Process

The efforts of the Green Bank are exemplified through the financing market transformation process which focuses on accelerating the deployment of clean energy – more customers and "deeper" more comprehensive measures being undertaken – by securing increasingly affordable and attractive private capital. The Green Bank can enter the process at several points (i.e., from numbers 2 through 4 in the above PLM figure), such as supplying capital through financing offers, marketing clean energy financing, or offsetting clean energy financing risk by backstopping loans, or sharing loan performance data.

Below is a breakdown of each component of the financing market transformation process of the Green Bank:

- **Supply of Capital –** financing programs aim to increase the supply of affordable and attractive capital available to support energy savings and clean energy production in the market place. This is done at the Green Bank by:

    a. Providing financing (loans or leases) to customers using Green Bank capital; and/or
    b. Establishing structures, programs, and public-private partnerships that connect third-party capital to support energy savings projects.

Beyond ensuring that financing is available for clean energy projects, the Green Bank's Supply of Capital interventions can lead to, but are not limited to benefits such as:

a. Reduced interest rates, which lower the cost of capital for clean energy projects;
b. More loan term options to better match savings cash flows (e.g., longer terms for longer payback projects, early repayment, or deferred first year payments);
c. Less restrictive underwriting criteria, resulting in increased eligibility and access to financing; and
d. Increased marketing efforts by lenders to leverage clean energy investment opportunities.

Each of these features is intended to increase uptake of clean energy projects, leading to increased energy savings, clean energy production, and other positive societal impacts. The long-term goal of the

[78] Pursuant to Section 15-245m(d)(2) of Connecticut General Statutes, the Joint Committee shall examine opportunities to coordinate the programs and activities contained in the plan developed under Section 16-245n(c) of the General Statutes [Comprehensive Plan of the Connecticut Green Bank] with the programs and activities contained in the plan developed under section 16-245m(d)(1) of the General Statutes [Energy Conservation and Load Management Plan] and 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.

Green Bank's efforts is to achieve these attractive features in the market with a reduced need for Green Bank intervention, through the provision of performance data that convinces private capital providers to offer such features on their own.

- **Consumer Demand –** in combination with a comprehensive set of clean energy programs under the Energize CT initiative, offered by the utilities, the Green Bank drives consumer demand for clean energy by marketing financing programs and increasing awareness of the potential benefits stemming from clean energy projects through the range of programs it offers. It should also be noted that through channel marketing strategies (e.g., contractor channels to the customer) success will be determined by an increase in demand for financing. The results of the increased demand are expected to, but are not limited to:

  a. Increase in the number of clean energy projects; and
  b. Increase in the associated average savings and/or clean energy production per project.

  Increasing affordable and attractive financing offerings in the marketplace is an important component of unlocking consumer demand and driving greater energy savings and clean energy production and is central to the Green Bank's market transformation efforts.

- **Financing Performance Data –** Green Bank gathers and communicates the performance of clean energy financing either through its own programs or for other financing options in the market place. This increases access to valuable information that can help lenders and customers identify promising clean energy investments. Enabling access to this information (i.e., data transparency) is important to encouraging market competition.

  Ultimately, data on the performance of Green Bank sponsored financial products is expected to continue to play a pivotal role in the attraction of private capital directed toward more affordable and accessible financing offerings. As the Green Bank increases the access to affordable and attractive capital, and more customers use this financing for their clean energy projects, data demonstrating strong and reliable performance of these projects is also expected to enable lower interest rates due to a better-informed assumption of risk.

- **Financing Risk Profile –** Green Bank can help reduce clean energy financing risk profiles in many ways. For example, it can absorb a portion or all the credit risk by providing loan loss reserve (LLR) funds and guarantees or taking the first-loss position on investments (i.e., subordinated debt). It can also channel or attract rebates and incentives to finance energy saving projects thus improving their economic performance and lowering the associated performance risk. In the long run, by making clean energy financing performance data available to the market, Green Bank programs increase lenders' and borrowers' understanding of clean energy investment risk profiles, which is expected to enable them to (1) design more affordable and attractive financing products and (2) select projects for financing to reduce risks.

This element of the PLM plays the key linking role in the Market Transformation feedback loop, leading to longer term impacts, as the market (1) recognizes the expected advantageous risk/return profile associated with clean energy investments and (2) takes further steps to increase the supply of affordable and attractive capital with less Green Bank credit enhancement needed to support demand for clean energy investments.

Ensuring that financing performance and risk profile data are available to the market is important from various perspectives. For a deeper examination and presentation, please see the report by the State Energy Efficiency Action Network.[79]

Societal Impact

The efforts to accelerate and scale-up investment in clean energy deployment by the Green Bank, lead to a myriad of societal impacts and benefits.

All the PLM elements ultimately aim to contribute to Green Bank program impacts and benefits. These include the direct increase in energy savings and improvement of public health (e.g., asbestos remediation, lead abatement, etc.) to the customer, increase in the creation of local in-state jobs, and the reduction of greenhouse gas emissions for society. The impacts may also include consideration of secondary or indirect benefits such as GDP growth and energy savings supported by lenders who have leveraged Green Bank data or marketing efforts.

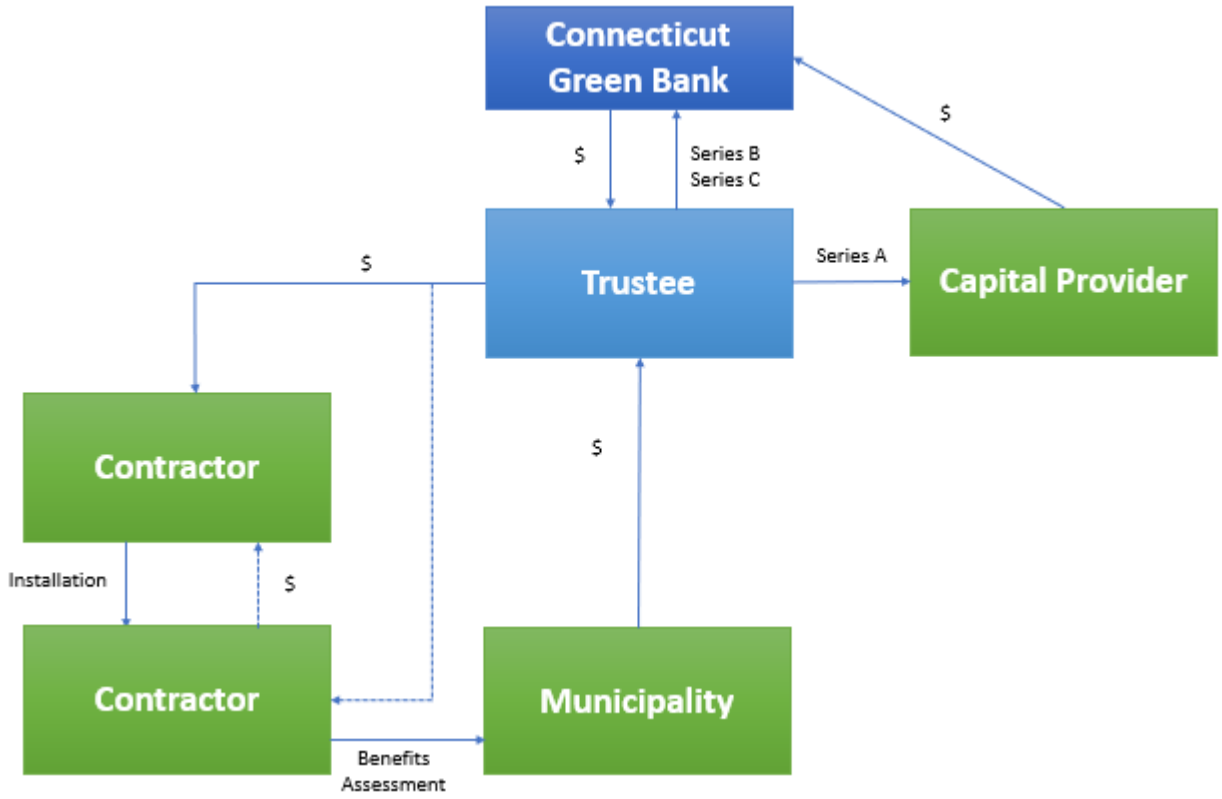
[79] State and Local Energy Efficiency Action Network. (2014). *Energy Efficiency Finance Programs: Use Case Analysis to Define Data Needs and Guidelines.* Prepared by: Peter Thompson, Peter Larsen, Chris Kramer, and Charles Goldman of Lawrence Berkeley National Laboratory. Click here (http://www4.eere.energy.gov/seeaction/publication/energy-efficiency-finance-programs-use-case-analysis-define-data-needs-and-guidelines)

Case 1 – C-PACE

Description

Commercial Property Assessed Clean Energy (C-PACE) enables building owners to pay for clean energy improvements or clean energy production projects 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.

Figure 6. Legal Structure and Flows of Capital for C-PACE



For a municipality to participate in the C-PACE program, its legislative body must pass a resolution enabling it to enter into an agreement with the Connecticut Green Bank to assess, collect, remit, and assign benefit assessments against C-PACE borrowers' liabilities. As of June 30, 2019, there are 133 cities and towns signed up for C-PACE representing more than 90% of commercial and industrial building space in Connecticut. Additionally, as of June 30, 2019, nearly $160 million in C-PACE benefit assessment advances have been closed that are expected to save over $240 million in avoided energy costs over the life of the projects.

Key Performance Indicators

The Key Performance Indicators for C-PACE closed activity are reflected in Tables 44 through 47. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

Table 44. C-PACE Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/EE	Other	# Projects	Total Investment[80]	Green Bank Investment[81]	Private Investment	Leverage Ratio
2012	-	-	-		-	-	-	-	-
2013	2		1		3	$1,512,144	$210,302	$1,301,842	7.2
2014	6	14	3		23	$21,785,167	$9,550,120	$12,235,046	2.3
2015	10	30	9		49	$33,716,566	$12,713,966	$21,002,600	2.7
2016	10	35	8		53	$36,669,384	$7,624,149	$29,045,235	4.8
2017	5	27	6		38	$15,487,305	$4,459,609	$11,027,696	3.5
2018	10	46	9	1	66	$26,732,114	$6,432,768	$20,299,346	4.2
2019	2	33	3		38	$22,628,489	$8,291,517	$14,336,972	2.7
Total	**45**	**185**	**39**	**1**	**270**	**$158,531,169**	**$49,282,431**	**$109,248,738**	**3.2**

Table 45. C-PACE Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	-	-	-	-	-	-	-
2013	101.0	513,495	7,657	2,021	32,845	$132,907	$2,538,186
2014	3,631.0	8,409,814	154,673	36,264	716,930	$1,905,050	$40,635,908
2015	7,275.9	14,301,795	308,545	41,464	877,020	$2,792,189	$58,534,753
2016	6,367.7	15,315,444	278,056	59,323	1,125,290	$3,842,877	$82,458,936
2017	3,909.3	6,134,595	131,490	21,662	466,881	$813,966	$15,172,649
2018	7,285.2	10,700,756	236,263	36,959	817,285	$972,755	$25,889,113
2019	5,447.1	10,653,805	208,605	21,290	409,801	$692,041	$19,231,873
Total	**34,017.2**	**66,029,704**	**1,325,288**	**218,984**	**4,446,051**	**$11,151,785**	**$244,461,418**

Table 46. C-PACE Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate
2012	-	-	-	-	-	-
2013	$504,048	$350,503	33.7	674	17	5.00
2014	$947,181	$883,582	157.9	1,577	18	5.57
2015	$688,093	$647,484	148.5	846	18	5.61
2016	$691,875	$638,549	130.0	1,119	18	5.66
2017	$407,561	$391,869	102.9	570	17	5.58
2018	$405,032	$376,434	113.8	560	16	5.71
2019	$595,487	$536,230	147.2	560	19	6.11
Total	**$587,152**	**$544,652**	**129.3**	**811**	**17**	**5.69**

[80] Includes closing costs and capitalized interest for C-PACE and the Fair Market Value for Commercial Leases.
[81] Includes incentives, interest rate buydowns and loan loss reserves.

Table 47. C-PACE Project Application Yield[82] by FY Received[83]

Fiscal Year Received	Applications Received	Projects in Review/On Hold	Projects Approved	Projects Withdrawn	Applications Denied	Approved Rate	Denied Rate
2012	-	-	-	-	-	-	-
2013	75	1	25	27	2	70%	3%
2014	157	21	44	80	1	91%	1%
2015	147	27	51	62	4	94%	3%
2016	113	29	44	33	5	92%	6%
2017	110	11	47	38	2	86%	2%
2018	93	12	57	12	0	85%	0%
2019	79	18	37	8	0	74%	0%
Total	**774**	**119**	**305**	**260**	**14**	**86%**	**2%**

[82] Applications received are complete initial applications that have been received for C-PACE financing. Applications denied are any initial applications received for C-PACE financing that do not meet programmatic requirements. Projects in review are projects that are being reviewed, either technically or financially, prior to being approved. Projects approved are projects that have gone through technical and financial underwriting and have met all the necessary programmatic requirements. These include projects that have been approved and are waiting to close, projects that have closed, and projects that have completed construction and are in repayment. Projects withdrawn are projects that have been approved at the application stage but have since fallen out of our pipeline for numerous reasons and are no longer active. Projects in this category could have fallen out of our pipeline in the in review or the approved stage.

[83] This table represents projects whose initial applications have been approved and are proceeding through the C-PACE financing pipeline prior to loan closure.

C-PACE has been used as a financing tool across a wide variety of end-use customers in Connecticut in its 6 years of existence as illustrated by Table 48.

Table 48. Types of End-Use Customers Participating in C-PACE

Property Type	# of Properties	Square Footage
Agricultural	3	10,904
Athletic/Recreational Facility	4	25,900
Education	3	131,531
Hotel	1	70,087
House of Worship	9	86,113
Industrial	65	2,956,534
Multi-family/apartment (> 5 units)	9	290,537
Non-profit	25	629,492
Nursing Home/Rehab Facility	1	175,680
Office	68	4,441,391
Public assembly	4	139,000
Retail	61	1,791,324
Special Purpose	3	78,380
Warehouse & storage	14	485,050
Total	**270**	**11,311,923**

To date, 133 municipalities have opted into the C-PACE program resulting in 270 closed projects – see Table 49.

Table 49. Municipalities Participating in C-PACE

Municipality	Opt in Date	# Closed Projects
Ansonia	9/27/2013	1
Avon	4/9/2013	2
Barkhamsted	7/21/2014	0
Beacon Falls	4/11/2013	0
Berlin	10/30/2013	2
Bethany	9/2/2015	1
Bethel	1/24/2014	2
Bloomfield	6/21/2013	2
Branford	9/9/2013	2
Bridgeport	12/7/2012	18
Bristol	11/19/2014	10
Brookfield	8/5/2013	4
Burlington	1/12/2016	0
Canaan	8/8/2013	1
Canterbury	11/5/2014	0
Canton	7/9/2013	1
Cheshire	10/27/2014	1
Chester	7/25/2013	0
Clinton	5/29/2013	3

Municipality	Opt in Date	# Closed Projects
Columbia	10/21/2014	0
Coventry	6/24/2013	0
Cromwell	4/9/2014	1
Danbury	10/8/2013	3
Darien	2/28/2014	5
Deep River	7/22/2014	1
Durham	4/2/2013	1
East Granby	6/27/2013	0
East Haddam	8/1/2013	2
East Hampton	7/10/2013	0
East Hartford	4/11/2013	2
East Haven	2/28/2017	2
East Lyme	9/11/2014	3
East Windsor	11/27/2013	7
Eastford	11/10/2014	0
Easton	5/14/2015	0
Ellington	8/27/2014	1
Enfield	1/3/2014	1
Essex	7/17/2014	2
Fairfield	4/30/2014	5
Farmington	12/17/2013	7
Franklin	10/6/2015	0
Glastonbury	6/14/2013	3
Granby	11/28/2013	0
Greenwich	9/23/2013	2
Griswold	3/15/2016	0
Groton	10/21/2013	2
Guilford	3/29/2016	0
Haddam	9/18/2015	0
Hamden	3/3/2014	1
Hartford	10/26/2012	25
Hebron	12/20/2016	0
Kent	9/17/2014	0
Killingly	12/9/2014	0
Killingworth	5/31/2013	1
Lebanon	5/13/2015	0
Ledyard	1/14/2016	1
Madison	9/5/2014	1
Manchester	8/1/2013	7
Mansfield	8/27/2013	0
Meriden	5/24/2013	3
Middlefield	7/21/2015	0
Middletown	3/25/2013	8

Municipality	Opt in Date	# Closed Projects
Milford	8/2/2013	2
Monroe	3/8/2017	0
Montville	12/4/2013	1
Naugatuck	6/30/2014	1
New Britain	7/17/2013	6
New Canaan	10/24/2014	0
New Fairfield	4/4/2019	0
New Hartford	2/6/2018	0
New Haven	12/6/2013	1
New London	6/18/2013	9
New Milford	6/10/2013	1
Newington	10/29/2014	1
Newtown	8/8/2013	4
Norfolk	5/13/2014	0
North Branford	5/24/2013	0
North Canaan	12/19/2013	2
North Haven	7/24/2014	1
North Stonington	2/23/2015	2
Norwalk	12/3/2012	3
Norwich	10/7/2013	2
Old Lyme	1/25/2016	0
Old Saybrook	2/20/2013	0
Orange	5/17/2016	0
Oxford	3/29/2016	2
Plainfield	6/14/2016	1
Plainville	6/28/2013	3
Plymouth	2/28/2019	0
Portland	6/9/2016	1
Preston	1/8/2015	0
Putnam	3/5/2013	3
Redding	10/20/2015	0
Ridgefield	5/2/2018	3
Rocky Hill	10/8/2013	3
Salisbury	8/31/2016	0
Seymour	1/27/2014	0
Sharon	2/21/2014	0
Shelton	9/30/2014	1
Simsbury	12/11/2014	1
Somers	5/23/2014	2
South Windsor	8/29/2014	3
Southbury	4/11/2012	0
Southington	5/15/2013	3
Sprague	12/30/2013	0

Municipality	Opt in Date	# Closed Projects
Stafford	9/26/2013	0
Stamford	1/7/2013	12
Stonington	1/27/2014	2
Stratford	2/26/2013	4
Suffield	5/24/2013	0
Thomaston	2/23/2016	1
Tolland	4/11/2013	0
Torrington	5/8/2013	1
Trumbull	7/31/2013	2
Vernon	7/22/2013	4
Washington	5/20/2019	0
Waterbury	5/10/2013	6
Waterford	8/23/2013	1
Watertown	4/11/2014	6
West Hartford	1/3/2013	2
West Haven	5/6/2014	2
Westbrook	5/21/2013	0
Weston	9/8/2014	1
Westport	2/7/2013	4
Wethersfield	5/28/2013	1
Willington	7/2/2014	1
Wilton	2/27/2012	2
Windham	5/1/2013	1
Windsor	5/16/2013	2
Windsor Locks	7/30/2015	1
Woodbridge	5/30/2014	4
Woodbury	3/18/2015	1
Woodstock	4/15/2016	0
Total	**133**	**270**

Area Median Income Band Penetration

C-PACE has been used to fund projects in economically diverse locations across the state as reflected by Table 50 for Metropolitan Statistical Area (MSA) Area Median Income (AMI). It should be noted that C-PACE is not an income targeted program.

Table 50. C-PACE Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[84]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	<60%	0	0%	0.0	0%	$0	0%	609,363	17%	0.0	$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	$0	0%	527,217	15%	0.0	$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	$0	0%	589,440	17%	0.0	$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	$0	0%	722,664	20%	0.0	$0.00	0.0
2012	>120%	0	0%	0.0	0%	$0	0%	1,116,395	31%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	3,565,079	100%	0.0	$0.00	0.0
2013	<60%	1	33%	0.0	0%	$150,877	10%	604,433	17%	0.0	$0.25	0.0
2013	60%-80%	0	0%	0.0	0%	$0	0%	568,952	16%	0.0	$0.00	0.0
2013	80%-100%	1	33%	0.1	100%	$711,251	47%	588,813	16%	0.0	$1.21	0.2
2013	100%-120%	1	33%	0.0	0%	$650,016	43%	690,591	19%	0.0	$0.94	0.0
2013	>120%	0	0%	0.0	0%	$0	0%	1,131,305	32%	0.0	$0.00	0.0
2013	Total	3	100%	0.1	100%	$1,512,144	100%	3,584,094	100%	0.0	$0.42	0.0
2014	<60%	7	30%	1.3	37%	$8,907,842	41%	614,135	17%	0.0	$14.50	2.2
2014	60%-80%	2	9%	0.2	6%	$609,883	3%	546,132	15%	0.0	$1.12	0.4
2014	80%-100%	5	22%	1.1	32%	$3,593,730	16%	577,061	16%	0.0	$6.23	2.0
2014	100%-120%	3	13%	0.3	7%	$800,605	4%	720,856	20%	0.0	$1.11	0.4
2014	>120%	6	26%	0.7	18%	$7,873,108	36%	1,125,910	31%	0.0	$6.99	0.6
2014	Total	23	100%	3.6	100%	$21,785,167	100%	3,584,094	100%	0.0	$6.08	1.0
2015	<60%	18	37%	1.8	25%	$7,756,685	23%	662,619	18%	0.0	$11.71	2.7
2015	60%-80%	5	10%	0.8	10%	$3,408,609	10%	489,826	14%	0.0	$6.96	1.6
2015	80%-100%	4	8%	0.4	6%	$3,427,052	10%	650,163	18%	0.0	$5.27	0.7

[84] Excludes projects in unknown bands.

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2015	100%-120%	9	18%	1.2	16%	$4,489,797	13%	631,741	18%	0.0	$7.11	1.9
2015	>120%	13	27%	3.1	43%	$14,634,422	43%	1,150,974	32%	0.0	$12.71	2.7
2015	Total	49	100%	7.3	100%	$33,716,566	100%	3,585,323	100%	0.0	$9.40	2.0
2016	<60%	9	18%	0.7	12%	$3,627,283	10%	649,617	18%	0.0	$5.58	1.1
2016	60%-80%	6	12%	0.8	13%	$2,828,263	8%	509,088	14%	0.0	$5.56	1.5
2016	80%-100%	9	18%	0.8	13%	$15,077,393	43%	641,084	18%	0.0	$23.52	1.2
2016	100%-120%	10	20%	1.9	31%	$5,733,163	16%	653,309	18%	0.0	$8.78	2.9
2016	>120%	16	32%	1.9	31%	$8,190,228	23%	1,126,543	31%	0.0	$7.27	1.6
2016	Total	50	100%	6.1	100%	$35,456,330	100%	3,579,641	100%	0.0	$9.90	1.7
2017	<60%	7	18%	1.7	42%	$4,623,046	30%	663,181	18%	0.0	$6.97	2.5
2017	60%-80%	4	11%	0.4	10%	$1,295,929	8%	488,396	14%	0.0	$2.65	0.8
2017	80%-100%	6	16%	0.3	7%	$1,042,060	7%	612,043	17%	0.0	$1.70	0.4
2017	100%-120%	14	37%	0.9	23%	$5,326,727	34%	722,803	20%	0.0	$7.37	1.3
2017	>120%	7	18%	0.7	17%	$3,199,542	21%	1,099,277	31%	0.0	$2.91	0.6
2017	Total	38	100%	3.9	100%	$15,487,305	100%	3,585,700	100%	0.0	$4.32	1.1
2018	<60%	7	11%	1.0	15%	$3,506,938	15%	663,181	18%	0.0	$5.29	1.5
2018	60%-80%	13	21%	1.2	20%	$4,219,108	18%	488,396	14%	0.0	$8.64	2.5
2018	80%-100%	10	16%	0.9	15%	$4,676,819	20%	612,043	17%	0.0	$7.64	1.5
2018	100%-120%	8	13%	1.0	16%	$3,100,413	13%	722,803	20%	0.0	$4.29	1.4
2018	>120%	23	38%	2.1	34%	$7,818,822	34%	1,099,277	31%	0.0	$7.11	1.9
2018	Total	61	100%	6.2	100%	$23,322,100	100%	3,585,700	100%	0.0	$6.50	1.7
2019	<60%	14	38%	1.7	32%	$7,949,365	36%	663,181	18%	0.0	$11.99	2.5
2019	60%-80%	3	8%	0.2	4%	$687,991	3%	488,396	14%	0.0	$1.41	0.4
2019	80%-100%	9	24%	1.3	24%	$5,121,027	23%	612,043	17%	0.0	$8.37	2.0
2019	100%-120%	8	22%	1.7	33%	$6,953,415	32%	722,803	20%	0.0	$9.62	2.4
2019	>120%	3	8%	0.4	7%	$1,182,152	5%	1,099,277	31%	0.0	$1.08	0.3
2019	Total	37	100%	5.2	100%	$21,893,949	100%	3,585,700	100%	0.0	$6.11	1.5

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
Total	<60%	63	24%	8.2	25%	$36,522,036	24%	663,181	18%	0.1	$55.07	12.3
Total	60%-80%	33	13%	3.6	11%	$13,049,782	9%	488,396	14%	0.1	$26.72	7.4
Total	80%-100%	44	17%	4.9	15%	$33,649,332	22%	612,043	17%	0.1	$54.98	8.1
Total	100%-120%	53	20%	6.9	21%	$27,054,137	18%	722,803	20%	0.1	$37.43	9.6
Total	>120%	68	26%	8.8	27%	$42,898,274	28%	1,099,277	31%	0.1	$39.02	8.0
Total	Total	261	100%	32.4	100%	$153,173,561	100%	3,585,700	100%	0.1	$42.72	9.0

Table 51. C-PACE Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[85]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2013	3	1	2	67%	0.1	0.0	0.1	100%	$1,512,144	$650,016	$862,128	57%
2014	23	9	14	61%	3.6	0.9	2.7	75%	$21,785,167	$8,673,712	$13,111,454	60%
2015	49	22	27	55%	7.3	4.3	3.0	41%	$33,716,566	$19,124,220	$14,592,347	43%
2016	50	26	24	48%	6.1	3.7	2.3	38%	$35,456,330	$13,923,391	$21,532,939	61%
2017	38	21	17	45%	3.9	1.6	2.3	60%	$15,487,305	$8,526,270	$6,961,035	45%
2018	61	31	30	49%	6.2	3.1	3.1	50%	$23,322,100	$10,919,235	$12,402,865	53%
2019	37	11	26	70%	5.2	2.1	3.1	60%	$21,893,949	$8,135,567	$13,758,382	63%
Total	**261**	**121**	**140**	**54%**	**32.4**	**15.7**	**16.7**	**52%**	**$153,173,561**	**$69,952,411**	**$83,221,150**	**54%**

Distressed Community Penetration

For a breakdown of C-PACE project volume and investment by census tracts categorized by Distressed Communities – see Table 52. It should be noted that C-PACE is not an income targeted program.

[85] Excludes projects in unknown bands.

Table 52. C-PACE Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	Yes	0	0%	0.0	0%	$0	1,171,385	33%	0.0	$0.00	0.0	0
2012	No	0	0%	0.0	0%	$0	2,400,828	67%	0.0	$0.00	0.0	0
2012	Total	0	0%	0.0	0%	$0	3,572,213	100%	0.0	$0.00	0.0	0
2013	Yes	2	67%	0.0	0%	$800,893	1,124,923	31%	0.0	$0.71	0.0	2
2013	No	1	33%	0.1	100%	$711,251	2,458,638	69%	0.0	$0.29	0.0	1
2013	Total	3	100%	0.1	100%	$1,512,144	3,583,561	100%	0.0	$0.42	0.0	3
2014	Yes	7	30%	1.4	40%	$9,047,808	1,106,027	31%	0.0	$8.18	1.3	7
2014	No	16	70%	2.2	60%	$12,737,358	2,486,026	69%	0.0	$5.12	0.9	16
2014	Total	23	100%	3.6	100%	$21,785,167	3,592,053	100%	0.0	$6.06	1.0	23
2015	Yes	24	49%	4.0	54%	$17,121,093	1,122,550	31%	0.0	$15.25	3.5	24
2015	No	25	51%	3.3	46%	$16,595,474	2,470,672	69%	0.0	$6.72	1.3	25
2015	Total	49	100%	7.3	100%	$33,716,566	3,593,222	100%	0.0	$9.38	2.0	49
2016	Yes	15	28%	1.5	23%	$15,128,961	1,162,653	32%	0.0	$13.01	1.3	15
2016	No	38	72%	4.9	77%	$21,540,422	2,425,917	68%	0.0	$8.88	2.0	38
2016	Total	53	100%	6.4	100%	$36,669,384	3,588,570	100%	0.0	$10.22	1.8	53
2017	Yes	10	26%	2.0	51%	$6,515,790	1,150,554	32%	0.0	$5.66	1.7	10
2017	No	28	74%	1.9	49%	$8,971,514	2,443,924	68%	0.0	$3.67	0.8	28
2017	Total	38	100%	3.9	100%	$15,487,305	3,594,478	100%	0.0	$4.31	1.1	38
2018	Yes	18	27%	2.4	32%	$10,181,544	1,150,554	32%	0.0	$8.85	2.1	18
2018	No	48	73%	4.9	68%	$16,550,570	2,443,924	68%	0.0	$6.77	2.0	48
2018	Total	66	100%	7.3	100%	$26,732,114	3,594,478	100%	0.0	$7.44	2.0	66

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2019	Yes	18	47%	2.2	41%	$11,127,831	1,150,554	32%	0.0	$9.67	1.9	18
2019	No	20	53%	3.2	59%	$11,500,658	2,443,924	68%	0.0	$4.71	1.3	20
2019	Total	38	100%	5.4	100%	$22,628,489	3,594,478	100%	0.0	$6.30	1.5	38
Total	Yes	94	35%	13.5	40%	$69,923,921	1,150,554	32%	0.1	$60.77	11.7	94
Total	No	176	65%	20.5	60%	$88,607,248	2,443,924	68%	0.1	$36.26	8.4	176
Total	Total	270	100%	34.0	100%	$158,531,169	3,594,478	100%	0.1	$44.10	9.5	270

Societal Impacts

Ratepayers in Connecticut continue to enjoy the societal benefits of C-PACE. In its 7 years of existence, the program has supported the creation of 1,609 job years, avoided the lifetime emission of 680,616 tons of carbon dioxide, 685,986 pounds of nitrous oxide, 585,028 pounds of sulfur oxide, and 53,767 pounds of particulate matter as illustrated by Tables 54 and 55. The lifetime economic value of the public health impacts of CPACE are estimated between $22.2 and $50.1 million as illustrated in table 56. CPACE is estimated to have generated $11 million in tax revenue for the state of CT since its inception as shown in Table 54.

Table 53. C-PACE Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	9	15	24
2014	109	174	282
2015	142	227	369
2016	178	285	463
2017	55	74	130
2018	85	111	195
2019	64	82	146
Total	**641**	**967**	**1,609**

Table54. C-PACE Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$42,924	$45,544	$46,694	$135,162
2014	$489,858	$773,000	$366,235	$1,629,093
2015	$711,515	$1,074,192	$727,217	$2,512,924
2016	$852,137	$1,090,167	$682,252	$2,624,555
2017	$281,277	$433,723	$99,582	$814,583
2018	$473,617	$964,291	$212,838	$1,650,745
2019	$431,903	$796,736	$453,309	$1,681,948
Total	**$3,283,230**	**$5,177,653**	**$2,588,128**	**$11,049,011**

Table 55. C-PACE Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	283	4,224	386	5,811	477	7,148	24	360
2014	4,700	86,427	6,077	113,223	6,872	128,033	400	7,497
2015	7,345	161,794	7,841	171,075	7,480	161,286	454	9,613
2016	8,621	156,146	9,156	163,054	8,044	135,301	716	13,199
2017	3,317	71,293	2,867	62,680	1,917	41,948	279	6,062
2018	5,744	127,043	4,804	107,587	3,143	70,396	483	10,774
2019	3,250	73,689	2,731	62,555	1,786	40,916	274	6,262
Total	**33,260**	**680,616**	**33,861**	**685,986**	**29,718**	**585,028**	**2,630**	**53,767**

Table 56. C-PACE Economic Value of Public Health by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	$8,806	$19,901	$134,682	$304,304
2014	$150,753	$340,563	$2,851,883	$6,441,221
2015	$199,783	$451,267	$4,361,705	$9,850,991
2016	$273,734	$618,401	$5,113,659	$11,549,860
2017	$114,131	$257,758	$2,492,348	$5,628,012
2018	$200,622	$453,065	$4,499,822	$10,160,761
2019	$119,178	$269,124	$2,743,897	$6,195,609
Total	**$1,067,009**	**$2,410,080**	**$22,197,998**	**$50,130,757**

Financing Program

Commercial Property Assessed Clean Energy (C-PACE) is a structure through which commercial property owners can finance clean energy improvements through a voluntary benefit assessment on their property, repaid through their municipality along with real property taxes. A lien, or voluntary benefit assessment, is placed on the improved property as security for the financing, and the Connecticut Green Bank requires lender consent from existing mortgage holders prior to approving a C-PACE project. To date, 44 unique banks and 26 specialized lending institutions have provided lender consent for nearly 185 projects – demonstrating that existing mortgage holders see that C-PACE adds adding value to properties and increases net income to the business occupying the building as a result of lower energy prices.

The Connecticut Green Bank administers the C-PACE program as an "open" platform. Private lenders work directly with building owners to finance projects. The lenders and owners then work with the Connecticut Green to approve the project and place the benefit assessment on the property. In addition, the Connecticut Green Bank maintains a warehouse of capital from which it finances C-PACE transactions. Through the warehouse, funds are advanced to either the customer or the contractor during construction based on the project meeting certain deliverables. Once the project is completed, the construction advances convert to long term financing whereby the property owner pays a benefit assessment over time to the municipality at the same time real property taxes are paid on the property. As the benefit assessment payments are made by the property owners, they are then remitted from the associated municipalities to the Connecticut Green Bank, or its designated servicer, to repay the capital providers for the energy improvements financed through C-PACE.

Financial Performance

To date there have been no defaults and as of June 30, 2019, there are three (3) delinquencies.

Marketing

To accelerate the adoption of C-PACE to finance clean energy and energy efficiency projects, the Connecticut Green Bank has implemented marketing efforts that target specific industry verticals. The Green Bank used a group purchase model, in which it aggregated several C-PACE projects at auto retailers and offered interest rate reductions on the portfolio of projects. Connecticut Green Bank also worked with the State of Connecticut's Department of Economic and Community Development (DECD) to target manufacturing facilities through its Manufacturing Innovation Fund (MIF). Promoted via its multi touch "Energy on the Line" marketing campaign, the Green Bank was able to access $800,000 through MIF to provide manufacturers an incentive in the form of a grant equal to a 1% interest rate reduction, applied to the total project amount of a closed C-PACE project.

Connecticut Green Bank has also established relationships with contractors and provided them with materials and resources to support their use of C-PACE. Green Bank provides co-brandable materials and other physical sales tools, serving as both a means of originating projects for the Green Bank and a way of creating more skilled and active C-PACE contractors.

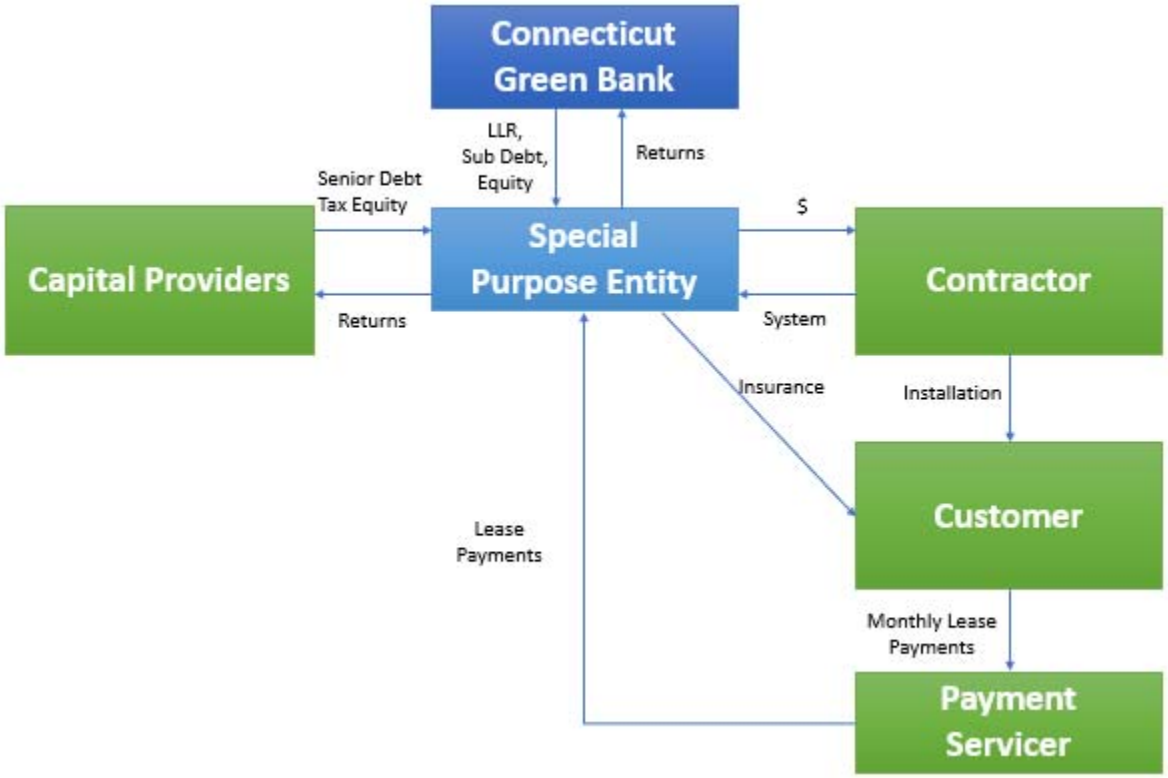
Case 2 – Solar Lease

Description

The Green Bank has used third-party ownership structures to deploy distributed solar generation in Connecticut in both the Residential and Commercial sectors. These funds are a unique combination of a tax equity investor and a syndicate of debt providers and the Green Bank to support solar PV installations (i.e., rooftop residential lease financing for solar PV and commercial leases and PPAs for rooftop, carport, and ground mount solar PV).

Residential leases were one of the first products to graduate from Green Bank funding, but the organization still actively pursues new projects in the Commercial, Industrial, and Institutional sector for its funds and performs asset management functions for the entire portfolio including the now closed Residential portion of the program.

Figure 7. Legal Structure and Flows of Capital for the CT Solar Lease[86]



The CT Solar Lease 2 fund was the second "solar PV fund" established using a combination of ratepayer funds and private capital. In developing this fund, which was fully utilized in 2017, the Green Bank sought to innovate both in the types of credits that would be underwritten and via broadening the sources of capital in the fund. Before these innovations by the Green Bank, a fund had not been established that would underwrite residential solar PV installations as well as installations on a "commercial scale" such as for municipal and school buildings, community oriented not-for-profit structures (all of which can't take advantage of Federal tax incentives due to their tax-exempt status) as well as a vast array of for profit enterprises. These commercial-scale projects were historically the most

[86] It should be noted that the Special Purpose Entity structure includes several entities – CT Solar Lease II, LLC and CEFIA Holdings, LLC that provide different functions.

difficult to finance: too small to attract investment funds, and similarly if aggregated to a size worthy of investment, comprised of off-takers that for the most part are non-investment grade or "unrated" credits that are difficult to underwrite in a manner that would permit deploying solar PV at scale. By prudently assessing these risks and operational issues, the Green Bank was able to obtain the support of the tax equity investor and lenders from Main Street – not Wall Street – in the fund. CT Solar Lease 2 was the first fund to secure solar leases and power purchase agreements using a PACE lien – an innovation that has prompted California to introduce legislation to enable the same security arrangement for its businesses and not for profit organizations. The Green Bank's leadership and innovation was recognized by the Clean Energy States Alliance "State Leadership in Clean Energy" award in 2016, and the Green Bank has continued its work on this front – solely with respect to commercial-scale projects – via a CT Solar Lease 3 fund, as well as through a sourcing arrangement to deliver a number of these projects to Onyx Renewables (a Blackstone portfolio company) so as to accelerate market adoption of financing strategies for this sector.

Key Performance Indicators

The Key Performance Indicators for Solar Lease closed activity are reflected in Tables 57 through 63 for Residential and Commercial projects, respectively. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced.

Table 57. Commercial Solar Lease Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/EE	# Projects	Total Investment	Green Bank Investment[87]	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	-	16		16	$11,547,562	$3,002,366	$8,545,196	3.8
2016	-	27		27	$16,711,392	$4,344,962	$12,366,430	3.8
2017	-	28	2	30	$34,878,766	$6,642,297	$28,236,469	5.3
2018		29	1	30	$26,037,540	$5,982,361	$20,055,179	4.4
2019		20		20	$13,421,345	$8,069,003	$5,352,342	1.7
Total	**-**	**120**	**3**	**123**	**$102,596,605**	**$28,040,989**	**$74,555,616**	**3.7**

Table 58. Residential Solar Lease Project Investment by FY Closed

Fiscal Year Closed	EE[88]	RE	RE/EE	# Projects	Total Investment[89]	Green Bank Investment[90]	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	107	-	107	$4,324,454	$888,178	$3,436,276	4.9
2015	-	610	-	610	$23,672,592	$4,861,995	$18,810,598	4.9
2016	-	472	-	472	$18,325,440	$3,763,770	$14,561,670	4.9
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
Total	**-**	**1,189**	**-**	**1,189**	**$46,322,487**	**$9,513,943**	**$36,808,544**	**4.9**

[87] Includes incentives, interest rate buydowns and loan loss reserves.
[88] All projects that receive an RSIP incentive are required to do an energy audit/assessment.
[89] Includes closing costs and capitalized interest for C-PACE and the Fair Market Value for Commercial/Residential Leases.
[90] Includes incentives, interest rate buydowns and loan loss reserves.

Table 59. Commercial Solar Lease Project Capacity, Generation and Savings[91] by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	3,482.1	3,965,381	99,135	12,790	319,755
2016	5,463.0	6,221,207	155,530	20,888	522,201
2017	11,622.3	13,235,521	330,888	45,063	1,126,574
2018	8,382.6	9,546,094	238,652	28,103	702,569
2019	4,139.1	4,713,584	117,840	10,453	261,313
Total	**33,089.0**	**37,681,787**	**942,045**	**117,297**	**2,932,413**

Table 60. Residential Solar Lease Project Capacity, Generation and Savings[92] by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	817.1	930,503	23,263	3,175	79,372
2015	4,894.7	5,574,098	139,352	19,019	475,471
2016	3,841.9	4,375,207	109,380	14,928	373,205
2017	-	-	-	-	-
2018	-	-	-	-	-
2019	-	-	-	-	-
Total	**9,553.7**	**10,879,808**	**271,995**	**37,122**	**928,048**

Table 61. Commercial Solar Lease Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (years)	Average PPA Lease Price
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	$721,723	$721,723	217.6	799	20	$0.10
2016	$618,940	$618,940	202.3	774	20	$0.10
2017	$1,162,626	$1,162,626	387.4	1,502	20	$0.09
2018	$867,918	$867,918	279.4	937	20	$0.08
2019	$671,067	$671,067	207.0	523	20	$0.08
Total	**$834,119**	**$834,119**	**269.0**	**954**	**20**	**$0.09**

[91] The Green Bank currently estimates annual savings and is in the process or reviewing and updating this methodology to include actual savings where possible.
[92] The Green Bank currently estimates annual savings and is in the process or reviewing and updating this methodology to include actual savings where possible.

Table 62. Residential Solar Lease Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average DTI	Average FICO Score
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	$40,415	$38,182	7.6	30	240	30	785
2015	$38,808	$36,663	8.0	31	240	31	777
2016	$38,825	$36,679	8.1	32	240	35	776
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
Total	**$38,959**	**$36,806**	**8.0**	**31**	**240**	**33**	**777**

Table 63. Residential Solar Lease Project Application Yield[93] by FY Received

Fiscal Year Received	Applications Received	Applications Approved	Applications Withdrawn	Applications Denied	Approved Rate	Denied Rate
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	669	196	256	217	68%	32%
2015	1,813	847	619	347	81%	19%
2016	351	146	154	51	85%	15%
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
Total	**2,833**	**1,189**	**1,029**	**615**	**78%**	**22%**

The types of Commercial end-use customers participating in the Solar Lease program are shown in Table 64.

Table 64. Types of End-Use Customers Participating in Commercial Solar Lease

Property Type	# of Properties
Agricultural	3
Athletic/Recreational Facility	4
Education	18
House of Worship	9
Industrial	2
Multi-family/apartment (> 5 units)	14
Municipal building	35
Non-profit	10
Nursing Home/Rehab Facility	1
Office	23

[93] Applications received are applications submitted to Renew Financial (servicer of the CT Solar Lease) for credit approval. Applications approved are applications that have met the credit requirements for the program and can move to lease signing, pending formal technical approval of the solar equipment by the Residential Solar Investment Program. Applications withdrawn are applications that have been cancelled by the submitter due to the project not moving forward. Applications denied are applications that are not approved because the customer does not meet underwriting requirements.

Property Type	# of Properties
Public assembly	2
Retail	1
Warehouse & storage	1
Grand Total	**123**

Area Median Income Band Penetration

The CT Solar Lease program has been used to fund projects in economically diverse locations across the state as reflected by Tables 65 and 66 for Metropolitan Statistical Area (MSA) Area Median Income (AMI). It should be noted that these Solar Lease funds are not part of an income targeted program.

Table 65. Commercial Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[94]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	<60%	0	0	0%	0.0	0%	$0	0%	609,363	17%	0.0	$0.00
2012	60%-80%	0	0	0%	0.0	0%	$0	0%	527,217	15%	0.0	$0.00
2012	80%-100%	0	0	0%	0.0	0%	$0	0%	589,440	17%	0.0	$0.00
2012	100%-120%	0	0	0%	0.0	0%	$0	0%	722,664	20%	0.0	$0.00
2012	>120%	0	0	0%	0.0	0%	$0	0%	1,116,395	31%	0.0	$0.00
2012	Total	0	0	0%	0.0	0%	$0	0%	3,565,079	100%	0.0	$0.00
2013	<60%	0	0	0%	0.0	0%	$0	0%	604,433	17%	0.0	$0.00
2013	60%-80%	0	0	0%	0.0	0%	$0	0%	568,952	16%	0.0	$0.00
2013	80%-100%	0	0	0%	0.0	0%	$0	0%	588,813	16%	0.0	$0.00
2013	100%-120%	0	0	0%	0.0	0%	$0	0%	690,591	19%	0.0	$0.00
2013	>120%	0	0	0%	0.0	0%	$0	0%	1,131,305	32%	0.0	$0.00
2013	Total	0	0	0%	0.0	0%	$0	0%	3,584,094	100%	0.0	$0.00
2014	<60%	0	0	0%	0.0	0%	$0	0%	614,135	17%	0.0	$0.00
2014	60%-80%	0	0	0%	0.0	0%	$0	0%	546,132	15%	0.0	$0.00
2014	80%-100%	0	0	0%	0.0	0%	$0	0%	577,061	16%	0.0	$0.00
2014	100%-120%	0	0	0%	0.0	0%	$0	0%	720,856	20%	0.0	$0.00
2014	>120%	0	0	0%	0.0	0%	$0	0%	1,125,910	31%	0.0	$0.00
2014	Total	0	0	0%	0.0	0%	$0	0%	3,584,094	100%	0.0	$0.00
2015	<60%	2	2	13%	0.1	4%	$416,000	4%	662,619	18%	0.0	$0.63
2015	60%-80%	1	1	6%	0.1	2%	$300,000	3%	489,826	14%	0.0	$0.61

[94] Excludes projects in unknown bands.

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2015	80%-100%	2	2	13%	0.6	18%	$1,904,000	16%	650,163	18%	0.0	$2.93
2015	100%-120%	3	3	19%	0.4	11%	$1,238,000	11%	631,741	18%	0.0	$1.96
2015	>120%	8	8	50%	2.3	65%	$7,689,562	67%	1,150,974	32%	0.0	$6.68
2015	Total	16	16	100%	3.5	100%	$11,547,562	100%	3,585,323	100%	0.0	$3.22
2016	<60%	0	0	0%	0.0	0%	$0	0%	649,617	18%	0.0	$0.00
2016	60%-80%	1	1	4%	0.1	3%	$486,864	3%	509,088	14%	0.0	$0.96
2016	80%-100%	4	4	15%	0.6	11%	$1,921,416	11%	641,084	18%	0.0	$3.00
2016	100%-120%	10	10	37%	2.1	38%	$6,365,606	38%	653,309	18%	0.0	$9.74
2016	>120%	12	12	44%	2.6	48%	$7,937,506	47%	1,126,543	31%	0.0	$7.05
2016	Total	27	27	100%	5.5	100%	$16,711,392	100%	3,579,641	100%	0.0	$4.67
2017	<60%	4	4	13%	1.4	12%	$3,564,532	10%	663,181	18%	0.0	$5.37
2017	60%-80%	3	5	17%	2.3	20%	$6,698,454	19%	488,396	14%	0.0	$13.72
2017	80%-100%	6	5	17%	1.9	17%	$5,682,127	16%	612,043	17%	0.0	$9.28
2017	100%-120%	10	8	27%	3.0	26%	$9,008,200	26%	722,803	20%	0.0	$12.46
2017	>120%	6	8	27%	2.9	25%	$9,925,453	28%	1,099,277	31%	0.0	$9.03
2017	Total	29	30	100%	11.6	100%	$34,878,766	100%	3,585,700	100%	0.0	$9.73
2018	<60%	1	4	13%	1.4	16%	$4,421,750	17%	663,181	18%	0.0	$6.67
2018	60%-80%	2	3	10%	0.5	6%	$1,526,640	6%	488,396	14%	0.0	$3.13
2018	80%-100%	3	4	13%	2.1	25%	$6,808,295	26%	612,043	17%	0.0	$11.12
2018	100%-120%	3	4	13%	0.6	7%	$1,668,000	6%	722,803	20%	0.0	$2.31
2018	>120%	13	15	50%	3.8	46%	$11,612,855	45%	1,099,277	31%	0.0	$10.56
2018	Total	22	30	100%	8.4	100%	$26,037,540	100%	3,585,700	100%	0.0	$7.26
2019	<60%		6	30%	0.6	15%	$2,017,860	15%	663,181	18%	0.0	$3.04
2019	60%-80%		1	5%	0.0	0%	$50,895	0%	488,396	14%	0.0	$0.10
2019	80%-100%		3	15%	1.9	45%	$6,012,533	45%	612,043	17%	0.0	$9.82
2019	100%-120%		4	20%	0.6	15%	$1,956,125	15%	722,803	20%	0.0	$2.71

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2019	>120%		6	30%	1.0	25%	$3,383,933	25%	1,099,277	31%	0.0	$3.08
2019	Total		20	100%	4.1	100%	$13,421,345	100%	3,585,700	100%	0.0	$3.74

Total	<60%	7	16	13%	3.6	11%	$10,420,142	10%	663,181	18%	0.0	$15.71
Total	60%-80%	7	11	9%	3.1	9%	$9,062,853	9%	488,396	14%	0.0	$18.56
Total	80%-100%	15	18	15%	7.1	22%	$22,328,371	22%	612,043	17%	0.0	$36.48
Total	100%-120%	26	29	24%	6.7	20%	$20,235,931	20%	722,803	20%	0.0	$28.00
Total	>120%	39	49	40%	12.7	38%	$40,549,309	40%	1,099,277	31%	0.0	$36.89
Total	Total	94	123	100%	33.1	100%	$102,596,605	100%	3,585,700	100%	0.0	$28.61

Table 66. Residential Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[95]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	$0	0%	61,168	7%	0.0	$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	$0	0%	101,640	12%	0.0	$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	$0	0%	151,346	17%	0.0	$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	$0	0%	216,988	25%	0.0	$0.00	0.0
2012	>120%	0	0%	0.0	0%	$0	0%	350,196	40%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	881,338	100%	0.0	$0.00	0.0

2013	<60%	0	0%	0.0	0%	$0	0%	59,494	7%	0.0	$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	$0	0%	109,189	12%	0.0	$0.00	0.0
2013	80%-100%	0	0%	0.0	0%	$0	0%	150,603	17%	0.0	$0.00	0.0
2013	100%-120%	0	0%	0.0	0%	$0	0%	203,157	23%	0.0	$0.00	0.0
2013	>120%	0	0%	0.0	0%	$0	0%	351,633	40%	0.0	$0.00	0.0
2013	Total	0	0%	0.0	0%	$0	0%	874,076	100%	0.0	$0.00	0.0

[95] Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2014	<60%	0	0%	0.0	0%	$0	0%	57,673	7%	0.0	$0.00	0.0
2014	60%-80%	6	6%	0.0	5%	$212,213	5%	103,934	12%	0.1	$2.04	0.4
2014	80%-100%	13	12%	0.1	11%	$483,999	11%	149,038	17%	0.1	$3.25	0.6
2014	100%-120%	43	40%	0.3	42%	$1,799,656	42%	209,561	24%	0.2	$8.59	1.6
2014	>120%	45	42%	0.3	42%	$1,828,585	42%	348,270	40%	0.1	$5.25	1.0
2014	Total	107	100%	0.8	100%	$4,324,454	100%	868,476	100%	0.1	$4.98	0.9
2015	<60%	5	1%	0.0	1%	$163,570	1%	64,361	7%	0.1	$2.54	0.5
2015	60%-80%	43	7%	0.3	6%	$1,430,822	6%	96,305	11%	0.4	$14.86	3.0
2015	80%-100%	120	20%	0.9	19%	$4,384,447	19%	164,873	19%	0.7	$26.59	5.5
2015	100%-120%	165	27%	1.3	27%	$6,309,374	27%	184,613	21%	0.9	$34.18	7.1
2015	>120%	277	45%	2.4	48%	$11,384,379	48%	352,621	41%	0.8	$32.29	6.7
2015	Total	610	100%	4.9	100%	$23,672,592	100%	862,773	100%	0.7	$27.44	5.7
2016	<60%	20	4%	0.1	4%	$655,757	4%	60,769	7%	0.3	$10.79	2.3
2016	60%-80%	35	7%	0.2	6%	$1,171,212	6%	99,220	12%	0.4	$11.80	2.5
2016	80%-100%	84	18%	0.6	17%	$3,079,698	17%	165,331	19%	0.5	$18.63	3.9
2016	100%-120%	129	27%	1.0	27%	$4,999,536	27%	187,463	22%	0.7	$26.67	5.6
2016	>120%	204	43%	1.8	46%	$8,419,238	46%	345,311	40%	0.6	$24.38	5.1
2016	Total	472	100%	3.8	100%	$18,325,440	100%	858,094	100%	0.6	$21.36	4.5
Total	<60%	25	2%	0.2	2%	$819,327	2%	60,769	7%	0.4	$13.48	2.8
Total	60%-80%	84	7%	0.6	6%	$2,814,247	6%	99,220	12%	0.8	$28.36	5.8
Total	80%-100%	217	18%	1.6	17%	$7,948,145	17%	165,331	19%	1.3	$48.07	9.9
Total	100%-120%	337	28%	2.7	28%	$13,108,566	28%	187,463	22%	1.8	$69.93	14.4
Total	>120%	526	44%	4.5	47%	$21,632,202	47%	345,311	40%	1.5	$62.65	12.9
Total	Total	1,189	100%	9.6	100%	$46,322,487	100%	858,094	100%	1.4	$53.98	11.1

Table 67. Commercial Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[96]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0
2013	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0
2014	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0
2015	16	11	5	31%	3.5	2.6	0.9	24%	$11,547,562	$8,927,562	$2,620,000	23%
2016	27	22	5	19%	5.5	4.7	0.8	14%	$16,711,392	$14,303,112	$2,408,280	14%
2017	30	16	14	47%	11.6	6.0	5.7	49%	$34,878,766	$18,933,653	$15,945,113	46%
2018	30	19	11	37%	8.4	4.4	4.0	47%	$26,037,540	$13,280,855	$12,756,685	49%
2019	20	10	10	50%	4.1	1.7	2.5	60%	$13,421,345	$5,340,058	$8,081,288	60%
Total	**123**	**78**	**45**	**37%**	**33.1**	**19.4**	**13.7**	**41%**	**$102,596,605**	**$60,785,240**	**$41,811,366**	**41%**

Table 68. Residential Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[97]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2013	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2014	107	88	19	18%	0.8	0.7	0.1	16%	$4,324,454	$3,628,242	$696,212	16%
2015	610	442	168	28%	4.9	3.7	1.2	25%	$23,672,592	$17,693,753	$5,978,839	25%
2016	472	333	139	29%	3.8	2.8	1.0	27%	$18,325,440	$13,418,773	$4,906,667	27%
Total	**1,189**	**863**	**326**	**27%**	**9.6**	**7.2**	**2.4**	**25%**	**$46,322,487**	**$34,740,768**	**$11,581,719**	**25%**

[96] Excludes projects in unknown bands.
[97] Excludes projects in unknown bands.

Distressed Community Penetration

For a breakdown of Solar Lease project volume and investment by census tracts categorized by Distressed Communities – see Tables 69 and 70. It should be noted that Solar Lease is not an income targeted program.

Table 69. Commercial Solar Lease Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	Yes	0	0%	0.0	0%	$0	1,171,385	33%	0.0	$0.00	0.0	0
2012	No	0	0%	0.0	0%	$0	2,400,828	67%	0.0	$0.00	0.0	0
2012	Total	0	0%	0.0	0%	$0	3,572,213	100%	0.0	$0.00	0.0	0
2013	Yes	0	0%	0.0	0%	$0	1,124,923	31%	0.0	$0.00	0.0	0
2013	No	0	0%	0.0	0%	$0	2,458,638	69%	0.0	$0.00	0.0	0
2013	Total	0	0%	0.0	0%	$0	3,583,561	100%	0.0	$0.00	0.0	0
2014	Yes	0	0%	0.0	0%	$0	1,106,027	31%	0.0	$0.00	0.0	0
2014	No	0	0%	0.0	0%	$0	2,486,026	69%	0.0	$0.00	0.0	0
2014	Total	0	0%	0.0	0%	$0	3,592,053	100%	0.0	$0.00	0.0	0
2015	Yes	2	13%	0.1	4%	$416,000	1,122,550	31%	0.0	$0.37	0.1	2
2015	No	14	88%	3.3	96%	$11,131,562	2,470,672	69%	0.0	$4.51	1.4	14
2015	Total	16	100%	3.5	100%	$11,547,562	3,593,222	100%	0.0	$3.21	1.0	16
2016	Yes	1	4%	0.1	3%	$486,864	1,162,653	32%	0.0	$0.42	0.1	1
2016	No	26	96%	5.3	97%	$16,224,528	2,425,917	68%	0.0	$6.69	2.2	26
2016	Total	27	100%	5.5	100%	$16,711,392	3,588,570	100%	0.0	$4.66	1.5	27
2017	Yes	3	10%	2.5	22%	$7,100,532	1,150,554	32%	0.0	$6.17	2.2	3
2017	No	27	90%	9.1	78%	$27,778,234	2,443,924	68%	0.0	$11.37	3.7	27
2017	Total	30	100%	11.6	100%	$34,878,766	3,594,478	100%	0.0	$9.70	3.2	30

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2018	Yes	11	37%	5.0	60%	$16,122,385	1,150,554	32%	0.0	$14.01	4.3	11
2018	No	19	63%	3.4	40%	$9,915,155	2,443,924	68%	0.0	$4.06	1.4	19
2018	Total	30	100%	8.4	100%	$26,037,540	3,594,478	100%	0.0	$7.24	2.3	30
2019	Yes	6	30%	0.8	19%	$2,504,190	1,150,554	32%	0.0	$2.18	0.7	6
2019	No	14	70%	3.4	81%	$10,917,155	2,443,924	68%	0.0	$4.47	1.4	14
2019	Total	20	100%	4.1	100%	$13,421,345	3,594,478	100%	0.0	$3.73	1.2	20
Total	Yes	23	19%	8.6	26%	$26,629,971	1,150,554	32%	0.0	$23.15	7.4	23
Total	No	100	81%	24.5	74%	$75,966,634	2,443,924	68%	0.0	$31.08	10.0	100
Total	Total	123	100%	33.1	100%	$102,596,605	3,594,478	100%	0.0	$28.54	9.2	123

Table 70. Residential Solar Lease Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Total Investment / Population	Watts / Population	Total Households	% Total Household Distribution	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	$0	0%	1,171,385	33%	$0.00	0.0	447,962	33%	$0.00	0.0
2012	No	0	0%	0.0	0%	$0	0%	2,400,828	67%	$0.00	0.0	912,222	67%	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	3,572,213	100%	$0.00	0.0	1,360,184	100%	$0.00	0.0
2013	Yes	0	0%	0.0	0%	$0	0%	1,124,923	31%	$0.00	0.0	426,564	31%	$0.00	0.0
2013	No	0	0%	0.0	0%	$0	0%	2,458,638	69%	$0.00	0.0	929,285	69%	$0.00	0.0
2013	Total	0	0%	0.0	0%	$0	0%	3,583,561	100%	$0.00	0.0	1,355,849	100%	$0.00	0.0
2014	Yes	15	14%	0.1	12%	$533,309	12%	1,106,027	31%	$0.48	0.1	416,415	31%	$1.28	0.2
2014	No	92	86%	0.7	88%	$3,791,145	88%	2,486,026	69%	$1.52	0.3	939,791	69%	$4.03	0.8
2014	Total	107	100%	0.8	100%	$4,324,454	100%	3,592,053	100%	$1.20	0.2	1,356,206	100%	$3.19	0.6
2015	Yes	95	16%	0.7	15%	$3,504,032	15%	1,122,550	31%	$3.12	0.6	423,559	31%	$8.27	1.7
2015	No	515	84%	4.2	85%	$20,168,561	85%	2,470,672	69%	$8.16	1.7	929,024	69%	$21.71	4.5
2015	Total	610	100%	4.9	100%	$23,672,592	100%	3,593,222	100%	$6.59	1.4	1,352,583	100%	$17.50	3.6
2016	Yes	97	21%	0.8	20%	$3,601,098	20%	1,162,653	32%	$3.10	0.6	438,710	32%	$8.21	1.7
2016	No	375	79%	3.1	80%	$14,724,342	80%	2,425,917	68%	$6.07	1.3	916,003	68%	$16.07	3.4
2016	Total	472	100%	3.8	100%	$18,325,440	100%	3,588,570	100%	$5.11	1.1	1,354,713	100%	$13.53	2.8
Total	Yes	207	17%	1.6	16%	$7,638,439	16%	1,162,653	32%	$6.57	1.4	438,710	32%	$17.41	3.6
Total	No	982	83%	8.0	84%	$38,684,047	84%	2,425,917	68%	$15.95	3.3	916,003	68%	$42.23	8.7
Total	Total	1,189	100%	9.6	100%	$46,322,487	100%	3,588,570	100%	$12.91	2.7	1,354,713	100%	$34.19	7.1

Societal Impacts

Ratepayers in Connecticut receive the societal benefits of the CT Solar Lease. Over the course of its existence, the program has supported the creation of 1,152 job years and avoided the lifetime emission of 669,370 tons of carbon dioxide, 662,932 pounds of nitrous oxide, 523,923 pounds of sulfur oxide, and 57,999 pounds of particulate matter as illustrated by Tables 71 and 73. The value of the lifetime public health impacts of the Solar Lease programs estimated to be between $23.5 and $53.2 million as seen in table 74. The Green Bank's PPA's and leases have generated more than $3.4 million in tax revenue for the state since inception as demonstrated in Table 72.

Table 71. Commercial and Residential Solar Lease Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	-	-	-
2014	19	30	50
2015	149	238	387
2016	142	226	368
2017	83	109	192
2018	52	67	119
2019	16	20	36
Total	**461**	**691**	**1,152**

Table 72. Commercial and Residential Solar Lease Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$0	$0	$0	$0
2014	$110,473	$109,845	$0	$220,317
2015	$782,978	$796,649	$0	$1,579,627
2016	$726,083	$748,182	$0	$1,474,265
2017	$613,073	$415,409	$0	$1,028,482
2018	$488,198	$273,960	$0	$762,158
2019	$209,926	$344,664	$0	$554,590
Total	**$2,930,731**	**$2,688,709**	**$0**	**$5,619,439**

Table 73. Commercial and Residential Solar Lease Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	518	12,863	728	18,205	876	21,779	38	1,169
2015	5,459	136,280	6,655	165,922	6,685	166,752	454	11,949
2016	5,976	149,711	6,412	159,931	5,073	126,541	510	13,142
2017	7,138	178,450	6,158	153,948	4,039	100,967	612	15,291
2018	5,143	128,577	4,416	110,409	2,889	72,222	440	11,011
2019	2,540	63,488	2,181	54,517	1,426	35,661	217	5,437
Total	**26,773**	**669,370**	**26,550**	**662,932**	**20,988**	**523,923**	**2,271**	**57,999**

Table 74. Commercial and Residential Solar Lease Value of Public Health by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	-	-	-	-
2014	$18,052	$40,756	$451,294	$1,018,901
2015	$185,066	$417,829	$4,626,648	$10,445,730
2016	$205,570	$464,123	$5,139,261	$11,603,074
2017	$256,769	$579,716	$6,419,228	$14,492,895
2018	$185,194	$418,119	$4,629,855	$10,452,972
2019	$91,444	$206,455	$2,286,088	$5,161,375
Total	**$942,095**	**$2,126,998**	**$23,552,374**	**$53,174,948**

Financing Program

The CT Solar Lease 2 fund was a financing structure developed in partnership with a tax equity investor (i.e., US Bank) and a syndicate of local lenders (i.e. Key Bank and Webster Bank) that used a credit enhancement (i.e., $3,500,000 loan loss reserve),[98] in combination with $2.3 million in subordinated debt and $11.5 million in sponsor equity from the Connecticut Green Bank as the "member manager" to provide approximately $80 million in lease financing for residential and commercial solar PV projects. Through the product, the Connecticut Green Bank lowered the barriers to Connecticut residential and commercial customers seeking to install solar PV with no up-front investment, thus increasing demand, while at the same time reducing the market's reliance on subsidies through the RSIP or being more competitive in a reverse auction through the Zero Emission Renewable Energy Credit (ZREC) program. As a lease (or PPA for certain commercial customers), capital provided to consumers through the CT Solar Lease is now being returned to the Connecticut Green Bank, the tax equity investor and the lenders – it is not a subsidy. The financial structure of the CT Solar Lease product, both historically and on an ongoing basis through the CT Solar Lease 3 fund, includes origination by contractors, servicing of lease and PPA payments, insurance and "one call" system performance and insurance resolution,

[98] From repurposed American Recovery and Reinvestment Act funds

and financing features in combination with the support of the Connecticut Green Bank, whereas under the partnership with Onyx Renewables, the Connecticut Green Bank originates projects together with local contractors, but Onyx Renewables then provides the long-term financing and holds the ongoing asset management responsibilities.

Financial Performance

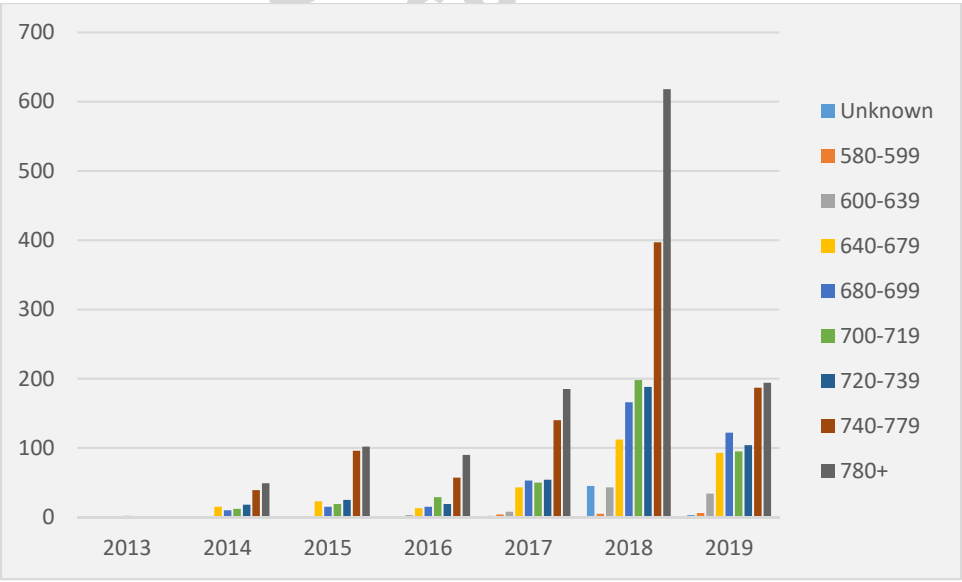
To date there are no defaults and as of June 30, 2018 there are 3 delinquencies totaling $402,168 or 1% of the Commercial Solar Lease portfolio. To date there are 5 defaults with an original principal balance of $138,056 or 0.34% of the Residential Solar Lease portfolio and as of June 30, 2018 there are 11 delinquencies.

The household customers that accessed the CT Solar Lease since its launch in 2014 had varying credit scores – see Table 75.

Table 75. Credit Score Ranges of Household Customers Using the CT Solar Lease by FY Closed

Fiscal Year	Unknown	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
2012	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	4	-	5	6	25	67	107
2015	2	-	-	26	23	39	38	134	348	610
2016	2	-	1	15	16	34	41	105	258	472
Total	**4**	-	**1**	**45**	**39**	**78**	**85**	**264**	**673**	**1,189**
	0%	-	0%	4%	3%	7%	7%	22%	57%	100%

Figure 8. Credit Score Ranges of Household Customers Using the CT Solar Lease by FY Closed



Marketing

To accelerate the deployment of residential solar PV through the RSIP and the uptake of the CT Solar Lease financing product, the Connecticut Green Bank implemented Solarize Connecticut. The Green Bank sponsored Solarize programs are designed to use a combination of group purchasing, time-limited offers, and grassroots outreach, while local clean energy advocates volunteer and coordinate with their towns to help speed the process – see Table 76. The Green Bank also implemented channel marketing through the solar installer channel to support residential and commercial installers and their ability to grow their businesses by providing the CT Solar Lease product to their customers.

Table 76. Number of Residential Projects, Investment, and Installed Capacity through Green Bank Solarize Connecticut for the CT Solar Lease Financing Product

Solarize	# of Projects	Total Investment	Installed Capacity (MW)
Solarize	325	$12,418,840	2.5
Not Solarize	864	$33,903,647	7.0
Total	1,189	$46,322,487	9.6
% Solarize	**27%**	**27%**	**27%**

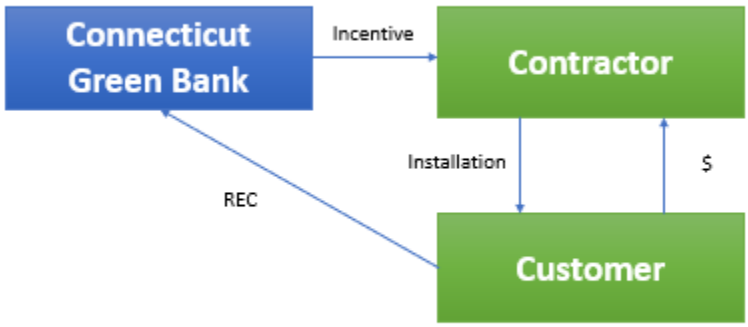
The Green Bank Solarize Connecticut program provided a marketing channel and origination catalyst for the CT Solar Lease comprising 27 percent of the total projects, investment, and installed capacity.

Case 3 – Residential Solar Investment Program

Description

The RSIP is a subsidy program that provides incentives to reduce the cost for homeowners to own solar photovoltaic (PV) systems or for third party owners (TPOs) to provide clean electricity from solar PV systems through leases or power purchase agreements (PPAs) with homeowners. Incentives are provided either upfront (i.e., through an expected performance-based buy-down or EPBB) for homeowner-owned systems or are paid out over time[99] based on system production (i.e., through a performance-based incentive or PBI and a low to moderate income performance-based incentive or LMI-PBI) for third-party owned projects. With either incentive type, the Renewable Energy Credits (RECs) are owned by the Connecticut Green Bank.

Figure 9. Legal Structure and Flows of Capital for the RSIP[100]



The subsidy under the RSIP has decreased over time – see Table 77, supporting the goal of reducing market reliance on incentives while moving it towards innovative low-cost financing and sustained orderly development.

[99] The PBI is paid out quarterly over a period of six years.
[100] The Green Bank incentive is issued to the Contractor on behalf of the Customer. In the case of Third-Party Owned systems, RECs flow from the Contractor to the Connecticut Green Bank.

Table 77. RSIP Subsidy by Step and Incentive Type

RSIP Subsidy by Step	Start Date	EPBB ($/W)			PBI ($/kWh)		LMI ($/kWh)	
		≤5 kW	5 to 10 kW	>10 kW, ≤ 20 kW	≤10 kW	>10 kW, ≤ 20 kW	≤10 kW	>10 kW, ≤ 20 kW
Step 1	3/2/2012	$2.450	$1.250	$0.000	$0.300	$0.000	N/A	N/A
Step 2	5/8/2012	$2.275	$1.075	$0.000	$0.300	$0.000	N/A	N/A
Step 3	1/4/2013 EPBB, 4/1/2013 PBI	$1.750	$0.550	$0.000	$0.225	$0.000	N/A	N/A
Step 4	1/6/2014	$1.250	$0.750	$0.000	$0.180	$0.000	N/A	N/A
Step 5	9/1/2014	$0.800		$0.400	$0.125	$0.060	N/A	N/A
Step 6	1/1/2015	$0.675		$0.400	$0.080	$0.060	N/A	N/A
Step 7	4/11/2015	$0.540		$0.400	$0.064	$0.060	N/A	N/A
Step 8	8/8/2015	$0.540		$0.400	$0.054		$0.110	$0.055
Step 9	2/1/2016	$0.513		$0.400	$0.046		$0.110	$0.055
Step 10	9/1/2016	$0.487		$0.400	$0.039		$0.110	$0.055
Step 11	8/1/2017	$0.487		$0.400	$0.039		$0.110	$0.055
Step 12	1/15/2018	$0.463		$0.400	$0.035		$0.110	$0.055
Step 13	6/1/2018	$0.463		$0.400	$0.035		$0.090	$0.045
Step 14	9/24/2018	$0.463		$0.400	$0.035		$0.090	$0.045

Key Performance Indicators

The Key Performance Indicators for RSIP closed activity are reflected in Tables 78 through 83. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. They also present the volume of projects by energy efficiency, renewable generation, or both. It should be noted that for all RSIP requires that, as part of the requirements for receiving an RSIP incentive, an energy efficiency assessment be conducted through the utility-administered Home Energy Solutions (HES) program, the DOE Home Energy Score, or RSIP-approved alternatives such as audits performed by BPI-certified professionals.[101] Consequently, each RSIP project from solar PV (i.e. RE project) also includes EE. The benefits from the EE measures (e.g., investment, savings, etc.) have not been calculated, as approximately 87% of energy efficiency assessments are conducted through the HES program for which benefits are tracked by the Connecticut Energy Efficiency Fund.[102] The Key performance Indicators for RSIP only include the investment and impact of the renewable energy installation and not those stemmed from the energy audits.

[101] Non-HES audits were performed by Building Performance Institute (BPI) certified auditors, Home Energy Rating System (HERS) raters, other certified energy managers or were exempt due to being new construction or having a health and safety exemption.
[102] RSIP-wide, an estimated 87% of audits performed were either HES audits or DOE Home Energy Scores (HES). In FY19, 94% of audits were either HES or DOE HES.

Table 78. RSIP Project Types and Investment by FY Closed

Fiscal Year Closed	# Projects	Total Investment	Green Bank Investment[103]	Private Investment	Leverage Ratio
2012	288	$9,901,511	$3,401,642	$6,499,869	2.9
2013	1,109	$35,426,043	$11,915,874	$23,510,169	3.0
2014	2,382	$73,853,653	$20,049,208	$53,804,445	3.7
2015	6,397	$214,705,219	$33,201,830	$181,503,389	6.5
2016	6,807	$218,226,286	$18,853,119	$199,373,167	11.6
2017	4,469	$120,904,517	$11,604,142	$109,300,375	10.4
2018	5,239	$150,222,182	$12,825,094	$137,397,088	11.7
2019	7,657	$229,643,988	$17,460,024	$212,183,964	13.2
Total	**34,348**	**$1,052,883,398**	**$129,310,933**	**$923,572,465**	**8.1**

Table 79. RSIP Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	1,940.2	2,209,534	55,238	7,539	188,473	$345,254	$8,631,360
2013	7,889.9	8,984,961	224,624	30,657	766,417	$1,329,469	$33,236,730
2014	17,125.1	19,502,075	487,552	66,541	1,663,527	$2,855,542	$71,388,540
2015	48,747.1	55,513,197	1,387,830	189,411	4,735,276	$7,668,724	$191,718,090
2016	53,363.9	60,770,855	1,519,271	207,350	5,183,754	$8,160,232	$204,005,790
2017	34,783.2	39,611,108	990,278	135,153	3,378,828	$5,357,437	$133,935,930
2018	42,666.4	48,588,451	1,214,711	165,784	4,144,595	$6,280,513	$157,012,830
2019	65,128.9	74,168,791	1,854,220	253,064	6,326,598	$9,179,212	$229,480,290
Total	**271,644.7**	**309,348,973**	**7,733,724**	**1,055,499**	**26,387,467**	**$41,176,382**	**$1,029,409,560**

Table 80. RSIP Project Averages by FY Closed

Fiscal Year Closed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Incentive Amount	Total Average Investment	Average Incentive ($/W)	Average Installed Cost ($/W)[104]	Incentive % of Cost	Net Cost to Customer after RSIP Incentive
2012	6.7	26	$11,811	$34,304	$1.75	$5.12	34%	$22,493
2013	7.1	28	$10,745	$30,885	$1.51	$4.35	35%	$20,140
2014	7.2	28	$8,417	$29,664	$1.17	$4.12	28%	$21,247
2015	7.6	30	$5,190	$30,020	$0.68	$3.95	17%	$24,830
2016	7.8	30	$2,770	$26,754	$0.35	$3.43	10%	$23,984
2017	7.8	30	$2,597	$26,130	$0.33	$3.35	10%	$23,533
2018	8.1	32	$2,448	$27,945	$0.30	$3.45	9%	$25,497
2019	8.5	33	$2,280	$29,750	$0.27	$3.50	8%	$27,470
Total	**7.9**	**31**	**$3,765**	**$28,598**	**$0.48**	**$3.62**	**13%**	**$24,833**

[103] Includes incentives, interest rate buydowns and loan loss reserves.
[104] Average Installed Cost per Watt figures include reported installed costs without including those projects where financing costs for some third-party ownership installers are included as part of the installed cost. Total Average Investment, Incentive % of Cost and Net Cost to Customer are calculated based on Average Installed Cost.

Table 81. RSIP Project Application Yield[105] by FY Received

Fiscal Year Received	Applications Received	Applications in Review	Applications Approved	Applications Withdrawn	Applications Denied	Applications Cancelled	Approved Rate	Denied Rate
2012	382		291		39	52	76%	10%
2013	1,279		1,137		17	125	89%	1.3%
2014	2,797		2,516		15	266	90%	0.5%
2015	7,872		6,420		20	1,432	82%	0.3%
2016	8,711		6,744		30	1,937	77%	0.3%
2017	5,309		4,429		35	845	83%	0.7%
2018	6,613		5,166	51	38	1,358	78%	0.6%
2019	9,015	2	7,743	92	12	1,166	86%	0.1%
Total	**41,978**	**2**	**34,446**	**143**	**206**	**7,181**	**82%**	**0.5%**

Table 82. RSIP Systems Closed through the Subsidy by Step

RSIP Subsidy by Step	Installed Capacity (kW)	Incentive Amount	Total Investment	Average Incentive ($/W)	Average Installed Cost ($/W)[106]	Incentive % of Cost	Net Cost to Customer	Average ZREC
Step 1	1,380.8	$2,470,307	$7,222,670	$1.79	$5.23	34%	$4,752,363	$0.0872
Step 2	5,992.5	$9,762,682	$26,992,954	$1.63	$4.37	37%	$17,230,272	$0.0815
Step 3	13,101.2	$16,097,888	$55,880,576	$1.23	$4.16	30%	$39,782,688	$0.0549
Step 4	19,283.7	$19,915,987	$84,856,444	$1.03	$4.11	25%	$64,940,457	$0.0480
Step 5	13,384.4	$9,975,006	$59,708,009	$0.75	$4.00	19%	$49,733,003	$0.0347
Step 6	12,230.6	$6,269,850	$54,160,946	$0.51	$3.97	13%	$47,891,096	$0.0255
Step 7	19,078.8	$7,626,380	$83,043,466	$0.40	$3.68	11%	$75,417,086	$0.0203
Step 8	27,140.8	$9,667,962	$112,003,650	$0.36	$3.43	10%	$102,335,688	$0.0349
Step 9	26,142.3	$8,681,888	$99,169,879	$0.33	$3.38	10%	$90,487,991	$0.0336
Step 10	30,042.7	$9,766,729	$103,561,120	$0.33	$3.31	10%	$93,794,391	$0.0319
Step 11	18,187.0	$5,888,619	$63,861,841	$0.32	$3.45	9%	$57,973,222	$0.0325
Step 12	16,355.7	$4,582,033	$58,108,051	$0.28	$3.49	8%	$53,526,018	$0.0296
Step 13	19,339.4	$5,176,484	$67,394,945	$0.27	$3.46	8%	$62,218,461	$0.0276
Step 14	49,984.9	$13,429,119	$176,918,847	$0.27	$3.51	8%	$163,489,728	$0.0276
Total	**271,644.7**	**$129,310,933**	**$1,052,883,398**	**$0.48**	**$3.62**	**13%**	**$923,572,465**	$0.0400

[105] Applications Received are applications for incentives submitted to RSIP for review. Applications in Review are submitted applications yet to be reviewed, approved or rejected. Applications Withdrawn are those that have been withdrawn by the submitter due to the need for corrections. Applications Denied are those that are not approved for an incentive because the project does not meet RSIP requirements. Applications Cancelled include projects that: (1) were rejected due to need for corrections and not resubmitted and successfully approved, (2) expired before the project was installed, or (3) did not move forward (e.g., customer cancellation) and the contractor cancelled the project. The Approved Rate reflects the number of Applications Approved relative to the number of Applications Received.

[106] Average Installed Cost per Watt figures include reported installed costs without including those projects where financing costs for some third-party ownership installers are included as part of the installed cost. Incentive % of Cost is calculated based on Average Installed Cost.

Table 83. RSIP Third Party Owned (PBI) vs Homeowner-owned Systems (EPBB)

Fiscal Year Closed	# of PBI Projects	% PBI Projects	# of EPBB Projects	% EPBB Projects	Total
2012	58	20%	230	80%	288
2013	346	31%	763	69%	1,109
2014	1,168	49%	1,214	51%	2,382
2015	4,624	72%	1,773	28%	6,397
2016	5,842	86%	965	14%	6,807
2017	3,385	76%	1,084	24%	4,469
2018	3,897	74%	1,342	26%	5,239
2019	6,073	79%	1,584	21%	7,657
Total	25,393	74%	8,955	26%	34,348

There are 25,393 PBI systems (owned by a third party) representing 74% of closed RSIP projects, and 8,955 EPBB or homeowner-owned projects, representing 26% of closed RSIP volume. In FY19, PBI systems were 79% and EPBB projects were 21% of closed RSIP volume.

Area Median Income Band Penetration

For a breakdown of RSIP project volume and investment by census tracts categorized by Area Median Income (AMI) bands – see Table 80. It should be noted that RSIP is not an income targeted program. However, following the UCONN study[107] in December of 2014, the Green Bank Board of Directors approved the Income-Targeted incentive to better penetrate these tracts and to create inclusive prosperity. This special incentive is one of the methods through which the Green Bank has expanded its reach of previously underserved communities.

Table 84 shows that starting in fiscal year 2016, the percent distribution of solar PV projects in the low to moderate income bands, i.e., < 60%, 60-80%, and 80-100% AMI, exceeded the percent distribution of those income bands among owner-occupied 1-4 unit households, and this holds for RSIP overall as illustrated by the totals in Table 84.

Table 84. RSIP Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[108]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	6	2%	0.0	2%	$211,372	2%	61,168	7%	0.1	$3.46	0.6
2012	60%-80%	7	2%	0.0	2%	$246,769	2%	101,640	12%	0.1	$2.43	0.4
2012	80%-100%	31	11%	0.2	10%	$1,264,888	10%	151,346	17%	0.2	$8.36	1.3
2012	100%-120%	84	29%	0.5	28%	$3,812,022	29%	216,988	25%	0.4	$17.57	2.5
2012	>120%	160	56%	1.1	58%	$7,768,100	58%	350,196	40%	0.5	$22.18	3.2
2012	Total	288	100%	1.9	100%	$13,303,152	100%	881,338	100%	0.3	$15.09	2.2
2013	<60%	20	2%	0.1	1%	$569,790	1%	59,494	7%	0.3	$9.58	1.5
2013	60%-80%	56	5%	0.4	5%	$2,274,163	5%	109,189	12%	0.5	$20.83	3.4
2013	80%-100%	124	11%	0.8	10%	$4,998,846	11%	150,603	17%	0.8	$33.19	5.3
2013	100%-120%	220	20%	1.5	19%	$9,004,676	19%	203,157	23%	1.1	$44.32	7.2
2013	>120%	689	62%	5.2	65%	$30,494,441	64%	351,633	40%	2.0	$86.72	14.7
2013	Total	1,109	100%	7.9	100%	$47,341,916	100%	874,076	100%	1.3	$54.16	9.0

[107] The memo, titled 7cii_Role of a Green Bank_Market Analysis_Low Income Solar and Housing_Memo_121214, can be found amongst board meeting materials here: https://www.ctgreenbank.com/wp-content/uploads/2017/07/CGB_BOD_Online-Meeting-Materials_121914_redacted.pdf

[108] Excludes projects in unknown bands.

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2014	<60%	73	3%	0.4	2%	$2,356,122	3%	57,673	7%	1.3	$40.85	7.1
2014	60%-80%	159	7%	1.0	6%	$5,598,447	6%	103,934	12%	1.5	$53.87	9.5
2014	80%-100%	392	16%	2.6	15%	$14,598,433	16%	149,038	17%	2.6	$97.95	17.5
2014	100%-120%	608	26%	4.5	26%	$24,641,714	26%	209,561	24%	2.9	$117.59	21.2
2014	>120%	1,150	48%	8.7	51%	$46,708,145	50%	348,270	40%	3.3	$134.11	24.9
2014	Total	2,382	100%	17.1	100%	$93,902,861	100%	868,476	100%	2.7	$108.12	19.7
2015	<60%	259	4%	1.5	3%	$7,615,759	3%	64,361	7%	4.0	$118.33	23.6
2015	60%-80%	592	9%	3.9	8%	$19,905,324	8%	96,305	11%	6.1	$206.69	40.9
2015	80%-100%	1,104	17%	8.0	16%	$41,602,570	17%	164,873	19%	6.7	$252.33	48.7
2015	100%-120%	1,669	26%	12.7	26%	$65,723,218	27%	184,613	21%	9.0	$356.01	68.9
2015	>120%	2,773	43%	22.5	46%	$113,060,178	46%	352,621	41%	7.9	$320.63	63.9
2015	Total	6,397	100%	48.7	100%	$247,907,049	100%	862,773	100%	7.4	$287.34	56.5
2016	<60%	571	8%	3.6	7%	$16,030,719	7%	60,769	7%	9.4	$263.80	59.1
2016	60%-80%	890	13%	6.3	12%	$27,052,883	11%	99,220	12%	9.0	$272.66	63.5
2016	80%-100%	1,328	20%	10.2	19%	$45,571,249	19%	165,331	19%	8.0	$275.64	61.8
2016	100%-120%	1,646	24%	12.8	24%	$56,940,615	24%	187,463	22%	8.8	$303.74	68.1
2016	>120%	2,372	35%	20.5	38%	$91,483,938	39%	345,311	40%	6.9	$264.93	59.3
2016	Total	6,807	100%	53.4	100%	$237,079,405	100%	858,094	100%	7.9	$276.29	62.2
2017	<60%	569	13%	3.7	11%	$15,662,488	12%	62,815	7%	9.1	$249.34	58.5
2017	60%-80%	749	17%	5.2	15%	$19,890,030	15%	97,136	11%	7.7	$204.76	53.6
2017	80%-100%	878	20%	6.8	19%	$25,857,065	20%	155,105	18%	5.7	$166.71	43.6
2017	100%-120%	922	21%	7.4	21%	$27,500,463	21%	209,914	24%	4.4	$131.01	35.3
2017	>120%	1,351	30%	11.7	34%	$43,598,613	33%	340,374	39%	4.0	$128.09	34.4
2017	Total	4,469	100%	34.8	100%	$132,508,659	100%	865,344	100%	5.2	$153.13	40.2

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2018	<60%	616	12%	4.1	10%	$16,913,491	10%	62,815	7%	9.8	$269.26	64.9
2018	60%-80%	792	15%	5.6	13%	$21,784,757	13%	97,136	11%	8.2	$224.27	57.8
2018	80%-100%	1,070	20%	8.3	19%	$31,473,950	19%	155,105	18%	6.9	$202.92	53.6
2018	100%-120%	1,200	23%	10.4	24%	$38,750,438	24%	209,914	24%	5.7	$184.60	49.4
2018	>120%	1,561	30%	14.3	33%	$54,124,640	33%	340,374	39%	4.6	$159.02	42.0
2018	Total	5,239	100%	42.7	100%	$163,047,276	100%	865,344	100%	6.1	$188.42	49.3
2019	<60%	879	11%	6.0	9%	$23,726,821	10%	62,815	7%	14.0	$377.73	95.7
2019	60%-80%	1,201	16%	8.7	13%	$33,624,523	14%	97,136	11%	12.4	$346.16	89.5
2019	80%-100%	1,440	19%	11.6	18%	$43,467,820	18%	155,105	18%	9.3	$280.25	75.0
2019	100%-120%	1,883	25%	17.1	26%	$64,425,560	26%	209,914	24%	9.0	$306.91	81.6
2019	>120%	2,254	29%	21.7	33%	$81,859,288	33%	340,374	39%	6.6	$240.50	63.6
2019	Total	7,657	100%	65.1	100%	$247,104,011	100%	865,344	100%	8.8	$285.56	75.3
Total	<60%	2,993	9%	19.4	7%	$83,086,561	7%	62,815	7%	47.6	$1,322.72	308.9
Total	60%-80%	4,446	13%	31.2	11%	$130,376,897	11%	97,136	11%	45.8	$1,342.21	320.7
Total	80%-100%	6,367	19%	48.6	18%	$208,834,821	18%	155,105	18%	41.0	$1,346.41	313.1
Total	100%-120%	8,232	24%	66.9	25%	$290,798,707	25%	209,914	24%	39.2	$1,385.32	318.6
Total	>120%	12,310	36%	105.6	39%	$469,097,344	40%	340,374	39%	36.2	$1,378.18	310.4
Total	Total	34,348	100%	271.6	100%	$1,182,194,331	100%	865,344	100%	39.7	$1,366.16	313.9

Table 85. RSIP Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[109]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	288	244	44	15%	288	244	44	15%	1.9	1.7	0.3	14%
2013	1,109	909	200	18%	1,109	909	200	18%	7.9	6.6	1.3	16%
2014	2,382	1,758	624	26%	2,382	1,758	624	26%	17.1	13.1	4.0	23%
2015	6,397	4,442	1,955	31%	6,397	4,442	1,955	31%	48.7	35.3	13.5	28%
2016	6,807	4,018	2,789	41%	6,807	4,018	2,789	41%	53.4	33.3	20.1	38%
2017	4,469	2,273	2,196	49%	4,469	2,273	2,196	49%	34.8	19.1	15.7	45%
2018	5,239	2,761	2,478	47%	5,239	2,761	2,478	47%	42.7	24.7	18.0	42%
2019	7,657	4,137	3,520	46%	7,657	4,137	3,520	46%	65.1	38.8	26.3	40%
Total	34,348	20,542	13,806	40%	34,348	20,542	13,806	40%	271.6	172.5	99.1	36%

Distressed Community Penetration

For a breakdown of RSIP project volume and investment by census tracts categorized by Distressed Communities – see Table 86. It should be noted that RSIP is not an income targeted program.

Table 86. RSIP Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	35	12%	0.2	10%	$1,364,466	10%	447,962	33%	0.1	$3.05	0.4
2012	No	253	88%	1.7	90%	$11,938,686	90%	912,222	67%	0.3	$13.09	1.9
2012	Total	288	100%	1.9	100%	$13,303,152	100%	1,360,184	100%	0.2	$9.78	1.4
2013	Yes	116	10%	0.7	9%	$4,435,276	9%	426,564	31%	0.3	$10.40	1.7
2013	No	993	90%	7.2	91%	$42,906,640	91%	929,285	69%	1.1	$46.17	7.7
2013	Total	1,109	100%	7.9	100%	$47,341,916	100%	1,355,849	100%	0.8	$34.92	5.8

[109] Excludes projects in unknown bands.

CONNECTICUT GREEN BANK
5. PROGRAMS – RESIDENTIAL SOLAR INVESTMENT PROGRAM

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2014	Yes	379	16%	2.5	15%	$14,157,852	15%	416,415	31%	0.9	$34.00	6.0
2014	No	2,003	84%	14.6	85%	$79,745,010	85%	939,791	69%	2.1	$84.85	15.6
2014	Total	2,382	100%	17.1	100%	$93,902,861	100%	1,356,206	100%	1.8	$69.24	12.6
2015	Yes	1,366	21%	9.3	19%	$47,701,593	19%	423,559	31%	3.2	$112.62	22.0
2015	No	5,031	79%	39.4	81%	$200,205,456	81%	929,024	69%	5.4	$215.50	42.4
2015	Total	6,397	100%	48.7	100%	$247,907,049	100%	1,352,583	100%	4.7	$183.28	36.0
2016	Yes	2,025	30%	14.5	27%	$64,061,683	27%	438,710	32%	4.6	$146.02	33.0
2016	No	4,782	70%	38.9	73%	$173,017,722	73%	916,003	68%	5.2	$188.88	42.5
2016	Total	6,807	100%	53.4	100%	$237,079,405	100%	1,354,713	100%	5.0	$175.00	39.4
2017	Yes	1,627	36%	11.4	33%	$43,866,327	33%	435,595	32%	3.7	$100.70	26.1
2017	No	2,842	64%	23.4	67%	$88,642,332	67%	926,160	68%	3.1	$95.71	25.3
2017	Total	4,469	100%	34.8	100%	$132,508,659	100%	1,361,755	100%	3.3	$97.31	25.5
2018	Yes	1,916	37%	13.9	33%	$54,347,320	33%	435,595	32%	4.4	$124.77	31.9
2018	No	3,323	63%	28.8	67%	$108,699,956	67%	926,160	68%	3.6	$117.37	31.1
2018	Total	5,239	100%	42.7	100%	$163,047,276	100%	1,361,755	100%	3.8	$119.73	31.3
2019	Yes	2,759	36%	20.7	32%	$80,000,443	32%	435,595	32%	6.3	$183.66	47.6
2019	No	4,898	64%	44.4	68%	$167,103,569	68%	926,160	68%	5.3	$180.43	47.9
2019	Total	7,657	100%	65.1	100%	$247,104,011	100%	1,361,755	100%	5.6	$181.46	47.8
Total	Yes	10,223	30%	73.2	27%	$309,934,960	26%	435,595	32%	23.5	$711.52	168.1
Total	No	24,125	70%	198.4	73%	$872,259,370	74%	926,160	68%	26.0	$941.80	214.2
Total	Total	34,348	100%	271.6	100%	$1,182,194,331	100%	1,361,755	100%	25.2	$868.14	199.5

Societal Impacts

RSIP is a driver of job creation and cleaner air in the state of Connecticut. Over the course of its existence, the program has supported the creation of 11,241 job years and $34,060,313 in tax revenue and avoided the lifetime emission of 4,278,883 tons of carbon dioxide, 4,361,483 pounds of nitrous oxide, 3,600,961 pounds of sulfur oxide, and 371,388 pounds of particulate matter as illustrated by Tables 87 and 89. The value of the lifetime public health impacts of the RSIP is estimated to be between $129.9 and $293.2 million as seen in Table 87. Since its inception, the RSIP has generated over $34 million in tax revenue as shown below in Table 88.

Table 87. RSIP Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	58	93	151
2013	208	331	538
2014	374	596	970
2015	1,073	1,710	2,783
2016	1,168	1,860	3,028
2017	377	493	869
2018	467	611	1,078
2019	790	1,033	1,823
Total	**4,515**	**6,726**	**11,241**

Table 88. RSIP Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$400,180	$119,528	$0	$519,708
2013	$957,938	$286,122	$0	$1,244,060
2014	$1,997,040	$596,486	$0	$2,593,526
2015	$5,805,736	$1,734,088	$0	$7,539,825
2016	$5,900,948	$1,762,526	$0	$7,663,474
2017	$2,524,270	$976,497	$0	$3,500,767
2018	$3,136,370	$1,213,284	$0	$4,349,655
2019	$4,794,555	$1,854,743	$0	$6,649,298
Total	**$25,517,037**	**$8,543,275**	**$0**	**$34,060,313**

Table 89. RSIP Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	1,242	31,046	1,640	40,997	2,119	52,975	111	2,772
2013	5,107	127,680	7,475	186,881	9,469	236,722	451	11,272
2014	10,960	273,998	14,459	361,479	16,059	401,468	978	24,446
2015	31,781	794,532	37,776	944,403	36,658	916,442	2,780	69,488
2016	34,333	858,324	36,764	919,093	29,414	735,354	3,010	75,245
2017	21,594	539,850	19,549	488,715	13,166	329,147	1,863	46,567
2018	26,179	654,467	22,483	562,087	14,709	367,717	2,242	56,048
2019	39,959	998,986	34,313	857,828	22,445	561,136	3,422	85,550
Total	**171,155**	**4,278,883**	**174,459**	**4,361,483**	**144,038**	**3,600,961**	**14,856**	**371,388**

Table 90. RSIP Public Health Impact by FY Closed

	Annual		Lifetime	
Fiscal Year	Low	High	Low	High
2012	$42,865	$96,778	$1,071,624	$2,419,440
2013	$173,086	$390,781	$4,327,146	$9,769,537
2014	$319,098	$720,437	$7,977,444	$18,010,930
2015	$892,797	$2,015,696	$22,319,922	$50,392,400
2016	$1,067,925	$2,411,088	$26,698,119	$60,277,196
2017	$639,878	$1,444,672	$15,996,941	$36,116,805
2018	$769,536	$1,737,407	$19,238,407	$43,435,166
2019	$1,289,223	$2,910,719	$32,230,567	$72,767,980
Total	**$5,194,407**	**$11,727,578**	**$129,860,169**	**$293,189,453**

Marketing

To provide perspective on program growth, cost and incentive trends, Table 91 illustrates the increase in RSIP project volume, which grew nearly 34-fold from fiscal year 2012 to 2019, while installed costs and incentives decreased during this same time period. The RSIP incentive decreased in fiscal year 2019 to 8% of installed project cost, having decreased 85% from fiscal year 2012 to fiscal year 2019. Installed costs decreased almost 35% from $5.12/W in fiscal year 2012 to $3.35/W in fiscal year 2017 then increased by 3% to $3.45/W in fiscal year 2018, and another 1.4% to $3.50/W in fiscal year 2019.[110] Despite slight increases in installed costs in the past two fiscal years, project volume and capacity in FY19 were the highest since inception of RSIP in FY12. RSIP volume in FY19 increased nearly 53% compared to FY18. Project approvals for all incentive types – EPBB, PBI and LMI-PBI were strong in FY19, with an especially high volume of PBI projects including contributions from new installers, as well as increased volume across the program. Several factors contributed to high activity in the market including:

- A push to get projects approved before RSIP reached its target of 300 MW - it was not until the end of legislative session that PA 19-35[111] passed (and was later signed by Governor Lamont on June 28, 2019) extending RSIP to 350 MW.
- RSIP incentive levels have been maintained at Step 14 since September 2018, providing market continuity.
- The anticipated end of net metering, which had been scheduled to take place at the end of RSIP, but which was delayed until December 31, 2021 by PA 19-35.
- General policy uncertainty around the structure, incentive levels, timing and implementation aspects for the tariff-based compensation structure put forth in Section 7 of PA 18-50 that was to replace net metering.
- The scheduled step-down in the Federal Investment Tax Credit (ITC) from 30% to 26% starting in 2020, which will be followed by a step down to 22% in 2021, and a final step down to 0% for homeowner-owned projects and 10% for third-party owned projects in 2022.

[110] Contractors indicated that the cost of doing business went up over the past two fiscal years due to increased customer acquisition costs, privatizing of Solarize, increased financing costs, rising commodity prices due to trade tariffs, uncertainty in availability of equipment, increased competition, increased labor and insurance costs, and increased municipal permitting and interconnection costs including more frequent, costly utility requests for infrastructure (e.g., transformer) upgrades. Solar companies had been absorbing costs and reducing margins to keep prices stable, but these costs began adding up and necessitating price increases.

[111] PA 19-35: https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf, "An Act Concerning a Green Economy and Environmental Protection."

- An unseasonably mild winter which allowed for higher activity and less slow down than usual.
- While import tariffs affected the solar PV industry broadly, the impact on the residential market was the most diluted, with installed costs having some volatility over the past few years, but overall increasing only slightly between FY17 to FY19. Associated with the import tariffs has also been a stockpiling of PV modules across the industry.

Third party owned (TPO) companies deployed 79% of RSIP projects by volume in FY19, led by Sunnova with approximately one-third of RSIP market share, followed by Sunrun (13%), PosiGen (12%), Vivint (11%), and SunPower (10%). The highest volume installers of homeowner-owned projects collectively deployed approximately 21% of RSIP volume in FY19 and included Vivint, SolarCity, Trinity Solar, SunPower, Ross Solar (a ConEd Solutions Company), C-TEC Solar, EcoSmart, Aegis, and Sunlight Solar. Trinity Solar was RSIP's highest volume participant in FY19, having installed nearly 36% of RSIP projects in FY19, 95% using third party financing and 5% homeowner owned.

RSIP is estimated to reach 350 MW in the summer or fall of 2020, after which time only net metering (and the federal ITC) would be available to support the solar PV market through December 31, 2021. Beginning January 1, 2022, production based (per kWh) tariff compensation is anticipated to be offered to solar PV customers, based on the requirements stipulated by Section 7 in PA 18-50, amended by PA 19-35, and as developed and determined by PURA and stakeholders through future docket processes[112]. The strategy for supporting the residential solar PV market going forward will include:

- Implementation of RSIP Step 15 to continue the reduction and eventual phase-out of RSIP incentives
- Sustained orderly development of a stable, resilient market not dependent on incentives
- Supporting a stable installer base including strong local company presence
- Continuing to support access to affordable financing through loans and third-party providers
- Training the market for the long term by supporting consumer education and protection, as well as installation technology diversity (e.g., energy efficiency)
- Continuing to reduce barriers to PV adoption
- Supporting state policies and strategies that enable adoption of solar PV in combination with complementary technologies such as energy storage, electric vehicles, renewable thermal technologies, energy efficiency, demand response, and home energy management systems to increase the value of solar to the grid and to customers.
- Supporting the FY19 DEEP/PURA study of the value of distributed energy resources.

[112] Green Bank participated in multiple dockets in FY19 to provide input into the development of the Section 7 tariff compensation structure put forth in PA 18-50.

Table 91. RSIP Volume, Capacity and Cost Data by FY Closed and Solarize Participation[113]

Fiscal Year Closed	CGB Solarize Type	# Projects	Installed Capacity (kW)	Green Bank Incentive Amount	Total Investment	Average Incentive ($/W)[114]	Average Installed Cost ($/W)[115]	Incentive % of Cost	Net Cost to Customer
2012	No	1,940	288	$3,401,642	$9,901,511	$1.75	$5.12	34%	$6,499,869
2012 Total		1,940	288	$3,401,642	$9,901,511	$1.75	$5.12	34%	$6,499,869
2013	No	5,466	785	$8,399,366	$26,127,846	$1.51	$4.35	35%	$17,728,480
	Yes	2,424	324	$3,516,508	$9,298,197	$1.51	$4.35	35%	$5,781,689
2013 Total		7,890	1,109	$11,915,874	$35,426,043	$1.51	$4.35	35%	$23,510,169
2014	No	12,103	1,674	$14,257,364	$54,757,574	$1.17	$4.12	28%	$40,500,209
	Yes	5,022	708	$5,791,844	$19,096,079	$1.17	$4.12	28%	$13,304,235
2014 Total		17,125	2,382	$20,049,208	$73,853,653	$1.17	$4.12	28%	$53,804,445
2015	No	41,231	5,497	$27,611,553	$185,448,437	$0.68	$3.95	17%	$157,836,884
	Yes	7,516	900	$5,590,278	$29,256,782	$0.68	$3.95	17%	$23,666,505
2015 Total		48,747	6,397	$33,201,830	$214,705,219	$0.68	$3.95	17%	$181,503,389
2016	No	52,529	6,712	$18,501,605	$215,024,602	$0.35	$3.43	10%	$196,522,997
	Yes	834	95	$351,514	$3,201,684	$0.35	$3.43	10%	$2,850,170
2016 Total		53,364	6,807	$18,853,119	$218,226,286	$0.35	$3.43	10%	$199,373,167
2017	No	34,415	4,426	$11,454,746	$119,618,416	$0.33	$3.35	10%	$108,163,670
	Yes	368	43	$149,396	$1,286,101	$0.33	$3.35	10%	$1,136,705
2017 Total		34,783	4,469	$11,604,142	$120,904,517	$0.33	$3.35	10%	$109,300,375
2018	No	42,616	5,232	$12,805,322	$150,043,282	$0.30	$3.45	9%	$137,237,960
	Yes	51	7	$19,773	$178,900	$0.30	$3.45	9%	$159,127
2018 Total		42,666	5,239	$12,825,094	$150,222,182	$0.30	$3.45	9%	$137,397,088
2019	No	65,129	7,657	$17,460,024	$229,643,988	$0.27	$3.50	8%	$212,183,964
2019 Total		65,129	7,657	$17,460,024	$229,643,988	$0.27	$3.50	8%	$212,183,964
Total	**No**	**255,428**	**32,271**	**$113,891,621**	**$990,565,655**	**$0.48**	**$3.62**	**13%**	**$876,674,034**
Total	**Yes**	**16,216**	**2,077**	**$15,419,312**	**$62,317,743**	**$0.48**	**$3.62**	**13%**	**$46,898,431**
Grand Total		**271,645**	**34,348**	**$129,310,933**	**$1,052,883,398**	**$0.48**	**$3.62**	**13%**	**$923,572,465**

SHREC Program

Legislation enacted by the General Assembly enables the Connecticut Green Bank to recover the costs of the RSIP by aggregating and monetizing the Solar Home Renewable Energy Credits (SHRECs) earned for solar energy generated by systems whose owners received RSIP incentives.[116] The SHRECs are sold through long-term contracts to the state's two investor-owned utilities, as mandated by the law. Through the SHREC Master Purchase Agreement, the Green Bank has thus far sold its Tranche 1, Tranche 2, and Tranche 3 SHRECs to the utilities – for a total of over 146 MW of residential

[113] Public supported Solarize ended in 2015. Projects are attributed to years based on the year their application was approved. Solarize projects assigned to years later than 2017 are the result of solarize efforts supported by the green bank in 2015 or before. We will have private supported Solarize in FY 2019 CAFR looking back at 2016-2019.
[114] Average Incentive, Average Installed Cost, and Incentive % of Cost represent the averages by fiscal year and are not differentiated for Solarize versus non-Solarize.
[115] Average Installed Cost per Watt figures include reported installed costs without including those projects where financing costs for some third-party ownership installers are included as part of the installed cost. Incentive % of Cost is calculated based on Average Installed Cost.
[116] RSIP projects with an incentive approved on or after January 1, 2015 can provide SHRECs. Approximately 56 MW of RSIP projects approved prior to 2015 can provide non-SHREC RECs.

solar PV projects supported through the RSIP. Tranches 1 and 2, totaling over 107 MW, were included in the Green Bank's first securitization of SHREC revenues, closing in March 2019, for $38.6 million.

Market Transformation

The Connecticut Green Bank contracted with Cadmus Group, Inc., to conduct a cost-effectiveness analysis of its Residential Solar Investment Program (RSIP), completed in March 2016. The findings of the study were: (1) RSIP is cost-effective from the perspective of program participants, the Connecticut Green Bank, from a total resource perspective, and for society as a whole. (2) RSIP has increasingly made efficient use of program funds by reducing incentives while supporting market growth through financing, marketing, outreach and education. (3) RSIP benefits sufficiently outweigh costs to allow for bundling of residential solar PV with emerging technologies such as energy storage, while maintaining cost-effectiveness. The study included data from RSIP steps 1 through 7, for which cost-effectiveness was found to increase with progressive steps as incentives were reduced. Cadmus noted that incentives represented the large majority of program costs. Therefore, the general pattern of increasing cost-effectiveness would be expected to continue as incentives were reduced further through steps 7-14.

In FY19, the Green Bank contracted with Navigant Consulting, Inc., to conduct cost-effectiveness analysis for Green Bank's application submission to PURA's Electric Efficiency Partners Program (EEPP)[117] in December 2018, proposing an incentive program for residential battery storage installed with solar PV. The program was originally designed so that a customer would be required to charge the battery with solar PV during the day and discharge the battery to meet on-site load during ISO New England summer peak hours using a "Set it and Forget it" strategy.[118] The Navigant analysis showed that battery storage utilized in this way provides peak reduction benefits to the grid as well as being available to the customer for backup power during outage events. The total benefit/cost ratios[119] calculated for battery storage within the proposed program are shown in Table 92 to be over 2:1 assuming a total program capacity of 30 MW deployed over 5 years. While the application was not approved (and is on indefinite hold) as policy priorities are further examined by stakeholders involved in the PURA docket process, the results show that residential battery storage provides peak demand reduction value to the grid, in addition to being attractive to customers with resiliency concerns.

[117] https://www.ct.gov/pura/cwp/view.asp?a=3355&q=417158

[118] The summer peak demand period used for peak reduction values is the ISO-NE peak, which is June through August, weekdays from 1pm to 5pm. In the "Set it and Forget it" strategy, the battery is programmed in advance to charge from solar PV during the day and discharge to meet on-site load during the ISO New England peak hours. This differs from an active dispatch strategy which typically produces greater benefit (see the next table for further insight into the difference).

[119] The analysis relied primarily on the benefits outlined in the *Avoided Energy Supply Components in New England: 2018 Report*. Oct. 24, 2018, prepared by Synapse Energy Economics, et al., available at: http://www.synapse-energy.com/project/avoided-energy-supply-costs-new-england. During the PURA docket process, the Green Bank learned that some regional benefit categories and benefit levels are still being reviewed by DEEP and the CT utilities to determine whether they will be fully adopted by CT for application to the Conservation and Load Management Plan; these include Pooled Transmission Facilities (PTF) and Rest of Pool DRIPE.

Table 92. Benefit/Cost Ratios for Battery Storage as calculated for the EEPP[120]

ES Capacity Block	Utility Cost Test (UCT) Ratio (5.5% Discount Rate)	Utility Cost Test (UCT) Ratio (3.0% Discount Rate)
5 MW	1.96	2.42
10 MW	2.32	2.85
15 MW	2.70	3.32
20 MW	3.06	3.74
25 MW	3.40	4.12
30 MW	3.77	4.55
Program Total	***2.75***	***3.38***

Through FY19 there were an estimated 175 battery storage systems deployed with solar PV for which the solar PV was incentivized through RSIP, but no incentive was provided for the battery storage. The projects were purchased by customers primarily for the purpose of backup power. The Green Bank team also proposed deploying a battery storage incentive within RSIP in addition to the incentive for solar PV. While the Green Bank was not able to implement a state-wide battery storage incentive in FY19 and there is only a short runway left in RSIP (approximately one year left in the program), further analysis by Navigant illustrates the benefit/cost ratios of deploying solar PV plus battery storage should a future incentive program support this technology combination.

Table 93 shows the anticipated benefit/cost ratios of deploying solar PV plus battery storage, including the benefits and costs for both technologies (Table 92 results represented battery storage benefits and costs only). Table BS2 assumes an incentive for battery storage similar to what had been proposed for the EEPP, an anticipated RSIP Step 15[121] incentive for solar PV about 20% lower than the current RSIP Step 14 incentive level, 4 MW of battery storage deployment in one year, and shows scenarios for “Set it and Forget it” vs “Utility Dispatch”[122], as well as scenarios assuming the same C&LM benefit categories as in Table 92 versus benefits that exclude regional benefits.[123]

[120] The UCT ratios were calculated by installed energy storage capacity block, proposed with incentives that decreased over each block (similar to the RSIP structure), modeled using discount rates of 5.5% and 3.0%, the latter based on the CT 2019-2021 C&LM Plan discount rate scheduled to go into effect March 1, 2019.

[121] Anticipated to begin January 1, 2020.

[122] The “Utility Dispatch” scenario assumes that the utility will anticipate peak hours or events (e.g., one day ahead) and will dispatch the battery to meet on-site load. For example, this scenario could apply if a customer agrees to participate in a utility demand response program for battery storage in exchange for a performance-based incentive.

[123] The regional benefits include Pooled Transmission Facilities (PTF) and Rest of Pool DRIPE.

Table 93. Benefit/Cost Ratios for Solar PV plus Battery Storage deployed within RSIP[124]

	Solar PV			Battery Storage			Solar PV + Battery Storage		
	UCT	**PCT**	**RIM**	**UCT**	**PCT**	**RIM**	**UCT**	**PCT**	**RIM**
Set it and Forget it									
C&LM benefits	19.61	4.55	0.96	1.84	0.61	2.01	7.41	1.97	1.00
C&LM benefits less PTF, ROP DRIPE	11.02	4.55	0.54	0.61	0.61	0.66	3.87	1.97	0.52
Utility Dispatch									
C&LM benefits	n/a	n/a	n/a	2.83	0.61	3.10	7.59	1.97	1.03
C&LM benefits less PTF, ROP DRIPE	n/a	n/a	n/a	0.94	0.61	1.03	3.90	1.97	0.53

Take-aways from Table 93 include:

- The UCT for solar PV is higher than for battery storage alone, so it makes sense to combine battery storage with solar PV. Even with a "set it and forget it" strategy and exclusion of regional benefits, the UCT ratio for PV plus storage is 3.87.
- Battery storage helps to socialize the benefit of PV among non-participants as evidenced by high or increased RIM scores with battery storage alone or with PV plus battery storage combined.
- Utility dispatch provides higher benefit/cost ratios than a "set it and forget it" strategy.

In summary, cost-effectiveness analyses show that deploying solar PV or solar PV plus battery storage provides benefits to the grid. Battery storage also provides resiliency benefits to customers and supports higher levels of solar PV deployment by better integrating solar PV with the grid.

[124] The UCT ratios were calculated by installed energy storage capacity block, proposed with incentives that decreased over each block (similar to the RSIP structure), modeled using discount rates of 5.5% and 3.0%, the latter based on the CT 2019-2021 C&LM Plan discount rate scheduled to go into effect March 1, 2019.

Case 4 – Smart-E Loan

Description

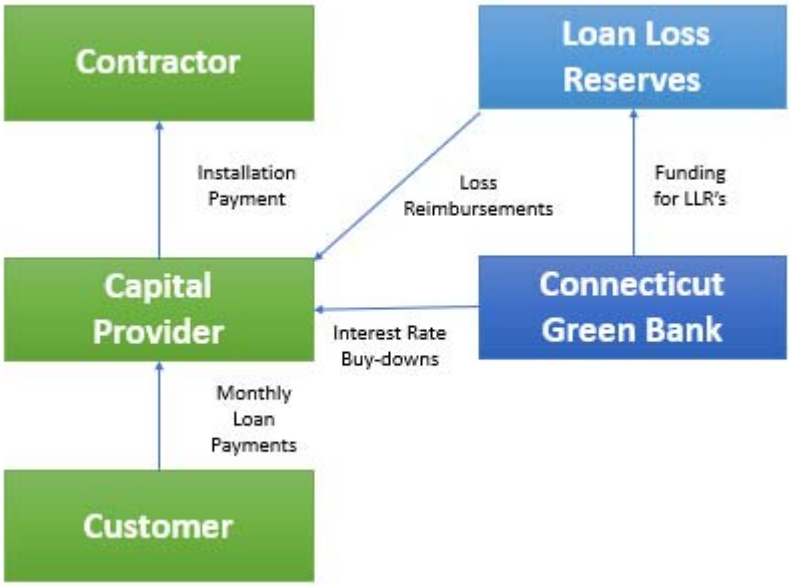
The Smart-E residential loan program is a financing program developed in partnership with Energize CT and local lenders that uses a credit enhancement (i.e., $2,600,000 loan loss reserve).[125] to stimulate the market for residential energy efficiency and solar loans in Connecticut. Through the product, the Connecticut Green Bank lowers the cost of capital for Connecticut residential customers seeking to install solar PV, high efficiency heating and cooling equipment, insulation or other home energy upgrades and reduces the loan performance risks to lenders. The $2.6 million loan loss reserve is used to encourage lenders to offer below market interest rates and longer terms for unsecured loans, mitigates their losses, and encourages customers to undertake measures that would prove uneconomical at higher interest rates. In Fiscal year 2019, Inclusive Prosperity Capital (IPC) began managing the day to day operations of the Smart-E Loan program. With support from the Hewlett Foundation, and in partnership with Michigan Saves, IPC developed a new online platform for contractors and lenders. In doing so, IPC plans to solicit other Green Banks and similar organizations around the country, to use the new platform to bring overall costs down for all programs.

The Smart-E Loan was designed to make it easy and affordable for homeowners to make energy efficiency and clean energy improvements to their homes with no out-of-pocket cash and at interest rates low enough and repayment terms long enough to make the improvements "cash flow positive." At the same time, the Green Bank was intentional in opening conversations with local lenders to demonstrate the value of loans that would help their existing customers with burdensome energy costs and serve as an effective marketing tool to attract new relationships. In return for a "second loss" reserve which would be available beyond an agreed "normal" level of loan losses, lenders agreed to lengthen their terms and lower their rates. The end result is a successful loan product that has enabled thousands of homeowners throughout the state to lower energy costs and make their homes more comfortable in the summer heat or the depths of winter.

The financial structure of the Smart-E Loan product includes origination,[126] servicing,[127] and financing features in combination with the support of the Connecticut Green Bank.

[125] During FY2017, the Green Bank, in an effort to optimize its resources, now holds the Loan Loss Reserve on its balance sheet.
[126] Network of participating community banks and credit unions with local contractors.
[127] Network of participating community banks and credit unions.

Figure 10. Legal Structure and Flows of Capital for the Smart-E Loan



Key Performance Indicators

The Key Performance Indicators for Smart-E closed activity are reflected in Tables 94 through 97. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

Table 94. Smart-E Loan Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/EE	Other	# Projects	Amount Financed	Total Investment	Green Bank Investment [128]	Private Investment	Leverage Ratio
2012	-	-	-	-	-		-	-	-	-
2013	1	2		1	4	$77,400	$93,924	$1,584	$92,340	59.3
2014	91	39	6	7	143	$1,781,207	$2,502,863	$45,524	$2,457,338	55.0
2015	121	80	69	12	282	$5,379,409	$8,407,065	$446,300	$7,960,764	18.8
2016	105	49	66	6	226	$4,607,678	$6,196,398	$374,392	$5,822,005	16.6
2017	376	72	79	12	539	$8,859,337	$11,100,364	$1,088,383	$10,011,981	10.2
2018	1,336	261	146	29	1,772	$27,815,431	$34,575,866	$4,269,446	$30,306,421	8.1
2019	712	95	8	23	838	$10,824,555	$11,408,338	$0[129]	$11,408,338	100
Total	**2,742**	**598**	**374**	**90**	**3,804**	**$59,345,016**	**$74,284,817**	**$6,225,629**	**$68,059,188**	**11.9**

[128] Includes incentives and interest rate buydowns. It does not include the loan loss reserves for Smart-E of $1,313,714
[129] As there were no IRB's in FY2019, there was no Green Bank capital investment in this program outside operating and administrative expenses

Table 95. Smart-E Loan Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	--		-	-	-	-	-
2013	16.8	24,460	541	73	1,728	$2,835	$68,685
2014	350.4	897,678	16,127	2,871	63,841	$94,043	$2,143,693
2015	1,333.5	2,487,678	53,689	7,333	172,270	$281,535	$6,601,652
2016	942.7	1,996,771	41,238	5,980	140,076	$217,558	$5,055,446
2017	1,340.1	4,051,633	72,773	12,537	283,375	$419,506	$9,384,450
2018	3,877.2	11,584,325	203,270	35,320	780,275	$1,257,404	$27,629,405
2019	896.0	3,839,884	59,268	12,153	258,769	$401,004	$8,503,435
Total	**8,756.7**	**24,882,429**	**446,906**	**76,267**	**1,700,334**	**$2,673,884**	**$59,386,766**

Table 96. Smart-E Loan Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Number of Measures	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate	Average DTI	Average FICO Score
2012	-	-	-	-	-	-	-	-	-
2013	$23,481	$19,350	4.2	1	18	105	5.62	54	733
2014	$17,503	$12,456	2.5	1	20	90	5.21	32	751
2015	$29,812	$19,076	4.7	2	26	100	4.18	30	754
2016	$27,418	$20,388	4.2	2	26	100	4.11	32	756
2017	$20,594	$16,437	2.5	2	23	102	2.72	98	747
2018	$19,512	$15,697	2.2	2	20	102	2.01	16	731
2019	$13,614	$12,917	1.1	1	15	89	4.79	16	730
Total	**$19,528**	**$15,601**	**2.3**	**2**	**20**	**99**	**3.13**	**30**	**737**

Table 97. Smart-E Loan Project Application Yield[130] by FY Received

Fiscal Year Received	Applications Received	Applications in Review	Applications Approved	Applications Withdrawn	Applications Denied	Approved Rate	Denied Rate
2012	1	0	1	0	0	100%	0%
2013	23	0	17	1	5	78%	22%
2014	303	0	176	45	82	73%	27%
2015	553	0	308	100	145	74%	26%
2016	414	0	219	64	131	68%	32%
2017	1,128	0	680	200	248	78%	22%
2018	2,909	2	1,701	545	661	77%	23%
2019	1,759	47	962	215	535	69%	31%
Total	**7,090**	**49**	**4,064**	**1,170**	**1,807**	**74%**	**26%**

[130] Applications received are applications submitted by the homeowner to a participating lending institution for credit approval. Applications in review are submitted applications yet to be reviewed, approved or rejected. Applications withdrawn are applications that have been cancelled by the submitter due to the project not moving forward. Applications denied are applications that are not approved because the customer does not meet underwriting requirements.

Area Median Income Band Penetration

For a breakdown of Smart-E loan volume and investment by census tracts categorized by Area Median Income (AMI) bands – see Table 98. It should be noted that Smart-E is not an income targeted program and only in the second half of FY17 began offering the expanded credit-challenged version of the program, opening new opportunities to partner with mission-oriented lenders focused on reaching consumers in underserved lower income markets.

Table 98. Smart-E Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[131]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	$0	0%	61,168	7%	0.0	$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	$0	0%	101,640	12%	0.0	$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	$0	0%	151,346	17%	0.0	$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	$0	0%	216,988	25%	0.0	$0.00	0.0
2012	>120%	0	0%	0.0	0%	$0	0%	350,196	40%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	881,338	100%	0.0	$0.00	0.0
2013	<60%	0	0%	0.0	0%	$0	0%	59,494	7%	0.0	$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	$0	0%	109,189	12%	0.0	$0.00	0.0
2013	80%-100%	1	25%	0.0	0%	$8,598	9%	150,603	17%	0.0	$0.06	0.0
2013	100%-120%	2	50%	0.0	36%	$56,389	60%	203,157	23%	0.0	$0.28	0.0
2013	>120%	1	25%	0.0	64%	$28,937	31%	351,633	40%	0.0	$0.08	0.0
2013	Total	4	100%	0.0	100%	$93,924	100%	874,076	100%	0.0	$0.11	0.0
2014	<60%	13	9%	0.0	5%	$161,627	6%	57,673	7%	0.2	$2.80	0.3
2014	60%-80%	16	11%	0.0	6%	$215,540	9%	103,934	12%	0.2	$2.07	0.2
2014	80%-100%	32	22%	0.1	25%	$583,540	23%	149,038	17%	0.2	$3.92	0.6
2014	100%-120%	26	18%	0.1	16%	$500,557	20%	209,561	24%	0.1	$2.39	0.3
2014	>120%	56	39%	0.2	48%	$1,041,598	42%	348,270	40%	0.2	$2.99	0.5
2014	Total	143	100%	0.4	100%	$2,502,863	100%	868,476	100%	0.2	$2.88	0.4

[131] Excludes projects in unknown bands.

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2015	<60%	12	4%	0.0	0%	$128,175	2%	64,361	7%	0.2	$1.99	0.0
2015	60%-80%	24	9%	0.0	3%	$366,239	4%	96,305	11%	0.2	$3.80	0.4
2015	80%-100%	56	20%	0.2	13%	$1,942,737	23%	164,873	19%	0.3	$11.78	1.0
2015	100%-120%	58	21%	0.4	26%	$1,798,663	21%	184,613	21%	0.3	$9.74	1.9
2015	>120%	132	47%	0.8	58%	$4,171,250	50%	352,621	41%	0.4	$11.83	2.2
2015	Total	282	100%	1.3	100%	$8,407,065	100%	862,773	100%	0.3	$9.74	1.5
2016	<60%	14	6%	0.0	1%	$187,938	3%	60,769	7%	0.2	$3.09	0.1
2016	60%-80%	22	10%	0.0	1%	$306,482	5%	99,220	12%	0.2	$3.09	0.1
2016	80%-100%	39	17%	0.1	15%	$1,011,089	16%	165,331	19%	0.2	$6.12	0.8
2016	100%-120%	49	22%	0.2	23%	$1,370,954	22%	187,463	22%	0.3	$7.31	1.2
2016	>120%	102	45%	0.6	60%	$3,319,934	54%	345,311	40%	0.3	$9.61	1.6
2016	Total	226	100%	0.9	100%	$6,196,398	100%	858,094	100%	0.3	$7.22	1.1
2017	<60%	35	6%	0.1	6%	$652,231	6%	62,815	7%	0.6	$10.38	1.3
2017	60%-80%	59	11%	0.1	5%	$900,534	8%	97,136	11%	0.6	$9.27	0.8
2017	80%-100%	86	16%	0.2	18%	$1,678,069	15%	155,105	18%	0.6	$10.82	1.5
2017	100%-120%	133	25%	0.3	25%	$2,762,731	25%	209,914	24%	0.6	$13.16	1.6
2017	>120%	226	42%	0.6	46%	$5,106,798	46%	340,374	39%	0.7	$15.00	1.8
2017	Total	539	100%	1.3	100%	$11,100,364	100%	865,344	100%	0.6	$12.83	1.5
2018	<60%	119	7%	0.1	2%	$1,746,857	5%	62,815	7%	1.9	$27.81	1.2
2018	60%-80%	188	11%	0.2	6%	$2,904,428	8%	97,136	11%	1.9	$29.90	2.4
2018	80%-100%	294	17%	0.5	12%	$5,191,695	15%	155,105	18%	1.9	$33.47	3.0
2018	100%-120%	431	24%	1.1	27%	$8,361,682	24%	209,914	24%	2.1	$39.83	5.0
2018	>120%	737	42%	2.0	53%	$16,209,283	47%	340,374	39%	2.2	$47.62	5.9
2018	Total	1,769	100%	3.8	100%	$34,413,945	100%	865,344	100%	2.0	$39.77	4.4

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2019	<60%	61	7%	0.0	3%	$818,634	7%	62,815	7%	1.0	$13.03	0.5
2019	60%-80%	97	12%	0.0	4%	$1,052,459	9%	97,136	11%	1.0	$10.83	0.3
2019	80%-100%	153	18%	0.1	10%	$1,815,229	16%	155,105	18%	1.0	$11.70	0.6
2019	100%-120%	207	25%	0.2	25%	$2,740,605	24%	209,914	24%	1.0	$13.06	1.1
2019	>120%	319	38%	0.5	59%	$4,959,438	44%	340,374	39%	0.9	$14.57	1.5
2019	Total	837	100%	0.9	100%	$11,386,366	100%	865,344	100%	1.0	$13.16	1.0
Total	<60%	254	7%	0.2	2%	$3,695,463	5%	62,815	7%	4.0	$58.83	3.3
Total	60%-80%	406	11%	0.4	5%	$5,745,683	8%	97,136	11%	4.2	$59.15	4.1
Total	80%-100%	661	17%	1.2	14%	$12,230,957	17%	155,105	18%	4.3	$78.86	7.6
Total	100%-120%	906	24%	2.2	26%	$17,591,582	24%	209,914	24%	4.3	$83.80	10.7
Total	>120%	1,573	41%	4.7	54%	$34,837,239	47%	340,374	39%	4.6	$102.35	13.8
Total	Total	3,800	100%	8.7	100%	$74,100,923	100%	865,344	100%	4.4	$85.63	10.1

Table 99. Smart-E Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[132]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2013	4	3	1	25%	0.0	0.0	0.0	0%	$93,924	$85,326	$8,598	9%
2014	143	82	61	43%	0.4	0.2	0.1	36%	$2,502,863	$1,542,156	$960,707	38%
2015	282	190	92	33%	1.3	1.1	0.2	16%	$8,407,065	$5,969,912	$2,437,152	29%
2016	226	151	75	33%	0.9	0.8	0.2	16%	$6,196,398	$4,690,888	$1,505,510	24%
2017	539	359	180	33%	1.3	0.9	0.4	29%	$11,100,364	$7,869,530	$3,230,834	29%
2018	1,769	1,168	601	34%	3.8	3.1	0.8	20%	$34,413,945	$24,570,965	$9,842,980	29%
2019	837	526	311	37%	0.9	0.7	0.1	16%	$11,386,366	$7,700,044	$3,686,322	32%
Total	**3,800**	**2,479**	**1,321**	**35%**	**8.7**	**6.9**	**1.8**	**21%**	**$74,100,923**	**$52,428,821**	**$21,672,103**	**29%**

[132] Excludes projects in unknown bands.

Distressed Community Penetration

For a breakdown of Smart-E project volume and investment by census tracts categorized by Distressed Communities – see Table 100. It should be noted that Smart-E is not an income targeted program.

Table 100. Smart-E Loan Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	$0	0%	447,962	33%	0.0	$0.00	0.0
2012	No	0	0%	0.0	0%	$0	0%	912,222	67%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	1,360,184	100%	0.0	$0.00	0.0
2013	Yes	2	50%	0.0	36%	$56,389	60%	426,564	31%	0.0	$0.13	0.0
2013	No	2	50%	0.0	64%	$37,535	40%	929,285	69%	0.0	$0.04	0.0
2013	Total	4	100%	0.0	100%	$93,924	100%	1,355,849	100%	0.0	$0.07	0.0
2014	Yes	22	15%	0.1	22%	$457,902	18%	416,415	31%	0.1	$1.10	0.2
2014	No	121	85%	0.3	78%	$2,044,960	82%	939,791	69%	0.1	$2.18	0.3
2014	Total	143	100%	0.4	100%	$2,502,863	100%	1,356,206	100%	0.1	$1.85	0.3
2015	Yes	35	12%	0.1	7%	$681,149	8%	423,559	31%	0.1	$1.61	0.2
2015	No	247	88%	1.2	93%	$7,725,915	92%	929,024	69%	0.3	$8.32	1.3
2015	Total	282	100%	1.3	100%	$8,407,065	100%	1,352,583	100%	0.2	$6.22	1.0
2016	Yes	67	30%	0.1	13%	$1,372,345	22%	438,710	32%	0.2	$3.13	0.3
2016	No	159	70%	0.8	87%	$4,824,053	78%	916,003	68%	0.2	$5.27	0.9
2016	Total	226	100%	0.9	100%	$6,196,398	100%	1,354,713	100%	0.2	$4.57	0.7
2017	Yes	121	22%	0.3	19%	$1,990,665	18%	435,595	32%	0.3	$4.57	0.6
2017	No	418	78%	1.1	81%	$9,109,699	82%	926,160	68%	0.5	$9.84	1.2
2017	Total	539	100%	1.3	100%	$11,100,364	100%	1,361,755	100%	0.4	$8.15	1.0

CONNECTICUT GREEN BANK
5. PROGRAMS – SMART-E LOAN

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2017	Yes	121	22%	0.3	19%	$1,990,665	18%	435,595	32%	0.3	$4.57	0.6
2017	No	418	78%	1.1	81%	$9,109,699	82%	926,160	68%	0.5	$9.84	1.2
2017	Total	539	100%	1.3	100%	$11,100,364	100%	1,361,755	100%	0.4	$8.15	1.0
2018	Yes	375	21%	0.4	12%	$5,767,017	17%	435,595	32%	0.9	$13.24	1.0
2018	No	1,395	79%	3.4	88%	$28,732,664	83%	926,160	68%	1.5	$31.02	3.7
2018	Total	1,770	100%	3.9	100%	$34,499,680	100%	1,361,755	100%	1.3	$25.33	2.8
2019	Yes	187	22%	0.1	11%	$2,225,349	20%	435,595	32%	0.4	$5.11	0.2
2019	No	651	78%	0.8	89%	$9,182,990	80%	926,160	68%	0.7	$9.92	0.9
2019	Total	838	100%	0.9	100%	$11,408,338	100%	1,361,755	100%	0.6	$8.38	0.7
Total	Yes	809	21%	1.1	13%	$12,550,816	17%	435,595	32%	1.9	$28.81	2.5
Total	No	2,993	79%	7.7	87%	$61,657,815	83%	926,160	68%	3.2	$66.57	8.3
Total	Total	3,802	100%	8.7	100%	$74,208,631	100%	1,361,755	100%	2.8	$54.49	6.4

Societal Impacts

Ratepayers in Connecticut enjoy the societal benefits of the Smart-E Loan. Over the course of its existence, the program has supported the creation of 944 job years, avoided the lifetime emission of 242,617 tons of carbon dioxide, 219,921 pounds of nitrous oxide, 164,747 pounds of sulfur oxide, and 20,281 pounds of particulate matter as illustrated by Tables 101 and 103. The value of the public health impacts of the Smart-E programs estimated to be between $8.1 and $18.5 million as seen in table 104. Since Inception, Smart-E has generated over $4 million in tax revenues as shown in Table 102.

Table 101. Smart-E Loan Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	1	1	2
2014	22	35	58
2015	63	100	162
2016	48	76	124
2017	51	68	119
2018	150	195	345
2019	58	76	134
Total	**392**	**552**	**944**

Table 102. Smart-E Loan Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$2,242	$518	$258	$3,018
2014	$105,077	$30,978	$30,604	$166,659
2015	$289,329	$76,474	$60,731	$426,534
2016	$217,486	$63,568	$46,876	$327,931
2017	$249,392	$146,983	$155,099	$551,473
2018	$768,088	$473,220	$539,842	$1,781,150
2019	$303,125	$212,433	$257,520	$773,078
Total	**$1,934,740**	**$1,004,173**	**$1,090,931**	**$4,029,844**

Table 103. Smart-E Loan Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	14	306	17	371	18	376	1	27
2014	493	8,955	589	10,675	617	10,869	42	767
2015	1,408	30,565	1,671	36,179	1,662	35,406	121	2,644
2016	1,098	23,228	1,163	25,004	978	21,059	93	1,991
2017	2,166	39,190	1,800	33,356	1,200	22,258	177	3,259
2018	6,172	108,764	4,938	89,050	3,229	58,241	504	9,015
2019	2,042	31,609	1,599	25,286	1,046	16,537	164	2,579
Total	**13,392**	**242,617**	**11,777**	**219,921**	**8,749**	**164,747**	**1,102**	**20,281**

Table 104. Smart-E Loan Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	$459	$1,036	$10,318	$23,297
2014	$15,848	$35,804	$295,305	$666,988
2015	$46,232	$104,411	$1,018,797	$2,300,534
2016	$36,058	$81,436	$775,382	$1,750,944
2017	$71,837	$162,292	$1,331,838	$3,008,168
2018	$205,189	$463,576	$3,711,131	$8,382,505
2019	$66,257	$149,725	$1,050,405	$2,373,142
Total	**$441,882**	**$998,282**	**$8,193,175**	**$18,505,579**

Financial Performance

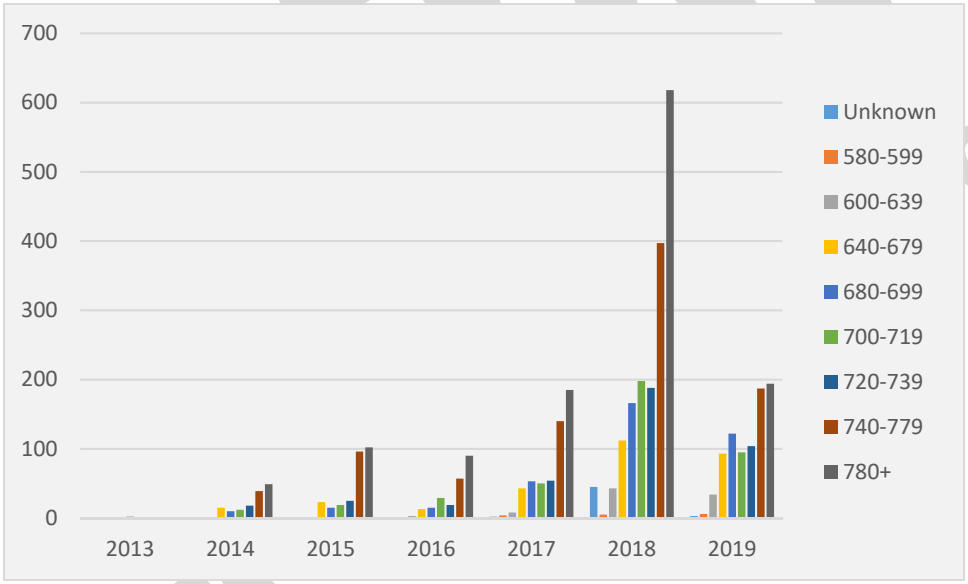
As of 6/30/19, there have been 25 defaults, 11 of which have been charged off by the lenders, with original principal balances totaling $ 399,989 or 0.67% of the portfolio, and 53 delinquencies with original principle balances totaling $744,115.71 or 1.25% of the portfolio. To date the secondary loan loss reserve has been used to reimburse one participating lender for one defaulted loan totaling $20,277 or 0.03% of the portfolio.

The household customers that accessed the Smart-E Loan since its launch in 2013 had varying credit scores – see Table 105.

Table 105. Credit Score Ranges of Household Customers Using the Smart-E Loan by FY Closed

Fiscal Year	Unknown	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
2012										
2013					2			1	1	4
2014				15	10	12	18	39	49	143
2015	1		1	23	15	19	25	96	102	282
2016			3	13	15	29	19	57	90	226
2017	2	4	8	43	53	50	54	140	185	539
2018	45	5	43	112	166	198	188	397	618	1,772
2019	3	6	34	93	122	95	104	187	194	838
Total	**51**	**15**	**89**	**299**	**383**	**403**	**408**	**917**	**1,239**	**3,804**
	1%	0%	2%	8%	10%	11%	11%	24%	33%	100%

Figure 11. Credit Score Ranges of Household Customers Using the Smart-E Loan by FY Closed



Of the Smart-E Loans approved and closed with household customers, Table 106 presents the lenders offering the financing products in this program with accompanying data.

Table 106. Smart-E Loan Lenders

Lender	# of Loans	Total Amount Financed	% of Loans	Min Loan Amount	Max Loan Amount	Average Loan Amount	Average Interest Rate	Average Term (months)	Decline Rate
Capital for Change	1,677	$22,185,306	36.17%	$1,200	$45,000	$13,229	3.10	97	33%
CorePlus Federal Credit Union	346	$4,659,334	7.60%	$1,993	$45,107	$13,466	4.10	86	11%
Eastern Savings Bank	335	$7,840,619	12.78%	$1,800	$50,000	$23,405	3.19	110	40%
First National Bank of Suffield	71	$1,341,987	2.19%	$3,778	$45,000	$18,901	2.48	109	8%
Ion Bank	111	$1,296,127	2.11%	$2,720	$25,000	$11,677	4.02	95	30%
Liberty Bank	23	$307,434	0.50%	$4,550	$25,000	$13,367	5.10	85	28%
Mutual Security Credit Union	402	$8,275,421	13.49%	$0	$45,000	$20,586	2.43	109	12%
Nutmeg State Financial Credit Union	638	$10,551,233	17.20%	$1,802	$40,000	$16,538	2.80	99	35%
Patriot Bank	71	$1,006,547	1.64%	$5,000	$25,000	$14,177	3.62	90	36%
Quinnipiac Bank & Trust	7	$84,056	0.14%	$8,550	$16,556	$12,008	4.85	98	65%
Thomaston Savings Bank	45	$547,070	0.89%	$2,500	$25,000	$12,157	3.58	95	28%
Union Savings Bank	61	$930,423	1.52%	$4,100	$25,000	$15,253	3.52	97	53%
Workers Federal Credit Union	17	$319,459	0.52%	$7,000	$40,000	$18,792	3.08	88	0%
Total	**3,804**	**$59,345,016**	**100.00%**	**$0**	**$50,000**	**$15,601**	**3.13**	**99**	**31%**

Marketing

To accelerate the deployment of natural gas conversions in the state, the Smart-E program was launched in 2014 with an Energize Norwich campaign in partnership with Norwich Public Utilities and 2 local lenders. Building on that success, and to accelerate the deployment of residential solar PV through the RSIP and the uptake of the Smart-E Loan financing product, the Connecticut Green Bank implemented “Solarize Connecticut” through the end of 2015. Green Bank Solarize Connecticut programs were town based and designed to use a combination of group purchasing, time-limited offers, and grassroots outreach. The Green Bank’s own digital marketing and earned media initiatives constitute a key driver of volume in FY19 along with ongoing, in person and webinar trainings and support, for contractors.

Table 107. Smart-E Loan Project Channels

Channel	# of Projects	Total Investment	Installed Capacity (MW)
EV	3	$9,719	0.0
Home Performance	435	$6,857,770	0.0
HVAC	2,346	$33,234,563	0.0
Solar	935	$32,713,577	8.7
Unknown	85	$1,469,188	0.0
Total	3,804	$74,284,817	8.8

Table 108. Smart-E Loan Measures

# of Measures	# of Projects
Unknown	87
1	2,123
2	1,028
3	357
4	105
5	64
6	25
7	9
8	3
9	2
10	1
Total	**3,804**

Case 5 – Low Income Solar Lease and Energy-Efficiency Energy Savings Agreement (ESA)

Description

Through the solar developer PosiGen, a respondent to the Connecticut Green Bank's 2015 RFP soliciting solar financing solutions to address underserved markets, the Green Bank supports solar and energy efficiency deployment targeted at the state's low- to moderate-income (LMI) population. In Connecticut, PosiGen develops and originates these solar projects as project sponsor, utilizing tax equity from multiple investors, senior debt capital from private lenders, and subordinated debt from the Green Bank. Initially the Green Bank supplied a debt advance of $5,000,000 (followed by another $3.5 million), which was subordinated to an additional $8,500,000 advanced by private lenders Enhanced Capital and Stonehenge Capital to leverage over $46 million in value for solar projects targeting LMI homeowners. The RSIP program's tiered LMI performance-based incentive (PBI) provides PosiGen a higher incentive for customers demonstrating these income requirements. In FY2019, The Green Bank partnered with Inclusive Prosperity Capital to help manage the Green Bank's investment and engagement with Posigen.

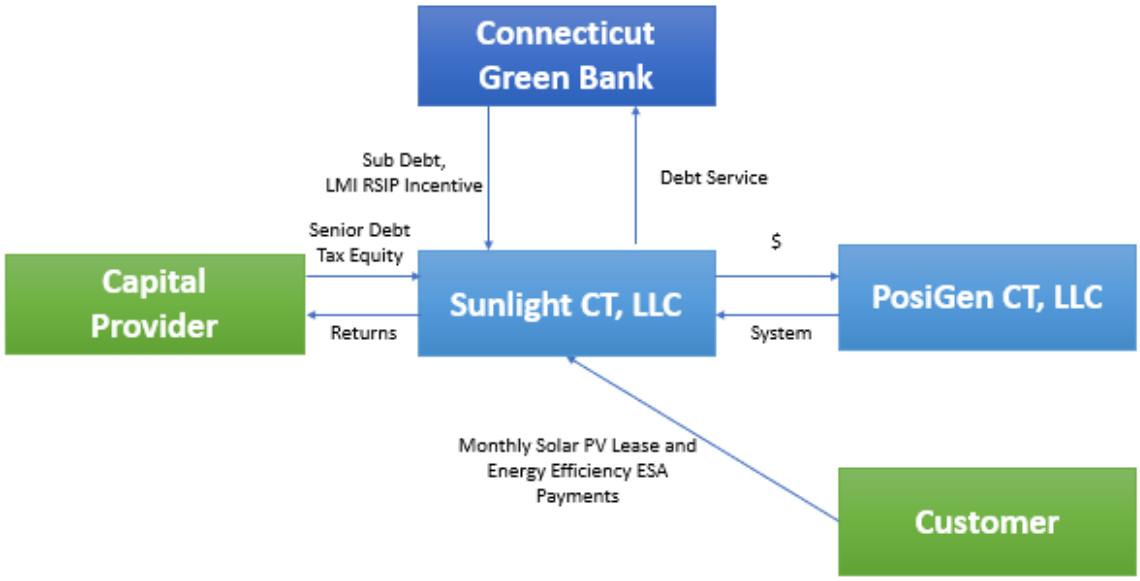
To continue to expand the program, in FY'19 the Green Bank and LibreMax closed on a $90 million credit facility designed to allow PosiGen to continue to provide affordable solar system and energy efficiency leases to residential customers nationally, including low-to-moderate income homeowners in Connecticut. Of the $20 million portion of the credit facility available to the Posigen, the Green Bank allocated up to $15 million for its own funding. This was coupled with up to $5 million from Inclusive Prosperity Capital.

Through the partnership with PosiGen, the Connecticut Green Bank lowers the financial barriers to Connecticut LMI residential customers seeking to install solar PV with no up-front investment and energy efficiency measures. PosiGen's model also includes an alternative underwriting approach that does not rely on credit scores and a community-based marketing approach – two key ingredients for targeting this underserved market segment. Capital provided to PosiGen to be able to offer consumers a solar PV lease and energy efficiency "Energy Savings Agreement" is repaid to the Connecticut Green Bank, the tax equity investor and the lenders through consumer lease repayments. This contrasts with traditional energy program subsidies targeted to LMI homeowners, which are typically in the form of grants only.

The financial structure of the Low-Income Solar Lease product includes origination, servicing, and financing features[133] in combination with the support of the Connecticut Green Bank.

[133] Origination, servicing and financing managed by PosiGen.

Figure 12. Legal Structure and Flows of Capital for the Low Income Solar Lease



Connecticut represented the first expansion for PosiGen outside of its initial market in Louisiana, where starting in 2011, it paired solar leasing and energy efficiency services to maximize savings for LMI customers. Given the strategic emphasis the Green Bank has placed on driving investment for lower income homeowners, the organization developed a flexible funding structure to rapidly bring PosiGen to market. The concept started with the Green Bank providing "anchor capital" for PosiGen in the form of low-cost debt, together with PosiGen's own resources and tax equity from U.S. Bank (U.S. Bank was already an investor in the Connecticut market through the Green Bank's CT Solar Lease). Documentation was structured to facilitate funding by a senior lender, providing for the subordination of the Green Bank's loans once this senior lender could be secured. With initial capital requirements underwritten by the Green Bank, PosiGen had the financial backing and capital flexibility it needed to confidently secure its base of operation in Bridgeport, hire management and local staff, pursue local partnerships with existing energy efficiency and solar PV contractors, and resolve supply chain issues. By using its balance sheet as an initial source of low-cost debt capital, the Green Bank made it possible for a developer that had proven its business model in another market to bring its innovative approach to Connecticut to build investment in solar and energy efficiency for homeowners of more modest means. The investment had the intended impact: PosiGen could establish operations and get a market started, and its rapid success in Connecticut enabled the Green Bank and PosiGen to secure senior lenders and new sources of tax equity to enable operations to expand to several cities throughout Connecticut.

Key Performance Indicators

The Key Performance Indicators for the Low-Income Solar Lease's closed projects are reflected in Tables 109 through 111. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced.

Table 109. Low Income Solar Lease Project Types and Investment by FY Closed[134]

Fiscal Year Closed	EE[135]	RE	RE/EE	# Projects	Total Investment	Green Bank Investment[136]	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	4		4	4	$109,380	$36,000	$73,380	3.0
2016	177	163	340	340	$9,776,138	$3,060,000	$6,716,138	3.2
2017	241	425	666	666	$18,257,090	$5,994,000	$12,263,090	3.0
2018	269	378	647	647	$18,039,049	$5,823,000	$12,216,049	3.1
2019	104	743	847	847	$24,705,401	$7,623,000	$17,082,401	3.2
Total	**795**	**1,709**	**2,504**	**2,504**	**$70,887,057**	**$22,536,000**	**$48,351,057**	**3.1**

Table 110. Low Income Solar Lease Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)[137]	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	25.0	44,093	1,102	162	2,720	$4,795	$119,880
2016	2,226.7	3,863,643	96,591	13,780	231,200	$407,592	$10,189,800
2017	4,231.2	7,419,690	185,492	26,993	452,880	$798,401	$19,960,020
2018	4,310.3	7,752,131	193,803	27,303	439,960	$775,624	$19,390,590
2019	5,950.7	10,496,273	262,407	35,743	575,960	$1,015,384	$25,384,590
Total	**16,743.9**	**29,575,829**	**739,396**	**103,982**	**1,702,720**	**$3,001,795**	**$75,044,880**

[134] Note that this investment is exclusive of Green Bank investments in to Posigen's lease funds and represents just the incentives paid for the systems participating in the lease.
[135] All projects that receive an RSIP incentive are required to do an energy audit/assessment.
[136] Includes incentives, interest rate buydowns and loan loss reserves.
[137] Includes only the MMBtus for the HES audit. MMTBtus for other ECMs are not included.

Table 111. Low Income Solar Lease Project Averages by FY Closed

FY Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Lease Price per Month	Average ESA Price per month[138]
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	$27,345	$27,345	6.3	41	240	$79	$10
2016	$28,753	$28,753	6.5	41	240	$80	$10
2017	$27,413	$27,413	6.4	41	240	$80	$10
2018	$27,881	$27,881	6.7	42	240	$88	$10
2019	$29,168	$29,168	7.0	42	240	$91	$0
Total	**$28,310**	**$28,310**	**6.7**	**42**	**240**	**$84**	**$10**

In fiscal year 2019 PosiGen changed their lease structure so that all customers now receive in depth energy efficiency services that were previously part of an optional, $10 a month energy savings agreement. This change helps ensure PosiGen customers are maximizing the benefits of their PV system to reduce total energy burden.

[138] Posigen's ESA provides energy efficiency measures valued at over $2000 to lessees for between $10-$15 a month.

Area Median Income Band Penetration

For a breakdown of PosiGen Solar for All volume and investment by census tracts categorized by Area Median Income bands – see Table 112. As an income-targeted program, this table illustrates the degree to which the goal of serving consumers in lower income communities is being met.

Table 112. Low Income Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[139]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	$0	0%	61,168	7%	0.0	$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	$0	0%	101,640	12%	0.0	$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	$0	0%	151,346	17%	0.0	$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	$0	0%	216,988	25%	0.0	$0.00	0.0
2012	>120%	0	0%	0.0	0%	$0	0%	350,196	40%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	881,338	100%	0.0	$0.00	0.0
2013	<60%	0	0%	0.0	0%	$0	0%	59,494	7%	0.0	$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	$0	0%	109,189	12%	0.0	$0.00	0.0
2013	80%-100%	0	0%	0.0	0%	$0	0%	150,603	17%	0.0	$0.00	0.0
2013	100%-120%	0	0%	0.0	0%	$0	0%	203,157	23%	0.0	$0.00	0.0
2013	>120%	0	0%	0.0	0%	$0	0%	351,633	40%	0.0	$0.00	0.0
2013	Total	0	0%	0.0	0%	$0	0%	874,076	100%	0.0	$0.00	0.0
2014	<60%	0	0%	0.0	0%	$0	0%	57,673	7%	0.0	$0.00	0.0
2014	60%-80%	0	0%	0.0	0%	$0	0%	103,934	12%	0.0	$0.00	0.0
2014	80%-100%	0	0%	0.0	0%	$0	0%	149,038	17%	0.0	$0.00	0.0
2014	100%-120%	0	0%	0.0	0%	$0	0%	209,561	24%	0.0	$0.00	0.0
2014	>120%	0	0%	0.0	0%	$0	0%	348,270	40%	0.0	$0.00	0.0

[139] Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2014	Total	0	0%	0.0	0%	$0	0%	868,476	100%	0.0	$0.00	0.0
2015	<60%	3	75%	0.0	76%	$82,380	75%	64,361	7%	0.0	$1.28	0.3
2015	60%-80%	0	0%	0.0	0%	$0	0%	96,305	11%	0.0	$0.00	0.0
2015	80%-100%	0	0%	0.0	0%	$0	0%	164,873	19%	0.0	$0.00	0.0
2015	100%-120%	0	0%	0.0	0%	$0	0%	184,613	21%	0.0	$0.00	0.0
2015	>120%	1	25%	0.0	24%	$27,000	25%	352,621	41%	0.0	$0.08	0.0
2015	Total	4	100%	0.0	100%	$109,380	100%	862,773	100%	0.0	$0.13	0.0
2016	<60%	132	39%	0.8	38%	$3,706,911	38%	60,769	7%	2.2	$61.00	13.8
2016	60%-80%	72	21%	0.5	21%	$2,085,839	21%	99,220	12%	0.7	$21.02	4.8
2016	80%-100%	58	17%	0.4	18%	$1,737,224	18%	165,331	19%	0.4	$10.51	2.4
2016	100%-120%	36	11%	0.2	10%	$1,003,228	10%	187,463	22%	0.2	$5.35	1.2
2016	>120%	42	12%	0.3	13%	$1,242,936	13%	345,311	40%	0.1	$3.60	0.8
2016	Total	340	100%	2.2	100%	$9,776,138	100%	858,094	100%	0.4	$11.39	2.6
2017	<60%	246	37%	1.5	35%	$6,470,198	35%	62,815	7%	3.9	$103.00	23.5
2017	60%-80%	145	22%	0.9	21%	$3,924,782	21%	97,136	11%	1.5	$40.41	9.4
2017	80%-100%	123	18%	0.8	19%	$3,434,704	19%	155,105	18%	0.8	$22.14	5.1
2017	100%-120%	68	10%	0.5	11%	$1,976,773	11%	209,914	24%	0.3	$9.42	2.2
2017	>120%	84	13%	0.6	14%	$2,450,633	13%	340,374	39%	0.2	$7.20	1.7
2017	Total	666	100%	4.2	100%	$18,257,090	100%	865,344	100%	0.8	$21.10	4.9
2018	<60%	218	34%	1.4	32%	$5,848,527	32%	62,815	7%	3.5	$93.11	22.0
2018	60%-80%	152	23%	1.0	23%	$4,102,226	23%	97,136	11%	1.6	$42.23	10.1
2018	80%-100%	128	20%	0.9	20%	$3,647,705	20%	155,105	18%	0.8	$23.52	5.7
2018	100%-120%	71	11%	0.5	12%	$2,074,633	12%	209,914	24%	0.3	$9.88	2.4
2018	>120%	78	12%	0.6	13%	$2,365,959	13%	340,374	39%	0.2	$6.95	1.7

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2018	Total	647	100%	4.3	100%	$18,039,049	100%	865,344	100%	0.7	$20.85	5.0
2019	<60%	226	27%	1.5	25%	$6,112,528	25%	62,815	7%	3.6	$97.31	23.5
2019	60%-80%	215	25%	1.4	24%	$5,943,069	24%	97,136	11%	2.2	$61.18	14.7
2019	80%-100%	127	15%	0.9	15%	$3,762,372	15%	155,105	18%	0.8	$24.26	5.8
2019	100%-120%	145	17%	1.1	18%	$4,487,478	18%	209,914	24%	0.7	$21.38	5.2
2019	>120%	134	16%	1.1	18%	$4,399,953	18%	340,374	39%	0.4	$12.93	3.1
2019	Total	847	100%	6.0	100%	$24,705,401	100%	865,344	100%	1.0	$28.55	6.9
Total	<60%	825	33%	5.2	31%	$22,220,544	31%	62,815	7%	13.1	$353.75	82.7
Total	60%-80%	584	23%	3.8	23%	$16,055,916	23%	97,136	11%	6.0	$165.29	39.0
Total	80%-100%	436	17%	3.0	18%	$12,582,005	18%	155,105	18%	2.8	$81.12	19.2
Total	100%-120%	320	13%	2.3	14%	$9,542,112	13%	209,914	24%	1.5	$45.46	10.9
Total	>120%	339	14%	2.5	15%	$10,486,481	15%	340,374	39%	1.0	$30.81	7.3
Total	Total	2,504	100%	16.7	100%	$70,887,057	100%	865,344	100%	2.9	$81.92	19.3

Table 113. Low Income Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[140]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2013	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2014	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%

[140] Excludes projects in unknown bands.

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2015	4	1	3	75%	0.0	0.0	0.0	76%	$109,380	$27,000	$82,380	75%
2016	340	78	262	77%	2.2	0.5	1.7	77%	$9,776,138	$2,246,164	$7,529,973	77%
2017	666	152	514	77%	4.2	1.0	3.2	75%	$18,257,090	$4,427,406	$13,829,684	76%
2018	647	149	498	77%	4.3	1.1	3.2	75%	$18,039,049	$4,440,591	$13,598,458	75%
2019	847	279	568	67%	6.0	2.1	3.8	64%	$24,705,401	$8,887,431	$15,817,969	64%
Total	**2,504**	**659**	**1,845**	**74%**	**16.7**	**4.8**	**12.0**	**71%**	**$70,887,057**	**$20,028,593**	**$50,858,465**	**72%**

The Green Bank has made great progress in its penetration of underserved markets and the low-income lease and ESA through Posigen has been key to reaching these markets.

Distressed Community Penetration

For a breakdown of Low-Income Solar Lease project volume and investment by census tracts categorized by Distressed Communities – see Table 114. As an income-targeted program, this table illustrates the degree to which the goal of serving consumers in lower income communities is being met.

Table 114. Low Income Solar Lease Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	$0	0%	447,962	33%	0.0	$0.00	0.0
2012	No	0	0%	0.0	0%	$0	0%	912,222	67%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	1,360,184	100%	0.0	$0.00	0.0
2013	Yes	0	0%	0.0	0%	$0	0%	426,564	31%	0.0	$0.00	0.0
2013	No	0	0%	0.0	0%	$0	0%	929,285	69%	0.0	$0.00	0.0
2013	Total	0	0%	0.0	0%	$0	0%	1,355,849	100%	0.0	$0.00	0.0
2014	Yes	0	0%	0.0	0%	$0	0%	416,415	31%	0.0	$0.00	0.0

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Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2014	No	0	0%	0.0	0%	$0	0%	939,791	69%	0.0	$0.00	0.0
2014	Total	0	0%	0.0	0%	$0	0%	1,356,206	100%	0.0	$0.00	0.0
2015	Yes	2	50%	0.0	44%	$49,500	45%	423,559	31%	0.0	$0.12	0.0
2015	No	2	50%	0.0	56%	$59,880	55%	929,024	69%	0.0	$0.06	0.0
2015	Total	4	100%	0.0	100%	$109,380	100%	1,352,583	100%	0.0	$0.08	0.0
2016	Yes	198	58%	1.3	58%	$5,644,283	58%	438,710	32%	0.5	$12.87	2.9
2016	No	142	42%	0.9	42%	$4,131,855	42%	916,003	68%	0.2	$4.51	1.0
2016	Total	340	100%	2.2	100%	$9,776,138	100%	1,354,713	100%	0.3	$7.22	1.6
2017	Yes	409	61%	2.5	60%	$10,965,548	60%	435,595	32%	0.9	$25.17	5.8
2017	No	257	39%	1.7	40%	$7,291,542	40%	926,160	68%	0.3	$7.87	1.8
2017	Total	666	100%	4.2	100%	$18,257,090	100%	1,361,755	100%	0.5	$13.41	3.1
2018	Yes	407	63%	2.7	62%	$11,180,729	62%	435,595	32%	0.9	$25.67	6.1
2018	No	240	37%	1.6	38%	$6,858,321	38%	926,160	68%	0.3	$7.41	1.8
2018	Total	647	100%	4.3	100%	$18,039,049	100%	1,361,755	100%	0.5	$13.25	3.2
2019	Yes	471	56%	3.2	54%	$13,257,630	54%	435,595	32%	1.1	$30.44	7.3
2019	No	376	44%	2.8	46%	$11,447,770	46%	926,160	68%	0.4	$12.36	3.0
2019	Total	847	100%	6.0	100%	$24,705,401	100%	1,361,755	100%	0.6	$18.14	4.4
Total	Yes	1,487	59%	9.7	58%	$41,097,690	58%	435,595	32%	3.4	$94.35	22.3
Total	No	1,017	41%	7.1	42%	$29,789,368	42%	926,160	68%	1.1	$32.16	7.6
Total	Total	2,504	100%	16.7	100%	$70,887,057	100%	1,361,755	100%	1.8	$52.06	12.3

Societal Impacts

Over the course of its existence, the program has supported the creation of 458 job years, avoided the lifetime emission of 400,356 tons of carbon dioxide, 351,739 pounds of nitrous oxide, 233,124 pounds of sulfur oxide, and 34,391 pounds of particulate matter as illustrated by Tables 115 and 117. The cleaner air stemming from the Green Bank's partnership with Posigen can be estimated between $14.3 and $32.4 million over the life of the projects as seen in Table 118. The Low-Income Solar Lease has generated $1.78 million in tax revenues for the state since its inception as shown in Table 116.

Table 115. Low Income Solar Lease Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	0	1	1
2016	37	58	95
2017	46	60	106
2018	47	61	108
2019	65	84	149
Total	**194**	**264**	**458**

Table 116. Low Income Solar Lease Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$0	$0	$0	$0
2014	$0	$0	$0	$0
2015	$2,958	$369	$0	$3,327
2016	$264,352	$32,982	$0	$297,334
2017	$381,175	$61,594	$0	$442,770
2018	$376,623	$60,859	$0	$437,482
2019	$515,805	$83,349	$0	$599,154
Total	**$1,540,912**	**$239,154**	**$0**	**$1,780,066**

$0

Table 117. Low Income Solar Lease Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	25	620	25	634	18	453	2	54
2016	2,143	53,584	2,086	52,152	1,457	36,434	187	4,671
2017	4,011	100,284	3,500	87,494	2,310	57,744	344	8,607
2018	4,179	104,465	3,597	89,922	2,358	58,949	358	8,948
2019	5,656	141,404	4,861	121,537	3,182	79,544	484	12,111
Total	**16,014**	**400,356**	**14,070**	**351,739**	**9,325**	**233,124**	**1,376**	**34,391**

Table 118. Low Income Solar Lease Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	-	-	-	-
2014	-	-	-	-
2015	$855	$1,931	$21,385	$48,281
2016	$74,955	$169,228	$1,873,867	$4,230,689
2017	$143,942	$324,982	$3,598,550	$8,124,560
2018	$150,391	$339,543	$3,759,784	$8,488,583
2019	$203,628	$459,737	$5,090,693	$11,493,419
Total	**$573,771**	**$1,295,421**	**$14,344,277**	**$32,385,533**

Financial Performance

To date there have been two defaults with an original principal balance of $35,060 or 0.104% of the portfolio and as of 6/30/2019[141] there are 95 delinquencies totaling $1,956,468 of original principal balance[142] or 4.93% of the portfolio. This performance is consistent with expectations for a low-to-moderate income targeted product using an alternative underwriting approach.

Marketing

To build the pipeline of projects for the lease, Connecticut Green Bank supports PosiGen's community-based marketing campaigns, leveraging the institution's market analysis and local experience and connections. The Green Bank also co-brands the program so partnering community organizations and consumers know there is governmental involvement, especially critical given the targeting of underserved communities and homeowners. This includes assisting with PosiGen's outreach efforts through its Solar for All campaigns which are modeled after Green Bank Solarize campaigns.

[141] June 30,2019 loan servicing report
[142] Based on average lease price in PosiGen Pipeline Reporting July 2019

Case 6 – Multifamily Programs

Description

Defined as buildings with 5 or more units, the Green Bank provides a suite of financing options that support property owners to assess, design, fund, and monitor high impact green energy upgrades for multifamily properties. The Green Bank contracted with Inclusive Prosperity Capital (IPC), to manage and administer these programs on behalf of CGB.

The Green Bank encourages owners to take a holistic approach to their buildings by implementing energy upgrades that will deliver a high return on investment over the long term through energy and operating cost savings, increased property values, and improvement of resident health, safety and living environment. The organization partners with building owners to finance a project design approach that is both technology and fuel agnostic – whereby owners identify the combination of renewable energy and energy efficiency measures/technology approaches that will deliver the most benefits and highest impact. This holistic approach and focus on deeper efficiency measures is particularly important in Connecticut due to the need of the state's old and aging housing stock need for significant capital improvements and health and safety remediation. We are catalyzing holistic projects that reap the benefits of significant energy and operating cost savings, which can be used to finance other capital improvements like full roof replacements and remediation of mold, asbestos, lead, etc.

The Green Bank Multifamily programs primarily target the low- and moderate-income market in Connecticut, for all ownership types, including private and non-profit owned apartments, condominiums, cooperatives, and state and federally funded affordable housing developments, including senior and assisted living facilities.

Pre-development resources

In a traditionally difficult sector to address, multifamily projects have a significant need for pre-development financing, trusted technical support, and streamlined access to funding programs. In 2015, the Green Bank developed pre-development energy loan programs to support property owners in identifying high-quality technical assistance providers, and fund the work needed to scope and secure financing for deeper, cost effective energy upgrades. Eligible assessment and design services funded under the pre-development Navigator loan include those for energy and water efficiency, efficient fuel conversion, renewable energy systems, energy storage and EV fueling stations, qualified health and safety measures, and performance benchmarking.

The Green Bank is working to change the model of pre-development and technical assistance from one that is primarily grant-funded in the low- and moderate-income housing space to one that is loan driven and financially sustainable.

This program is supported by a revolving loan fund for loans of 1.99% to 3.99% and up to two-year terms. The affordable multifamily version of this program is housed at the Housing Development Fund, a local CDFI, and part of a $5 million program-related investment from the MacArthur Foundation is used to support the program.

- ***Navigator Pre-Development Energy Loan***[143] funds pre-development costs for building owners to select and manage the energy professionals needed to scope and design their project.

Term Financing Solutions

- The Green Bank offers the following term financing options for project implementation[144]. ***Low Income Multifamily Energy (LIME) Loan***[145] funds energy improvement projects for low- and moderate-income properties (where at least 60% of units serve renters at 80% or lower of Area Median Income) and is geared towards mid-cycle energy improvements. The LIME Loan program is delivered through a partnership with Capital for Change, a local CDFI (formerly known as Connecticut Housing Investment Fund) and provides unsecured loans (not secured by mortgages) that cover 100% of project costs, require no money down, and are repaid from energy cost savings for terms up to 20 years. Projected energy savings are used to cover the debt service of the loan. The Green Bank supports LIME with a $325,000 loan loss reserve and provided $3.5 million to capitalize the initial $5 million loan fund. When it is necessary to lower the overall cost of capital to close a loan, funds from the $5 million program-related investment from the MacArthur Foundation, housed at HDF, may be used to support the program.

  Solar-only[146] financing allows owners to go solar and lock in lower long-term electricity rates with no upfront cost and without the risk or hassle of purchasing and maintaining a system. Solar financing is available for multifamily properties through the Green Bank's solar power purchase agreement facilities. See the Case 2 – Solar Lease for more information.
- ***Commercial Property Assessed Clean Energy***[147] (C-PACE) funds 100% of project costs with no money down. C-PACE loans are for a term of up to 20 years and are secured by using a benefit assessment on the borrower's property tax bill. The program serves market rate as well as affordable multifamily properties; however, to-date, given difficulties acquiring lender consent, multifamily C-PACE financing continues to be limited. See Case 1 – C-PACE for more information.

  EnergizeCT Health & Safety Revolving Loan Fund[148] funds health and safety improvements necessary to allow subsequent energy improvements in existing properties. The program is funded by $1.5 million from DEEP and provides low-interest, 2.99% fixed rate loans made available on a rolling application basis.

[143] Navigator Pre-Development Energy Loan: https://www.ctgreenbank.com/programs/multifamily/navigator/
[144] Owners are also encouraged to seek other sources of capital if they can be secured under more favorable terms than those offered by the Green Bank.
[145] Low Income Multifamily Energy (LIME) Loan: https://ctgreenbank.com/programs/multifamily/lime/
[146] Solar Power Purchase Agreement: https://ctgreenbank.com/programs/multifamily/solarppa/
[147] Commercial Property Assessed Clean Energy: http://www.CPACE.com/
[148] https://www.ctgreenbank.com/wp-content/uploads/2018/06/RFP-EnergizeCT-Health-and-Safety-Revolving-Loan-Fund-6-8-18.pdf

Key Performance Indicators

The Key Performance Indicators for Multifamily programs closed activity are reflected in Tables 119 through 121. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

Table 119. Multifamily Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/EE	Other	# Projects	# Project Units	Amount Financed	Total Investment[149]	Green Bank Investment[150]	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	1	-	-	-	1	120	$250,000	$428,739	$8,739	$420,000	49.1
2015	3	3	-	-	6	408	$5,111,454	$5,843,311	$3,607,557	$2,235,755	1.6
2016	14	15	1	1	31	1,767	$33,066,083	$33,782,328	$1,547,816	$32,234,512	21.8
2017	8	8	1	2	19	1,535	$24,021,482	$25,501,271	$2,181,258	$23,320,014	11.7
2018	6	2	1	10	19	1,792	$26,704,713	$26,868,739	$158,914	$26,709,825	169.1
2019	2	4		13	19	2,225	$32,241,782	$35,719,734	$1,025,261	$34,694,473	34.8
Total	**34**	**32**	**3**	**26**	**95**	**7,847**	**$121,395,514**	**$128,144,124**	**$8,529,545**	**$119,614,578**	**15.0**

Table 120. Multifamily Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	17,873	214	61	733	$69,534
2015	914.0	4,015,054	98,609	5,132	122,386	$243,673
2016	1,286.7	2,209,496	45,563	222,015	5,517,354	$531,098
2017	2,146.6	2,611,895	63,122	1,491,311	37,275,333	$370,090
2018	135.2	1,475,091	19,703	112,794	2,761,239	$262,666
2019	343.7	391,349	9,784	299,001	7,475,016	$100,680
Total	**4,826.2**	**10,720,757**	**236,995**	**2,130,313**	**53,152,061**	**$1,577,741**

[149] This number includes financing and investment for the entire project supported including clean energy, health and safety remediation, and project design.
[150] Includes incentives, interest rate buydowns and loan loss reserves.

Table 121. Multifamily Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Amount Financed per Unit	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	$428,739	$250,000	$2,083	-	61	9	6.00
2015	$973,885	$851,909	$12,528	304.7	855	25	5.64
2016	$1,089,753	$1,066,648	$18,713	75.7	7,162	12	4.24
2017	$1,342,172	$1,264,289	$15,649	268.3	78,490	11	4.16
2018	$1,414,144	$1,405,511	$14,902	45.1	5,937	11	2.64
2019	$1,879,986	$1,696,936	$14,491	85.9	15,737	13	3.54
Total	**$1,348,886**	**$1,277,848**	**$15,470**	**137.9**	**22,424**	**13**	**3.84**

As the Green Bank's Multifamily programs are partially income-targeted, Table 122 shows a breakdown of projects completed in a year by property type and reflects the number of units impacted.

Table 122. Multifamily Projects by Low to Moderate Income (LMI) or Market Rate Property by FY Closed

Fiscal Year Closed	Class	Product	# of Projects	# Units
2014	Affordable	Term	1	120
2014 Total			1	120
2015	Affordable	Term	5	326
	Market Rate	Term	1	82
2015 Total			6	408
2016	Affordable	Term	26	1,442
		Pre-Dev	4	134
	Market Rate	Term	1	191
2016 Total			31	1,767
2017	Affordable	Term	15	1,300
		Pre-Dev	3	135
	Market Rate	Pre-Dev	1	100
2017 Total			19	1,535
2018	Affordable	Term	12	533
		Pre-Dev	7	1,259
2018 Total			19	1,792
2019	Affordable	Term	14	1,587
		Pre-Dev	5	638
2019 Total			19	2,225
Total	**Affordable**	**Term**	**73**	**5,308**
Total		**Pre-Dev**	**19**	**2,166**
Total	**Market Rate**	**Term**	**2**	**273**
Total		**Pre-Dev**	**1**	**100**
Grand Total			**95**	**7,847**

Area Median Income Band Penetration

For a breakdown of Multifamily volume and investment by census tracts categorized by Area Median Income bands – see Table 123. As a program predominantly focused on properties that serve low-to-moderate income residents, this table doesn't reflect the degree to which the goal of serving lower income residents is being met. The program is equally focused on affordable housing properties located in more affluent communities and census tracts that are housing families of lower incomes as it is on affordable housing properties in lower income census tracts.

Table 123. Multifamily Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[151]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution	Project Units / 1,000 Owner/Rental Occupied 5+ Unit Households	Total Investment / Owner/Rental Occupied 5+ Unit Household	Watts / Owner/Rental Occupied 5+ Unit Household
2012	<60%	0	0%	0.0	0%	$0	0%	70,561	35%	0.0	$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	$0	0%	43,788	22%	0.0	$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	$0	0%	39,234	20%	0.0	$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	$0	0%	27,834	14%	0.0	$0.00	0.0
2012	>120%	0	0%	0.0	0%	$0	0%	19,133	10%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	200,550	100%	0.0	$0.00	0.0
2013	<60%	0	0%	0.0	0%	$0	0%	68,381	35%	0.0	$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	$0	0%	45,202	23%	0.0	$0.00	0.0
2013	80%-100%	0	0%	0.0	0%	$0	0%	39,451	20%	0.0	$0.00	0.0
2013	100%-120%	0	0%	0.0	0%	$0	0%	25,294	13%	0.0	$0.00	0.0
2013	>120%	0	0%	0.0	0%	$0	0%	19,303	10%	0.0	$0.00	0.0
2013	Total	0	0%	0.0	0%	$0	0%	197,631	100%	0.0	$0.00	0.0
2014	<60%	0	0%	0.0	0%	$0	0%	68,722	35%	0.0	$0.00	0.0
2014	60%-80%	0	0%	0.0	0%	$0	0%	44,830	23%	0.0	$0.00	0.0
2014	80%-100%	120	100%	0.0	0%	$428,739	100%	36,752	18%	3.3	$11.67	0.0
2014	100%-120%	0	0%	0.0	0%	$0	0%	28,263	14%	0.0	$0.00	0.0

[151] Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution	Project Units / 1,000 Owner/Rental Occupied 5+ Unit Households	Total Investment / Owner/Rental Occupied 5+ Unit Household	Watts / Owner/Rental Occupied 5+ Unit Household
2014	>120%	0	0%	0.0	0%	$0	0%	20,384	10%	0.0	$0.00	0.0
2014	Total	120	100%	0.0	0%	$428,739	100%	198,951	100%	0.6	$2.15	0.0
2015	<60%	16	4%	0.0	0%	$33,234	1%	84,158	37%	0.2	$0.39	0.0
2015	60%-80%	41	10%	0.0	0%	$445,000	8%	44,668	19%	0.9	$9.96	0.0
2015	80%-100%	113	28%	0.0	0%	$540,000	9%	53,494	23%	2.1	$10.09	0.0
2015	100%-120%	16	4%	0.0	2%	$58,782	1%	24,388	11%	0.7	$2.41	0.6
2015	>120%	222	54%	0.9	98%	$4,766,296	82%	23,491	10%	9.5	$202.90	38.3
2015	Total	408	100%	0.9	100%	$5,843,311	100%	230,199	100%	1.8	$25.38	4.0
2016	<60%	295	19%	0.1	8%	$19,758,029	60%	86,225	37%	3.4	$229.15	0.9
2016	60%-80%	258	16%	0.1	14%	$1,868,113	6%	45,398	19%	5.7	$41.15	3.2
2016	80%-100%	348	22%	0.3	31%	$6,182,098	19%	49,125	21%	7.1	$125.84	6.3
2016	100%-120%	590	37%	0.4	43%	$4,928,280	15%	30,753	13%	19.2	$160.25	14.2
2016	>120%	84	5%	0.0	4%	$161,696	0%	22,618	10%	3.7	$7.15	2.0
2016	Total	1,575	100%	1.0	100%	$32,898,215	100%	234,119	100%	6.7	$140.52	4.4
2017	<60%	636	42%	1.5	69%	$14,826,099	59%	86,272	37%	7.4	$171.85	17.1
2017	60%-80%	314	21%	0.2	9%	$7,214,545	29%	43,920	19%	7.1	$164.27	4.5
2017	80%-100%	455	30%	0.0	2%	$1,740,572	7%	51,444	22%	8.8	$33.83	0.8
2017	100%-120%	81	5%	0.3	12%	$898,560	4%	32,673	14%	2.5	$27.50	7.7
2017	>120%	32	2%	0.2	8%	$622,183	2%	21,018	9%	1.5	$29.60	8.3
2017	Total	1,518	100%	2.1	100%	$25,301,958	100%	235,327	100%	6.5	$107.52	9.1
2018	<60%	1,706	95%	0.0	27%	$26,439,045	98%	86,272	37%	19.8	$306.46	0.4
2018	60%-80%	32	2%	0.0	30%	$170,000	1%	43,920	19%	0.7	$3.87	0.9
2018	80%-100%	30	2%	0.0	0%	$101,694	0%	51,444	22%	0.6	$1.98	0.0
2018	100%-120%	0	0%	0.0	0%	$0	0%	32,673	14%	0.0	$0.00	0.0

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution	Project Units / 1,000 Owner/Rental Occupied 5+ Unit Households	Total Investment / Owner/Rental Occupied 5+ Unit Household	Watts / Owner/Rental Occupied 5+ Unit Household
2018	>120%	24	1%	0.1	43%	$158,000	1%	21,018	9%	1.1	$7.52	2.8
2018	Total	1,792	100%	0.1	100%	$26,868,739	100%	235,327	100%	7.6	$114.18	0.6
2019	<60%	1,396	65%	0.3	76%	$28,947,481	81%	86,272	37%	16.2	$335.54	3.0
2019	60%-80%	280	13%	0.0	0%	$1,045,206	3%	43,920	19%	6.4	$23.80	0.0
2019	80%-100%	390	18%	0.0	0%	$2,650,294	7%	51,444	22%	7.6	$51.52	0.0
2019	100%-120%	60	3%	0.1	24%	$2,704,426	8%	32,673	14%	1.8	$82.77	2.5
2019	>120%	31	1%	0.0	0%	$359,828	1%	21,018	9%	1.5	$17.12	0.0
2019	Total	2,157	100%	0.3	100%	$35,707,234	100%	235,327	100%	9.2	$151.73	1.5
Total	<60%	4,049	53%	1.9	41%	$90,003,888	71%	86,272	37%	46.9	$1,043.26	21.5
Total	60%-80%	925	12%	0.4	8%	$10,742,863	8%	43,920	19%	21.1	$244.60	8.8
Total	80%-100%	1,456	19%	0.4	8%	$11,643,397	9%	51,444	22%	28.3	$226.33	6.9
Total	100%-120%	747	10%	0.8	17%	$8,590,047	7%	32,673	14%	22.9	$262.91	24.0
Total	>120%	393	5%	1.2	26%	$6,068,003	5%	21,018	9%	18.7	$288.71	56.0
Total	Total	7,570	100%	4.6	100%	$127,048,198	100%	235,327	100%	32.2	$539.88	19.4

Table 124. Multifamily Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[152]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2013	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2014	120	0	120	100%	0.0	0.0	0.0	0%	$428,739	$0	$428,739	100%
2015	408	238	170	42%	0.9	0.9	0.0	0%	$5,843,311	$4,825,077	$1,018,234	17%
2016	1,575	674	901	57%	1.0	0.5	0.5	53%	$32,898,215	$5,089,976	$27,808,239	85%
2017	1,518	113	1,405	93%	2.1	0.4	1.7	80%	$25,301,958	$1,520,743	$23,781,215	94%
2018	1,792	24	1,768	99%	0.1	0.1	0.1	57%	$26,868,739	$158,000	$26,710,739	99%
2019	2,157	91	2,066	96%	0.3	0.1	0.3	76%	$35,707,234	$3,064,254	$32,642,981	91%
Total	**7,570**	**1,140**	**6,430**	**85%**	**4.6**	**2.0**	**2.6**	**57%**	**$127,048,198**	**$14,658,050**	**$112,390,148**	**88%**

[152] Excludes projects in unknown bands.

Distressed Community Penetration

For a breakdown of Multifamily project volume and investment by census tracts categorized by Distressed Communities – see Table 125. As a program predominantly focused on properties that serve low-to-moderate income residents, this table doesn't reflect the degree to which the goal of serving lower income residents is being met. The program is equally focused on affordable housing properties located in more affluent communities and census tracts that are housing families of lower incomes as it is on affordable housing properties in lower income census tracts.

Table 125. Multifamily Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	$0	0%	447,962	33%	0.0	$0.00	0.0
2012	No	0	0%	0.0	0%	$0	0%	912,222	67%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	1,360,184	100%	0.0	$0.00	0.0
2013	Yes	0	0%	0.0	0%	$0	0%	426,564	31%	0.0	$0.00	0.0
2013	No	0	0%	0.0	0%	$0	0%	929,285	69%	0.0	$0.00	0.0
2013	Total	0	0%	0.0	0%	$0	0%	1,355,849	100%	0.0	$0.00	0.0
2014	Yes	0	0%	0.0	0%	$0	0%	416,415	31%	0.0	$0.00	0.0
2014	No	120	100%	0.0	0%	$428,739	100%	939,791	69%	0.1	$0.46	0.0
2014	Total	120	100%	0.0	0%	$428,739	100%	1,356,206	100%	0.1	$0.32	0.0
2015	Yes	211	52%	0.9	98%	$5,273,234	90%	423,559	31%	0.5	$12.45	2.1
2015	No	197	48%	0.0	2%	$570,077	10%	929,024	69%	0.2	$0.61	0.0
2015	Total	408	100%	0.9	100%	$5,843,311	100%	1,352,583	100%	0.3	$4.32	0.7
2016	Yes	341	19%	0.3	26%	$20,319,907	60%	438,710	32%	0.8	$46.32	0.8
2016	No	1,426	81%	1.0	74%	$13,462,421	40%	916,003	68%	1.6	$14.70	1.0
2016	Total	1,767	100%	1.3	100%	$33,782,328	100%	1,354,713	100%	1.3	$24.94	0.9

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Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2017	Yes	596	39%	1.4	66%	$14,867,412	58%	435,595	32%	1.4	$34.13	3.3
2017	No	939	61%	0.7	34%	$10,633,860	42%	926,160	68%	1.0	$11.48	0.8
2017	Total	1,535	100%	2.1	100%	$25,501,271	100%	1,361,755	100%	1.1	$18.73	1.6
2018	Yes	1,507	84%	0.0	27%	$22,265,416	83%	435,595	32%	3.5	$51.11	0.1
2018	No	285	16%	0.1	73%	$4,603,323	17%	926,160	68%	0.3	$4.97	0.1
2018	Total	1,792	100%	0.1	100%	$26,868,739	100%	1,361,755	100%	1.3	$19.73	0.1
2019	Yes	2,023	91%	0.3	76%	$32,450,731	91%	435,595	32%	4.6	$74.50	0.6
2019	No	202	9%	0.1	24%	$3,269,004	9%	926,160	68%	0.2	$3.53	0.1
2019	Total	2,225	100%	0.3	100%	$35,719,734	100%	1,361,755	100%	1.6	$26.23	0.3
Total	Yes	4,678	60%	3.0	61%	$95,176,700	74%	435,595	32%	10.7	$218.50	6.8
Total	No	3,169	40%	1.9	39%	$32,967,424	26%	926,160	68%	3.4	$35.60	2.0
Total	Total	7,847	100%	4.8	100%	$128,144,124	100%	1,361,755	100%	5.8	$94.10	3.5

Societal Impacts

Over the course of its existence, the Green Bank's Multifamily Program has supported the creation of 2,172 job years, avoided the lifetime emission of 126,231 tons of carbon dioxide, 108,450 pounds of nitrous oxide, 83,531 pounds of sulfur oxide, and 6,438pounds of particulate matter as illustrated by Tables 126 and 128. These programs have had between an estimate $1.2 and $2.7 million lifetime public health impact as demonstrated in Table 129. Table 27 shows that the Multifamily programs have generated more than $12 million in tax revenues since inception.

Table 126. Multifamily Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	-	-	-
2014	5	9	14
2015	8	13	22
2016	306	488	793
2017	197	301	498
2018	149	194	342
2019	213	289	502
Total	**879**	**1,293**	**2,172**

Table 127. Multifamily Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$0	$0	$0	$0
2014	$28,346	$8,258	$24,487	$61,092
2015	$180,673	$202,437	$277,195	$660,306
2016	$1,628,037	$605,075	$1,241,913	$3,475,025
2017	$665,717	$435,251	$1,125,753	$2,226,720
2018	$767,490	$523,328	$1,537,005	$2,827,823
2019	$1,013,479	$696,145	$2,015,844	$3,725,468
Total	**$4,283,742**	**$2,470,494**	**$6,222,197**	**$12,976,433**

Table 128. Multifamily Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	9	114	7	86	5	56	1	9
2015	2,089	51,275	1,755	42,821	1,608	39,074	7	91
2016	1,214	25,087	1,137	23,696	837	16,994	102	2,142
2017	1,407	34,015	1,203	29,199	788	19,137	120	2,907
2018	783	10,469	600	8,122	392	5,309	62	838
2019	211	5,271	181	4,526	118	2,961	18	451
Total	**5,713**	**126,231**	**4,883**	**108,450**	**3,748**	**83,531**	**310**	**6,438**

Table 129. Multifamily Economic Value of Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	-	-	-	-
2014	$295	$667	$3,539	$8,000
2015	$928	$2,098	$11,139	$25,180
2016	$19,805	$44,737	$394,765	$891,541
2017	$21,334	$48,174	$497,459	$1,123,225
2018	$23,502	$53,124	$304,166	$687,478
2019	$0	$0	$0	$0
Total	**$65,864**	**$148,800**	**$1,211,069**	**$2,735,424**

Financial Performance

To date there have been no defaults and as of 6/30/2019 there were 7 delinquencies representing $1,264,227 of original principal, 4.43% of the portfolio. All delinquent projects were PPA's.

Marketing

The Green Bank's multifamily programs are built on partnerships with key housing organizations in Connecticut that support the Green Bank's multifamily programs in marketing, outreach, demonstration, and education programs to build awareness and customer demand by property owners. Our approach is to leverage and collaborate with these well-established organizations, building on their initiatives and programs, as we work to scale and "mainstream" holistic clean energy improvements in the multifamily sector. Key partners include the Affordable Housing Alliance, (formerly the Connecticut Housing Coalition), Department of Housing, Connecticut Housing Finance Authority and the HUD Connecticut Field Office, as well as the utility companies. These organizations partner with us at conferences as well as other outreach and education activities organized by the Green Bank.

We also conduct direct outreach to property owners through a sales consultant who has a strong network of relationships with multifamily property owners and managers.

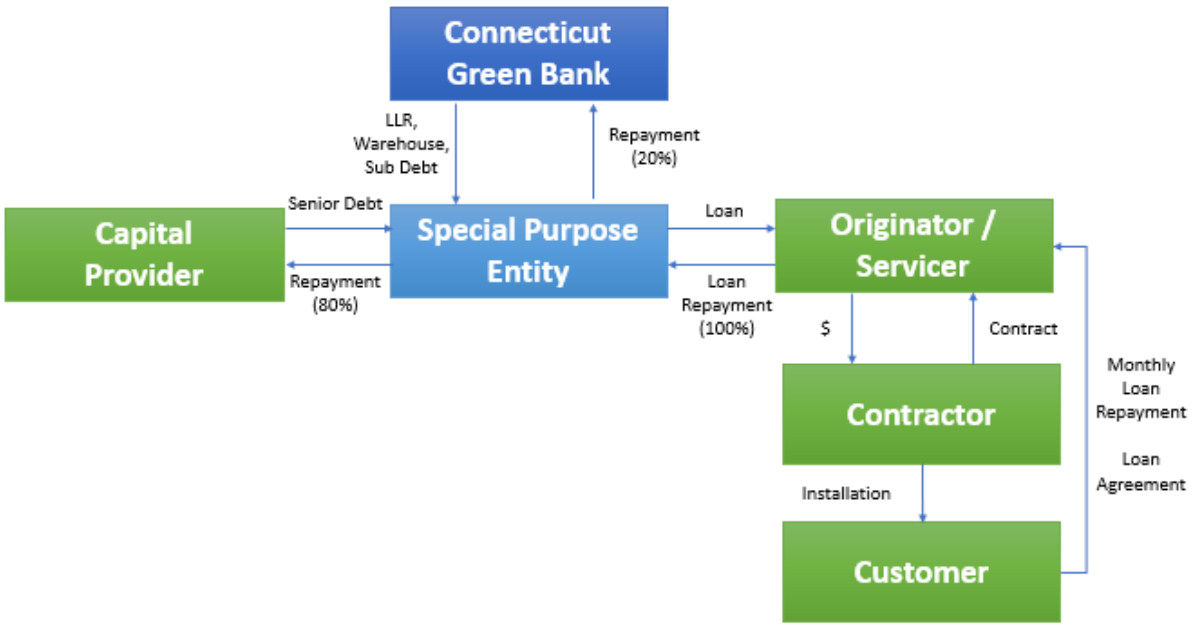
In 2017 we established a Multifamily Peer-to-Peer network where advanced practitioners, including owners, developers, architects, professional service providers and funders, gather on a monthly basis to exchange information and discuss their projects – with the goal of building greater professional capacity in the sector and awareness of Green Bank programs.

Case 7 – CT Solar Loan (Graduated)

Description

The Connecticut Solar Loan was a $5 million pilot public-private partnership between the Green Bank and Sungage Financial resulting in the first crowd-funded solar loan program in the country. It was the first of the Green Bank's ventures to be retired and graduated from the Green Bank's funding to a $100 million pool of capital from the Digital Federal Credit Union to enable citizens to own solar PV systems installed on their homes.

Figure 13. Legal Structure and Flows of Capital for the CT Solar Loan



The CT Solar Loan yields an appropriate rate of return to the capital providers commensurate with the risks they are taking, provided 19 contractors with an important sales tool, and gave nearly 300 customers the ability to own solar PV through low-interest and long-term financing along with access to the federal ITC and state incentives (i.e., the RSIP Expected Performance Based Buydown). Of the $6.0 million invested by the Connecticut Green Bank into the CT Solar Loan, $1.0 million has been sold to the crowd-funding platform Mosaic, $2.6 million to a Community Development Financial Institution in The Reinvestment Fund, and the remaining is on the balance sheet of the Connecticut Green Bank.

In structuring the solar loan product, the Green Bank's objective was to enable homeowners of varying financial means to own their own solar PV systems. Prior to the CT Solar Loan's creation, a homeowner would need to use their own savings or their own home equity (most often though a home equity line of credit) to pay for the system, which, at that time, often required an investment exceeding $25,000. The requirement for such a level of personal financial resources dramatically constrained the "ownership" market for solar PV. So, the Green Bank with its partner Sungage Financial, developed the CT Solar Loan which made 15-year financing available at affordable interest rates without the need to have a lien on the home or

limit the purchase to certain manufacturers who offered financing solely for their panels. In developing the CT Solar Loan, the Green Bank had to overcome the risk of being unable to sell the loans to private investors which would have tied up capital resources of the Green Bank and limited its ability to deploy investment of additional clean energy. Ultimately, the Green Bank became confident that a sufficient rate of return could be offered to enable the investments to "clear" the market without a discount (or loss) to the Green Bank. The combination of crowdsourced funding and a structured private placement enabled the Green Bank to sell the investments with recourse limited to the underlying consumer loans as well as a limited loan loss reserve using American Recovery and Reinvestment Act funds from the US Department of Energy.

The CT Solar Loan was the Connecticut Green Bank's first residential product graduation. It started off being the first crowd-funded residential solar PV transaction with Sungage Financial through Mosaic.[153] And then it graduated to a partnership between Sungage Financial and Digital Federal Credit Union – with no resources from the Connecticut Green Bank.[154] The loan offering from Sungage Financial now includes 5, 10, and 20 year maturity terms at affordable interest rates and is being offered in California, Florida, Massachusetts, New Jersey, New York, and Texas – along with solar PV contractors in Connecticut.

Key Performance Indicators

The Key Performance Indicators for the CT Solar Loan closed activity are reflected in Tables 130 through 133. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

Table 130. CT Solar Loan Project Types and Investment by FY Closed

Fiscal Year Closed	EE[155]	RE	RE/EE	# Projects	Total Investment	Green Bank Investment[156]	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-
2013	-	3	-	3	$91,924	$5,025	$86,899	18.3
2014	-	140	-	140	$4,461,833	$232,100	$4,229,733	19.2
2015	-	136	-	136	$4,505,386	$222,549	$4,282,838	20.2
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
Total		**279**		**279**	**$9,059,143**	**$459,674**	**$8,599,469**	**19.7**

[153] http://www.businesswire.com/news/home/20140206005031/en/Sungage-Financial-CEFIA-Mosaic-Announce-5-Million#.VgRTgVIXL4Y
[154] http://www.ctgreenbank.com/ct-solar-loan-partner-graduates-connecticut-green-bank/
[155] All projects that receive an RSIP incentive are required to do an energy audit/assessment.
[156] Includes incentives, interest rate buydowns and loan loss reserves.

Table 131. CT Solar Loan Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	-	-	-	-	-	-	-
2013	17.0	19,407	485	66	1,655	$3,596	$89,910
2014	1,107.9	1,261,626	31,541	4,305	107,617	$167,832	$4,195,800
2015	1,067.2	1,215,364	30,384	4,147	103,671	$163,037	$4,075,920
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
Total	**2,192.1**	**2,496,398**	**62,410**	**8,518**	**212,943**	**$334,465**	**$8,361,630**

Table 132. CT Solar Loan Project Averages by FY Closed

Fiscal Year Closed	Total Average Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate	Average DTI	Average FICO Score
2012	-	-	-	-	-	-	-	-
2013	$30,641	$19,658	5.7	22	180	5.58	0	758
2014	$31,870	$19,819	7.9	31	180	5.57	0	771
2015	$33,128	$22,942	7.8	30	180	3.34	0	771
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
Total	**$32,470**	**$21,340**	**7.9**	**31**	**180**	**4.48**	**0**	**771**

Table 133. CT Solar Loan Project Application Yield[157] by FY Received

Fiscal Year Received	Applications Received	Applications Approved	Applications Withdrawn	Applications Denied	Approved Rate	Denied Rate
2012	-	-	-	-	-	-
2013	14	7	5	2	86%	14%
2014	284	163	54	67	76%	24%
2015	164	109	37	18	89%	11%
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
Total	**462**	**279**	**96**	**87**	**81%**	**19%**

[157] Applications received are applications submitted to Sungage Financial (servicer of the CT Solar Loan) for credit approval. Applications approved are applications that have met the credit requirements for the program and can move to loan closing, pending formal technical approval of the solar equipment by the Residential Solar Investment Program. Applications withdrawn are applications that have been cancelled by the submitter due to the project not moving forward. Applications denied are applications that are not approved because the customer does not meet underwriting requirements.

Area Median Income Band Penetration

For a breakdown of the CT Solar Loan volume and investment by census tracts categorized by Area Median Income bands – see Table 134. It should be noted that the CT Solar Loan is not an income-targeted program.

Table 134. CT Solar Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed[158]

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	$0	0%	61,168	7%	0.0	$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	$0	0%	101,640	12%	0.0	$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	$0	0%	151,346	17%	0.0	$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	$0	0%	216,988	25%	0.0	$0.00	0.0
2012	>120%	0	0%	0.0	0%	$0	0%	350,196	40%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	881,338	100%	0.0	$0.00	0.0
2013	<60%	0	0%	0.0	0%	$0	0%	59,494	7%	0.0	$0.00	0.0
2013	60%-80%	1	33%	0.0	31%	$33,775	37%	109,189	12%	0.0	$0.31	0.0
2013	80%-100%	0	0%	0.0	0%	$0	0%	150,603	17%	0.0	$0.00	0.0
2013	100%-120%	1	33%	0.0	47%	$38,249	42%	203,157	23%	0.0	$0.19	0.0
2013	>120%	1	33%	0.0	22%	$19,900	22%	351,633	40%	0.0	$0.06	0.0
2013	Total	3	100%	0.0	100%	$91,924	100%	874,076	100%	0.0	$0.11	0.0
2014	<60%	1	1%	0.0	0%	$9,948	0%	57,673	7%	0.0	$0.17	0.0
2014	60%-80%	3	2%	0.0	2%	$89,796	2%	103,934	12%	0.0	$0.86	0.2
2014	80%-100%	24	17%	0.2	14%	$637,228	14%	149,038	17%	0.2	$4.28	1.1
2014	100%-120%	49	35%	0.4	37%	$1,624,516	36%	209,561	24%	0.2	$7.75	2.0
2014	>120%	63	45%	0.5	47%	$2,100,345	47%	348,270	40%	0.2	$6.03	1.5
2014	Total	140	100%	1.1	100%	$4,461,833	100%	868,476	100%	0.2	$5.14	1.3

[158] Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2015	<60%	1	1%	0.0	0%	$22,510	0%	64,361	7%	0.0	$0.35	0.1
2015	60%-80%	10	7%	0.1	6%	$286,560	6%	96,305	11%	0.1	$2.98	0.7
2015	80%-100%	18	13%	0.1	13%	$603,685	13%	164,873	19%	0.1	$3.66	0.8
2015	100%-120%	30	22%	0.2	23%	$1,008,757	22%	184,613	21%	0.2	$5.46	1.3
2015	>120%	77	57%	0.6	58%	$2,583,874	57%	352,621	41%	0.2	$7.33	1.7
2015	Total	136	100%	1.1	100%	$4,505,386	100%	862,773	100%	0.2	$5.22	1.2
Total	<60%	2	1%	0.0	0%	$32,458	0%	60,769	7%	0.0	$0.53	0.1
Total	60%-80%	14	5%	0.1	4%	$410,131	5%	99,220	12%	0.1	$4.13	0.9
Total	80%-100%	42	15%	0.3	14%	$1,240,913	14%	165,331	19%	0.3	$7.51	1.8
Total	100%-120%	80	29%	0.7	30%	$2,671,522	29%	187,463	22%	0.4	$14.25	3.5
Total	>120%	141	51%	1.1	52%	$4,704,119	52%	345,311	40%	0.4	$13.62	3.3
Total	Total	279	100%	2.2	100%	$9,059,143	100%	858,094	100%	0.3	$10.56	2.6

Table 135. CT Solar Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed[159]

	# Project Units				MW				Total Investment			
Fiscal Year Closed	**Total**	**Over 100% AMI**	**100% or Below AMI**	**% at 100% or Below**	**Total**	**Over 100% AMI**	**100% or Below AMI**	**% at 100% or Below**	**Total**	**Over 100% AMI**	**100% or Below AMI**	**% at 100% or Below**
2012	0	0	0	0%	0.0	0.0	0.0	0%	$0	$0	$0	0%
2013	3	2	1	33%	0.0	0.0	0.0	31%	$91,924	$58,149	$33,775	37%
2014	140	112	28	20%	1.1	0.9	0.2	16%	$4,461,833	$3,724,861	$736,971	17%
2015	136	107	29	21%	1.1	0.9	0.2	20%	$4,505,386	$3,592,631	$912,755	20%
2016	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-
Total	**279**	**221**	**58**	**21%**	**2.2**	**1.8**	**0.4**	**18%**	**$9,059,143**	**$7,375,641**	**$1,683,502**	**19%**

[159] Excludes projects in unknown bands.

Distressed Community Penetration

For a breakdown of the CT Solar Loan project volume and investment by census tracts categorized by Distressed Communities – see Table 136. It should be noted that the CT Solar Loan is not an income-targeted program.

Table 136. CT Solar Loan Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	$0	0%	447,962	33%	0.0	$0.00	0.0
2012	No	0	0%	0.0	0%	$0	0%	912,222	67%	0.0	$0.00	0.0
2012	Total	0	0%	0.0	0%	$0	0%	1,360,184	100%	0.0	$0.00	0.0
2013	Yes	2	67%	0.0	78%	$72,024	78%	426,564	31%	0.0	$0.17	0.0
2013	No	1	33%	0.0	22%	$19,900	22%	929,285	69%	0.0	$0.02	0.0
2013	Total	3	100%	0.0	100%	$91,924	100%	1,355,849	100%	0.0	$0.07	0.0
2014	Yes	26	19%	0.2	18%	$757,309	17%	416,415	31%	0.1	$1.82	0.5
2014	No	114	81%	0.9	82%	$3,704,523	83%	939,791	69%	0.1	$3.94	1.0
2014	Total	140	100%	1.1	100%	$4,461,833	100%	1,356,206	100%	0.1	$3.29	0.8
2015	Yes	18	13%	0.1	11%	$483,091	11%	423,559	31%	0.0	$1.14	0.3
2015	No	118	87%	1.0	89%	$4,022,296	89%	929,024	69%	0.1	$4.33	1.0
2015	Total	136	100%	1.1	100%	$4,505,386	100%	1,352,583	100%	0.1	$3.33	0.8
2016	Yes	0	0%	0.0	0%	$0	0%	438,710	32%	0.0	$0.00	0.0
2016	No	0	0%	0.0	0%	$0	0%	916,003	68%	0.0	$0.00	0.0
2016	Total	0	0%	0.0	0%	$0	0%	1,354,713	100%	0.0	$0.00	0.0
2017	Yes	0	0%	0.0	0%	$0	0%	435,595	32%	0.0	$0.00	0.0
2017	No	0	0%	0.0	0%	$0	0%	926,160	68%	0.0	$0.00	0.0
2017	Total	0	0%	0.0	0%	$0	0%	1,361,755	100%	0.0	$0.00	0.0

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Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2018	Yes	0	0%	0.0	0%	$0	0%	435,595	32%	0.0	$0.00	0.0
2018	No	0	0%	0.0	0%	$0	0%	926,160	68%	0.0	$0.00	0.0
2018	Total	0	0%	0.0	0%	$0	0%	1,361,755	100%	0.0	$0.00	0.0
2019	Yes	0	0%	0.0	0%	$0	0%	435,595	32%	0.0	$0.00	0.0
2019	No	0	0%	0.0	0%	$0	0%	926,160	68%	0.0	$0.00	0.0
2019	Total	0	0%	0.0	0%	$0	0%	1,361,755	100%	0.0	$0.00	0.0
Total	Yes	46	16%	0.3	15%	$1,312,424	14%	435,595	32%	0.1	$3.01	0.7
Total	No	233	84%	1.9	85%	$7,746,719	86%	926,160	68%	0.3	$8.36	2.0
Total	Total	279	100%	2.2	100%	$9,059,143	100%	1,361,755	100%	0.2	$6.65	1.6

Societal Impacts

Ratepayers in Connecticut continue to enjoy the societal benefits of the CT Solar Loan Program despite its closure. Over the course of its existence, the program has led to the creation of 132 job years, avoided the lifetime emission of 35,015 tons of carbon dioxide, 46,896 pounds of nitrous oxide, 53,064 pounds of sulfur oxide, and 3,131 pounds of particulate matter as illustrated by Tables 137 and 139. The economic impact of this improved air quality is estimated between $1.2 and 2.7 million of the projects' lifetimes as evidenced in Table 140. The Solar loan generated $463,746 for the state in tax revenue as shown in Table 138.

Table 137. CT Solar Loan Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	1	1	1
2014	25	40	65
2015	25	41	66
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
Total	**51**	**82**	**132**

Table 138. CT Solar Loan Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$2,350	$2,336	$0	$4,686
2014	$114,374	$113,724	$0	$228,098
2015	$115,810	$115,152	$0	$230,962
2016	$0	$0	$0	$0
2017	$0	$0	$0	$0
2018	$0	$0	$0	$0
2019	$0	$0	$0	$0
Total	**$232,534**	**$231,212**	**$0**	**$463,746**

Table 139. CT Solar Loan Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	10	277	17	417	22	537	0	24
2014	706	17,541	980	24,519	1,163	29,008	51	1,583
2015	686	17,200	879	21,964	939	23,519	44	1,518
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
Total	**1,402**	**35,018**	**1,876**	**46,900**	**2,124**	**53,064**	**95**	**3,125**

Table 140. CT Solar Loan Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	$377	$850	$9,413	$21,251
2014	$24,476	$55,259	$611,889	$1,381,481
2015	$23,578	$53,233	$589,451	$1,330,823
2016	-	-	-	-
2017	-	-	-	-
2018	-	-	-	-
2019	-	-	-	-
Total	**$48,430**	**$109,342**	**$1,210,753**	**$2,733,555**

Financing Program

Launched in March of 2013, the CT Solar Loan provided up to $55,000 per loan, with 15-year maturity terms and affordable 6.49% interest rates (including 0.25% ACH payment benefit) to provide homeowners with the upfront capital they needed to finance residential solar PV projects. The program ended in FY2015.

The program involved a financing product developed in partnership with Sungage Financial[160] that used credit enhancements (i.e., $300,000 loan loss reserve and $168,000 interest rate buy-downs)[161] in combination with a $5 million warehouse of funds and $1 million of subordinated debt from the Connecticut Green Bank. Through this product, the Connecticut Green Bank lowered the barriers to Connecticut homeowners seeking to install solar PV installations thus increasing demand while at the same time reducing the market's reliance on subsidies being offered through the RSIP. The CT Solar Loan was the first dedicated residential solar loan product not secured by a lien on the home or tied to a particular PV equipment OEM supplier.

[160] Sungage Financial (http://www.sungagefinancial.com/) won a competitive RFP through the Connecticut Green Bank's Financial Innovation RFP to support a residential solar PV loan program
[161] From repurposed American Recovery and Reinvestment Act funds

As a loan, capital provided to consumers for the CT Solar Loan is returned to the Connecticut Green Bank – it is not a subsidy. In fact, approximately 80% of the loan value was sold to retail investors through a "crowd funding" platform or to institutional investors without recourse to the Connecticut Green Bank. The financial structure of the CT Solar Loan product includes origination,[162] servicing,[163] and financing features in combination with the support of the Connecticut Green Bank.

Financial Performance

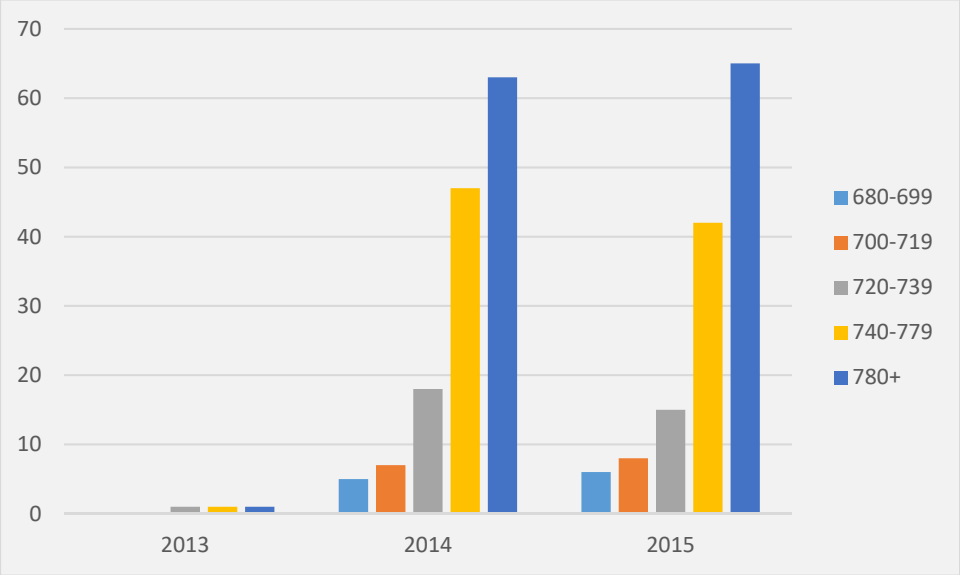
To date there have been no defaults and as of 6/30/2019 there are 4 delinquencies with original principle balances totaling $66,203 or 1.4% of the portfolio.

The household customers that accessed the CT Solar Loan since its launch in 2013 had varying credit scores – see Table 141.

Table 141. Credit Score Ranges of Household Customers Using the CT Solar Loan by FY Closed

Fiscal Year	Unknown	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
2012	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	1	1	1	3
2014	-	-	-	-	5	7	18	47	63	140
2015	-	-	-	-	6	8	15	42	65	136
Total	**-**	**-**	**-**	**-**	**11**	**15**	**34**	**90**	**129**	**279**
					4%	5%	12%	32%	46%	100%

Figure 14. Credit Score Ranges of Household Customers Using the CT Solar Loan by FY Closed



[162] Sungage Financial in partnership with local contractors
[163] Concord Servicing Corporation

Marketing

To accelerate the deployment of residential solar PV through the RSIP and the uptake of the CT Solar Loan financing product, the Connecticut Green Bank implemented Solarize Connecticut. Green Bank Solarize programs are designed to use a combination of group purchasing, time-limited offers, and grassroots outreach, while local clean energy advocates volunteer and coordinate with their towns to help speed the process – see Table 142.

Table 142. Number of Projects, Investment, and Installed Capacity through Green Bank Solarize Connecticut for the CT Solar Loan Financing Product

	# of Projects	Total Investment	Installed Capacity (MW)
Solarize	168	$5,209,925	1.3
Not Solarize	111	$3,849,218	0.9
Total	279	$9,059,143	2.2
% Solarize	60%	58%	59%

The Green Bank Solarize Connecticut program provided a significant marketing channel to catalyze origination for the CT Solar Loan comprising nearly 60 percent of the total projects, investment, and installed capacity.

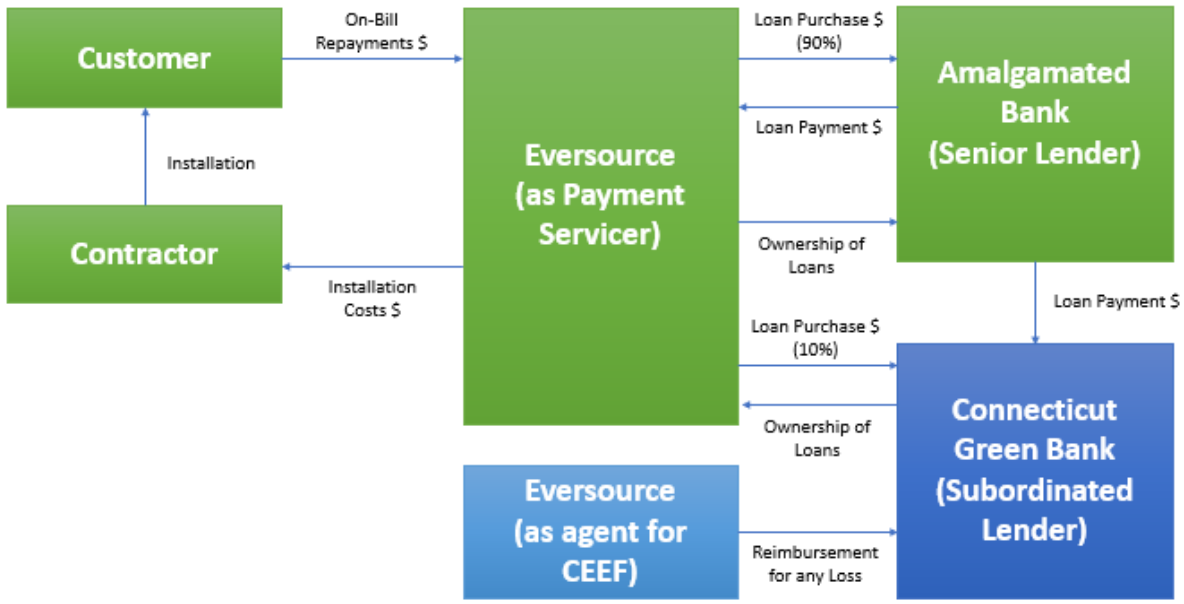
Case 8 – SBEA

Description

The Small Business Energy Advantage program was created in partnership by the United Illuminating and Eversource under the guidance of the Energy Efficiency Board. The program enables small businesses, who have an average 12-month peak demand between 10 and 200 kw to reduce their energy costs by addressing energy efficiency opportunities in their office, shops, restaurants, and factories. Participants can borrow up to $100,000 to address these measures, at zero interest and repay their financing on their electric bills.

In 2019, the Green Bank closed on a financing structure that brought cheaper capital from the market to the program, thereby reducing the ratepayer's subsidy it, by lowering the cost of capital in the program through a public-private partnership between the Green Bank and Amalgamated Bank.

Figure 5. Legal Structure and Flows of Capital for SBEA



Key Performance Indicators

The Key Performance Indicators for SBEA closed activity are reflected in Tables 40 through 41. These illustrate the volume of projects by year, investment, and generation capacity installed. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

Table 40. SBEA Project Types and Investment by FY Closed

Fiscal Year Closed	EE	# Projects	Total Investment	Green Bank Investment	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	-	-	-	-	-	-
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	4,339	4,339	$47,681,205	$4,486,648	$43,194,557	10.6-
Total	**4,339**	**4,339**	**$47,681,205**	**$4,486,648**	**$43,194,557**	**10.6-**

Table 41. SBEA Project Capacity, Generation and Savings by FY Closed[164]

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	397,343	-	-	-
Total				**397,343**			

[164] Energy Savings numbers for SBEA are provided by to the Green Bank by Eversource using their established methodology. These savings numbers are not included in overall Green Bank impact numbers.

Societal Impacts

Table 42. SBEA Job Years Supported by FY Closed[165]

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	253	324	577
Total	**253**	**324**	**577**

Table 43. SBEA Avoided Emissions by FY Closed[166]

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	39,784	-	-	-	-	-	-	-
Total	**39,784**	-	-	-	-	-	-	-

Financing Program

SBEA offer participants zero-interest, on-bill financing for up to 4 years. Business are eligible for up to $100,000 per meter, with higher limits for municipalities and the state. The Connecticut Green Bank and Amalgamated Bank have partnered together to supply capital for Eversource's SBEA financing. The loans are originally funded by Eversource. Connecticut Green Bank and Amalgamated Bank purchase these loans on a quarterly basis at a rate discounted to bring their customer-facing rate to 0%. Connecticut Green Bank contributes 10% of the capital for these purchases and the remaining 90% comes from Amalgamated Bank. Loan losses are backed by the Connecticut Energy Efficiency Fund.

[165] These jobs estimates were calculated using the established Green Bank methodology but are not included in overall Green Bank impact numbers.
[166] These avoided emissions are provided by Eversource and are excluded from the Green Bank's total emissions avoided

Financial Performance

As of June 30, 2019, there were 57 delinquent SBEA loans with a balance of $455,304.31 or 1.28% of the outstanding balance. All delinquencies were from the first tranche of loans purchased by the Green Bank and Amalgamated and represent 1.55% of the outstanding balance of that tranche.

Marketing

SBEA is marketed by the utilities through a network of authorized contractors. They offer a free energy assessment and incentives, in addition to the financing. At present, the Green Bank is not involved with efforts to market SBEA.

Anaerobic Digestion and Combined Heat and Power Pilot Programs

These pilot programs were initiated in 2011 per Public Act 11-80 Section 103, the Green Bank is to develop a three-year pilot program for AD and CHP by setting aside $2 million a year for each pilot for three years – for a total of $12 million. Funds to support the pilot programs could be used as grants, power purchase agreements or loans. There were to be no more than five (5) AD projects, each no more than 3 MW in size, and no more than 50 MW of CHP projects each not to exceed 5 MW in size. Both pilot programs supported projects at no more than $450 per kW on a grant basis; Seven projects were supported over the duration of these pilots (see Table 143 below). Due to the Connecticut General Assembly's reallocation of monies from the Clean Energy Fund to the General Fund in 2017, the Green Bank cancelled existing commitments for these pilots the following year.

Key Performance Indicators

The Key Performance Indicators for the AD and CHP Pilot Programs closed activity are reflected in Tables 143 through 145. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

Table 143. AD and CHP Pilot Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/EE	# Projects	Total Investment	Green Bank Investment[167]	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-
2013		2		2	$3,189,000	$304,500	$2,884,500	10.5
2014		1		1	$6,300,000	$630,000	$5,670,000	10.0
2015		2		2	$642,578	$60,750	$581,828	10.6
2016		1		1	$10,500,000	$1,997,403	$8,502,597	5.3
2017		1		1	$3,401,392	$502,860	$2,898,532	6.8
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
Total		**7**		**7**	**$24,032,970**	**$3,495,513**	**$20,537,457**	**6.9**

[167] Includes incentives, interest rate buydowns and loan loss reserves.

Table 144. AD and CHP Pilot Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Food/Organic Waste (tons/year)
2012	-	-	-	-	-	
2013	685.0	5,400,540	81,008	32,533	488,002	
2014	3,000.0	23,652,000	354,780	142,482	2,137,234	
2015	135.0	1,064,340	15,965	4,000	60,001	
2016	1,010.0	7,078,080	106,171	44,949	674,240	40,000
2017	795.0	6,267,780	94,017	304,445	4,566,675	
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
Total	**5,625.0**	**43,462,740**	**651,941**	**528,410**	**7,926,152**	**40,000**

Table 145. AD and CHP Pilot Project Averages by FY Closed

Fiscal Year Closed	Total Average Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)
2012	-	-	-	-
2013	$1,594,500	$0	342.5	16,267
2014	$6,300,000	$0	3,000.0	142,482
2015	$321,289	$0	67.5	2,000
2016	$10,500,000	$1,997,403	1,010.0	44,949
2017	$3,401,392	$502,860	795.0	304,445
2018	-	-	-	-
2019	-	-	-	-
Total	**$3,433,281**	**$1,250,132**	**803.6**	**75,487**

Societal Impacts

Ratepayers in Connecticut continue to enjoy the societal benefits of the AD and CHP Programs despite its closure. Over the course of its existence, these programs have supported the creation of 188 job years as illustrated by Table 146. These projects have generated over $2 million in tax revenues as shown in Table 147. We have not included environmental or public health impacts for these pilots as the Avert and CoBRA models do not consider the technologies of these pilots.

Table 146. AD and CHP Pilot Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	12	20	32
2014	25	39	64
2015	3	4	6
2016	20	32	51
2017	13	21	34
2018	-	-	-
2019	-	-	-
Total	**73**	**115**	**188**

Table 147. AD and CHP Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$103,438	$84,824	$174,572	$362,834
2014	$204,347	$167,574	$344,873	$716,794
2015	$20,843	$17,092	$35,176	$73,110
2016	$101,777	$0	$600,933	$702,709
2017	$73,820	$90,474	$186,198	$350,492
2018	$0	$0	$0	$0
2019	$0	$0	$0	$0
Total	**$504,225**	**$359,963**	**$1,341,752**	**$2,205,940**

Strategic Investments

As opportunities present themselves, the Green Bank's financial resources are considered for part of the capital stack of projects that are outside any of the organization's existing programs. These projects are selected based on the opportunity to expand the organization's experience with specific technologies, to advance economic development in a specific locale, or to drive adoption of clean energy that would otherwise not occur.

Key Performance Indicators

The Key Performance Indicators for the Strategic Program closed activity are reflected in Tables 148 through 150.

Table 148. Strategic Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/EE	Other	# Projects	Total Investment	Green Bank Investment[168]	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-	-
2013		1			1	$70,800,000	$5,800,000	$65,000,000	12.2
2014	-	-	-	-	-	-	-	-	-
2015		1		1	2	$56,500,000	$3,227,000	$53,273,000	17.5
2016	-	-	-	-	-	-	-	-	-
2017		1			1	$4,538,212	$3,900,000	$638,212	1.2
2018	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-
Total		**3**			**4**	**$131,838,212**	**$12,927,000**	**$118,911,212**	**10.2**

Table 149. Strategic Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)
2012	-	-	-	-	-
2013	14,800.0	116,683,200	1,166,832	398,123	3,981,231
2014	-	-	-	-	-
2015	5,000.0	136,494,997	118,260	465,850	403,503
2016	-	-	-	-	-
2017	193.0	825,052	20,626	2,815	70,377
2018	-	-	-	-	-
2019	-	-	-	-	-
Total	**19,993.0**	**254,003,249**	**1,305,718**	**866,788**	**4,455,111**

[168] Includes incentives, interest rate buydowns and loan loss reserves.

Table 150. Strategic Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)
2012	-	-	-	-
2013	$70,800,000	$5,800,000	14,800.0	398,123
2014	-	-	-	-
2015	$28,250,000	$1,613,500	2,500.0	232,925
2016	-	-	-	-
2017	$4,538,212	$3,900,000	193.0	2,827
2018	-	-	-	-
2019	-	-	-	-
Total	**$32,959,553**	**$3,231,750**	**6,664.3**	**216,700**

Societal Impacts

Ratepayers in Connecticut enjoy of the societal benefits of Strategic Investments. Over the course of its existence, the program has supported the creation of 1,554 job years, avoided the emission 151,948 tons of carbon dioxide, 682,313 pounds of nitrous oxide, 495,851 pounds of sulfur oxide, and 4,749 pounds of particulate matter as illustrated by Tables 151 and 153. The economic value of the public health impacts of this cleaner air, illustrated in table 154, is estimated to be between $2.1 and $23 million. These projects have generated more than $13 million in tax revenues since inception as shown in Table 152.

Table 151. Strategic Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	340	779	1,119
2014	-	-	-
2015	279	360	639
2016	-	-	-
2017	28	36	64
2018	-	-	-
2019	-	-	-
Total	**647**	**1,175**	**1,822**

Table 152. Strategic Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	$0	$0	$0	$0
2013	$1,782,886	$503,246	$3,907,840	$6,193,972
2014	$0	$0	$0	$0
2015	$2,001,357	$1,253,139	$3,036,598	$6,291,094
2016	$0	$0	$0	$0
2017	$148,127	$176,704	$237,072	$561,903
2018	$0	$0	$0	$0
2019	$0	$0	$0	$0
Total	**$3,932,370**	**$1,933,089**	**$7,181,510**	**$13,046,969**

Table 153. Strategic Avoided Emissions by FY Closed

	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
Fiscal Year	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	7,876	78,761	63,009	630,089	45,623	456,231	0	0
2014	-	-	-	-	-	-	-	-
2015	4,165	62,471	2,890	43,354	2,105	31,575	317	4,749
2016	-	-	-	-	-	-	-	-
2017	430	10,759	356	8,906	323	8,077	0	0
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
Total	**12,471**	**151,992**	**66,255**	**682,349**	**48,051**	**495,884**	**317**	**4,749**

Table 154. Strategic Investments Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	$839,171	$1,896,841	$8,391,713	$18,968,414
2014	-	-	-	-
2015	$124,567	$280,670	$1,868,508	$4,210,056
2016	-	-	-	-
2017	$5,678	$12,835	$141,955	$320,871
2018	-	-	-	-
2019	-	-	-	-
Total	**$969,417**	**$2,190,347**	**$10,402,175**	**$23,499,341**

6. Appendix

Terms and Definitions

The following is meant to serve as guide to the reader of common terms used in this section and to illustrate how the Green Bank defines these terms:

Applications Received - This is the number of applications submitted to CGB seeking an incentive or financing during a specific period regardless of whether they were approved or rejected. The specific metric is calculated by subtracting the total number of applications received at the beginning of the time period from the total number of applications received at the end of the time period. This indicates interest in our program.

Approved - An approved project is one whose application has been reviewed by Green Bank staff and has been authorized to proceed to the funding stage, involving the project's requested CGB financing and/or incentives. The number of approvals in one period is an indicator of potential completed projects in subsequent periods.

Closed - A "Closed" project is one that has been approved by the CGB and for which CGB financing and/or incentives have been mobilized. For RSIP projects, once a project is approved, it is considered closed. This status also suggests that physical work is in progress or is imminent.

Completed – is a project that is generating or saving energy and has been deemed completed by the Green Bank and contractors based on program specific standards.

Gross Investment - This is the total system costs for all clean and renewable energy installations and/or the total costs of all energy efficiency projects during the specified time period, regardless of how much of the projects are being financed. Closing costs for CGB financing are not included in this total.

Principal Amount Financed - This is the total amount of money that is being borrowed regardless of whether it is wholly or partially from the CGB. For some programs, this amount will be greater than the gross investment, to include closing costs that are rolled into the loans. Principal Amount Financed equals Gross Investment plus closing costs that are financed, minus any part of the projects paid upfront by the borrowers:

$$Principal\ Amount\ Financed = Gross\ Investment + Fees\ Financed - Owners'\ Contributions$$

This should also equal CGB investment plus third party investment:

$$Principal\ Amount\ Financed = CGB\ Investment + Third\ Party\ Financing$$

CGB Investment - Green Bank investment activity is broken down into two categories, presented below as separate metrics.

$$CGB\ Investment = CGB\ Incentives + CGB\ Financing$$

CGB Incentives - CGB incentives are funds that are not intended to be repaid by the recipient and are used to reduce the cost of a specific product or technology. At present, RSIP is the only active incentive program administered by CGB.

CGB Financing - CGB financing includes the total funds deployed by the Green Bank during the specified time period with the intention either that the funds will be repaid or to bolster the creditworthiness of borrowers. CGB Financing is the sum of the types of financing below, each of which is its own metric.

CGB Financing = CGB Loans and Leases + CGB Credit Enhancements

CGB Loans and Leases - Loans and leases are the types of CGB financing in which capital is directly lent to fund projects. It does not include third party lending.

CGB Credit Enhancements - Credit enhancements involve the deployment of CGB capital to bolster the credit of borrowers. This financing category is comprised of the three categories of funds below, each as its own metric.

CGB Credit Enhancements = Loan Loss Reserves + Guarantees + Interest Rate Buy-Downs

Loan Loss Reserves - Loan Loss Reserves are capital that the CGB has segregated as part of a program to ensure against losses incurred by participating lenders due to the failure of borrowers to repay loans.

Guarantees - Guarantees reflect a specified dollar commitment that CGB has made to external lenders for repayment of specific transactions in the event one or more borrowers fail to repay the lenders.

Interest Rate Buy-Downs - Interest rate buy-downs involve the deployment of CGB capital by paying a portion of the interest on borrowers' loans to decrease their cost of capital.

Third Party Financing - This metric captures the amount of project financing that is provided by parties other than the CGB and project owner. It is this type of financing that the CGB seek s to grow in relation to its own financing.

Leverage Ratio
This metric presents the relationship between private financing and CGB's direct financing.

Leverage Ratio = Gross Investment / CGB Investment

Mobilization Ratio
This metric presents the relationship between private financing and CGB's direct investment (both financing and incentives).

Mobilization Ratio = Third-Party Financing Amount / CGB Investment

Community Activity Table

See the Municipality Tables in here.[169]

Contractor Activity Table

See the Contractor Tables in here.[170]

Trained Contractor Table

See the Trained Contractor table in here.[171]

Calculations and Assumptions

Table 155. Capacity Factors and Expected Useful Life (EUL) By Technology

Technology	Capacity Factor	EUL
AD	0.80	15
CHP	0.90	15
EE	0.0	12
Fuel Cell	0.90	10
Geothermal	0.0	25
Hydro	0.49	25
PV	0.13	25
PV/Biomass	0.13	25
Solar Thermal	0.0	20
Wind	0.18	15

[169] http://www.ctgreenbank.com/fy17-cafr-nfs-appendix/
[170] http://www.ctgreenbank.com/fy17-cafr-nfs-appendix/
[171] http://www.ctgreenbank.com/fy17-cafr-nfs-appendix/

Table 156. Job Year Factors by Year Approved by Technology

	2009 Factors - Approved prior to 6/30/2016			2016 Factors - Approved after 7/1/2016			2018 Factors - Approved after 7/1/2018		
	Direct Job Years	Indirect and Induced Jobs	Total Job Years per $1M Invested	Direct Job Years	Indirect and Induced Jobs	Total Job Years per $1M Invested	Direct Job Years	Indirect and Induced Jobs	Total Job Years per $1M Invested
	Renewable Energy								
Fuel Cell R&D/Engineering	2.9	4.6	7.5	2.9	3.8	6.7	2.8	3.7	6.5
Fuel Cell Manufacturing	4.8	11.0	15.8	4.9	6.4	11.3	3.9	5.8	9.7
Solar PV - Residential	5.9	9.4	15.3	3.9	5.1	9.0	3.9	5.1	9.0
Solar PV - Non-Residential	3.4	5.4	8.8	3.1	4.0	7.1	3.1	4.0	7.1
Ductless Split Heat Pump	6.7	10.7	17.4	6.7	8.7	15.4	6.5	8.5	15.0
Geothermal	8.3	13.3	21.6	6.7	8.7	15.4	6.7	8.7	15.4
Solar Thermal	7.6	12.2	19.8	5.6	7.3	12.9	5.6	7.3	12.9
Wind Installation	6.2	9.9	16.1	6.2	8.0	14.2	5.8	7.6	13.4
Hydro Installation	6.2	9.9	16.1	6.2	8.0	14.2	5.8	7.6	13.4
EV Charging Stations - Installation	3.1	5.0	8.1	3.1	4.0	7.1	2.9	3.8	6.7
Storage Installation	2.2	3.5	5.7	2.2	2.9	5.1	2.2	2.9	5.1
Utility Scale Storage	2.1	3.4	5.5	2.1	2.7	4.9	2.1	2.7	4.9
AD	1.9	3.0	4.9	1.9	2.5	4.4	1.9	2.5	4.4
CHP	3.9	6.2	10.1	3.9	5.0	8.9	3.9	5.0	8.9
	Energy Efficiency								
Residential	12.9	20.6	33.5	0.0	0.0	0.0	0.0	0.0	0.0
Residential Lighting[1]	0.0	0.0	0.0	7.7	10.0	17.7	7.5	9.7	17.2
Residential Home Energy Solutions (HES) - Audits[1]	7.7	12.3	20.0	7.8	10.2	18.0	7.7	10.0	17.7
Residential HES - Weatherization & HVAC	0.0	0.0	0.0	5.6	7.3	12.9	5.4	7.0	12.5
Residential Gas Conversion	0.0	0.0	0.0	5.6	7.3	12.9	5.4	7.0	12.5
Small Business Energy Advantage	9.1	14.6	23.7	6.2	8.0	14.2	5.8	7.5	13.3
Large Commercial and Industrial	7.6	12.2	19.8	5.6	7.3	12.9	5.3	6.8	12.1

Table 157. Residential Single Family Annual and Lifetime MMBTUs and Cost Savings[172]

Improvement Type	Average Annual Savings MMBTUs	Average Lifetime Savings MMBTUs	Average Annual $ Savings	Average Lifetime $ Savings	Average Expected Useful Life (EUL)
Air Source Heat Pump	10	190	$419	$8,374	20
Boiler	18	370	$372	$7,441	20
Central AC	3	58	$142	$2,552	18
Ductless Heat Pump	10	176	$443	$7,975	18
Furnace	15	295	$357	$7,136	20
Geothermal Heat Pump	5	104	$1,593	$31,860	20
Heat Pump Water Heater	6	78	$215	$2,584	12
Insulation	19	471	$413	$10,328	25
Other	7	138	$154	$3,075	20
Solar Hot Water Heater	6	157	$150	$3,740	25
Solar PV[1]	27	680	$1,199	$29,970	25
Water Heater	5	102	$78	$1,564	20
Windows	8	197	$134	$3,362	25

1. Used for other residential market programs.

[172] This chart was developed in in conjunction with utility staff as a guide for the Residential Sector based on utility program savings documents from 2016-17.

Table 158. Average Emission Rates by Year Completed by Technology

	Year Completed					
	2017 [4]	**2016**	**2015**	**2014**	**2013**	**2012** [5]
	CO2 tons					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only[1]	0.530	0.543	0.570	0.549	0.555	0.536
Fuel Cell[2]	0.068	0.068	0.068	0.068	0.068	0.068
Geothermal[2]	0.400	0.400	0.400	0.400	0.400	0.400
Hydro[2]	0.520	0.520	0.520	0.520	0.520	0.520
Solar PV[1]	0.539	0.562	0.575	0.551	0.572	0.558
Solar Thermal[2]	0.547	0.547	0.547	0.547	0.547	0.547
Wind[1]	0.528	0.537	0.575	0.562	0.558	0.523
	NOX pounds					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only[1]	0.400	0.480	0.648	0.739	0.741	0.548
Fuel Cell[2]	0.540	0.540	0.540	0.540	0.540	0.540
Geothermal[2]	0.335	0.335	0.335	0.335	0.335	0.335
Hydro[2]	0.430	0.430	0.430	0.430	0.430	0.430
Solar PV[1]	0.463	0.575	0.697	0.790	0.859	0.689
Solar Thermal[2]	0.453	0.453	0.453	0.453	0.453	0.453
Wind[1]	0.367	0.428	0.642	0.760	0.737	0.469
	SO2 pounds					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only[1]	0.261	0.340	0.665	0.890	0.952	0.732
Fuel Cell[2]	0.391	0.391	0.391	0.391	0.391	0.391
Geothermal[2]	0.297	0.297	0.297	0.297	0.297	0.297
Hydro[2]	0.390	0.390	0.390	0.390	0.390	0.390
Solar PV[1]	0.303	0.411	0.698	0.956	1.107	0.911
Solar Thermal[2]	0.411	0.411	0.411	0.411	0.411	0.411
Wind[1]	0.267	0.333	0.723	1.012	1.000	0.643
	PM2.5 pounds[3]					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only[1]	0.042	0.043	0.045	0.045	0.045	0.045
Fuel Cell[2]	0.000	0.000	0.000	0.000	0.000	0.000
Geothermal[2]	0.000	0.000	0.000	0.000	0.000	0.000
Hydro[2]	0.000	0.000	0.000	0.000	0.000	0.000
Solar PV[1]	0.046	0.049	0.050	0.050	0.050	0.050
Solar Thermal[2]	0.000	0.000	0.000	0.000	0.000	0.000
Wind[1]	0.040	0.039	0.044	0.044	0.044	0.044

1. Average Emission Rates from AVERT Model.
2. Average Emission Rates from 2007 New England Marginal Emission Rate Analysis.
3. PM 2.5 Rates for 2012 - 2014 are unavailable and use the 2015 rates.
4. 2017 rates are used for projects completed in 2018,2019 and those pending completion.
5. 2012 rates are used for projects completed prior to 2012.

Table 159. Tax Generation Rates per $1 Million Deployed by Technology and Product Structure

Technology and Program	2010-2016			2017 and later		
	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor
Anaerobic Digestion Pilot	$9,693.00	-	$57,231.69	$10,823.00	-	$57,231.69
Biomass - CPACE	$9,693.00	-	$57,231.69	$10,823.00	-	$57,231.69
CHP - Pilot/Strategic Investments	$32,436.00	$26,599.00	$54,741.79	$21,703.00	$26,599.00	$54,741.79
Energy Efficiency - CPACE	$39,888.00	$19,662.00	$58,303.00	$28,807.00	$19,662.00	$58,303.00
Energy Efficiency - Home Energy Solutions Audits (HES)	$96,903.00	$5,152.00	$18,694.00	$40,976.00	$5,152.00	$18,694.00
Energy Efficiency - Multifamily (non-CPACE)	$67,491.00	$19,662.00	$58,303.00	$28,807.00	$19,662.00	$58,303.00
Energy Efficiency (non HES) - Smart-E	$67,491.00	$22,910.00	$30,773.00	$28,908.00	$22,910.00	$30,773.00
Fuel Cell - Strategic Investments	$25,182.00	$7,108.00	$55,195.48	$23,489.00	$7,108.00	$55,195.48
Geothermal - CPACE	$43,515.00	$26,887.00	-	$35,791.22	$26,887.00	-
Geothermal - Smart-E	$43,515.00	$26,887.00	-	$35,791.00	$26,887.00	-
Hydro - CPACE	$28,674.00	$38,937.00	$52,239.00	$32,640.00	$38,937.00	$52,239.00
Other - CPACE	$28,674.00	$19,662.00	$58,303.00	$28,807.00	$19,662.00	$58,303.00
Solar PV - CEBS	$15,435.00	$41,893.01	-	$15,641.23	$41,893.01	-
Solar PV - Clean Energy Communities	$15,435.00	$41,893.01	-	$15,641.23	$41,893.01	-
Solar PV - CPACE	$15,435.00	$41,893.01	-	$15,641.23	$41,893.01	-
Solar PV - CPACE Onyx	$15,435.00	$16,916.65	-	$15,641.23	$16,916.65	-
Solar PV - CPACE SL2	$15,435.00	$16,916.65	-	$15,641.23	$16,916.65	-
Solar PV - CPACE SL3	$27,040.50	$3,373.73	-	$20,878.21	$3,373.73	-
Solar PV - Low Income - PosiGen	$27,040.50	$3,373.73	-	$20,878.21	$3,373.73	-

Technology and Program	2010-2016			2017 and later		
	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor
Solar PV - Multi-Family (blank)	$15,435.00	$14,617.00	-	$15,641.00	$14,617.00	-
Solar PV - OSDG	$15,435.00	$41,893.01	-	$15,641.23	$41,893.01	-
Solar PV - RSIP	$27,040.50	$8,076.60	-	$20,878.21	$8,076.60	-
Solar PV - Smart-E	$27,040.50	$5,250.00	-	$20,878.21	$ 5,250.00	-
Solar PV - Solar Lease SL2	$27,040.50	$26,886.74	-	$20,878.21	$26,886.74	-
Solar PV - Solar Loan	$27,040.50	$26,886.74	-	$20,878.21	$26,886.74	-
Solar PV - Solar PV - Lease Onyx	$15,435.00	$16,916.65	-	$15,641.23	$16,916.65	-
Solar PV - Solar PV - Lease SL2	$15,435.00	$16,916.65	-	$15,641.23	$16,916.65	-
Solar PV - Solar PV - Lease SL3	$27,040.50	$ 3,373.73	-	$20,878.21	$ 3,373.73	-
Solar Thermal - CPACE	$39,888.00	$26,887.00	-	$29,826.00	$26,887.00	-
Solar Thermal - Smart-E and Pilots	$39,888.00	$26,887.00	-	$29,826.00	$26,887.00	-
Waste Heat Recovery - CPACE	$39,888.00	$26,599.00	$54,741.79	$21,703.00	$26,599.00	$54,741.79
Wind - Strategic	$28,674.00	$15,501.00	$52,239.00	$32,640.00	$15,501.00	$52,239.00

Table 160. Public Health Savings Rates per ton of pollutant avoided

Ton avoided	$PM_{2.5}$ - Low	$PM_{2.5}$ - High	SO_X - Low	SO_x - High	NO_x - Low	NO_x - High
1	$120,799	$273,010	$28,665	$64,794	$5,881	$13,293

STATE OF CONNECTICUT

AUDITORS' REPORT
CONNECTICUT GREEN BANK
(FORMERLY THE CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY)
FOR THE FISCAL YEARS ENDED JUNE 30, 2016 AND 2017

AUDITORS OF PUBLIC ACCOUNTS
JOHN C. GERAGOSIAN ❖ ROBERT J. KANE

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July 31, 2019

EXECUTIVE SUMMARY

In accordance with the provisions of Section 2-90 of the Connecticut General Statutes we have audited certain operations of the Connecticut Green Bank (CGB), formerly known as the Clean Energy Finance and Investment Authority, for the years ended June 30, 2016 and 2017. The mission of this quasi-public agency 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. It was created to promote energy efficiency and investment in renewable energy sources. To achieve this mission the Green Bank uses limited public resources to attract private capital investment in order to make clean energy more accessible to customers.

The objectives of the audit were to evaluate internal controls over significant functions, compliance with policies, procedures and legal provisions, and the economy and efficiency of certain management practices and operations. The audit resulted in 7 recommendations. Recommendation 4 was repeated from the prior audit.

Page 12	The Connecticut Green Bank should strengthen internal controls over payroll to include a reconciliation between internal and Core-CT records.
Page 13	The Connecticut Green Bank should revise its bylaws to require separation agreements be approved by its board of directors based on the recommendations of the Budget and Operations Committee.
Page 17	The Connecticut Green Bank should consider requiring a refundable application fee that would cover costs related to the review of potential C-PACE projects.
Page 18	The Connecticut Green Bank should strengthen internal controls to ensure compliance with reporting requirements as prescribed by the Connecticut General Statutes.
Page 23	The Connecticut Green Bank should strengthen internal controls by ensuring that applications are properly completed prior to the execution of a financing agreement.
Page 26	The Connecticut Green Bank should strengthen internal controls by ensuring that inspection reports are properly documented and contain the date and time of the inspections.
Page 28	The Connecticut Green Bank should strengthen internal controls to ensure compliance with the General Statutes and bylaws. If the Connecticut Green Bank determines that any of its statutes are impractical or outdated, it should request a legislative change.

STATE OF CONNECTICUT

AUDITORS OF PUBLIC ACCOUNTS

State Capitol
210 Capitol Avenue
Hartford, Connecticut 06106-1559

JOHN C. GERAGOSIAN

ROBERT J. KANE

July 31, 2019

AUDITORS' REPORT
CONNECTICUT GREEN BANK
(FORMERLY THE CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY)
FOR THE FISCAL YEARS ENDED JUNE 30, 2016 AND 2017

We have audited certain operations of the Connecticut Green Bank (CGB) in fulfillment of our duties under Sections 1-122 and Section 2-90 of the Connecticut General Statutes. The scope of our audit included, but was not necessarily limited to, the years ended June 30, 2016 and 2017. The objectives of our audit were to:

1. Evaluate the bank's internal controls over significant management and financial functions;

2. Evaluate the bank's compliance with policies and procedures internal to the bank or promulgated by other state agencies, as well as certain legal provisions, including but not limited to whether CGB has complied with its regulations concerning affirmative action, personnel practices, the purchase of goods and services, the use of surplus funds and the distribution of loans, grants and other financial assistance, as applicable; and

3. Evaluate the effectiveness, economy and efficiency of certain management practices and operations, including certain financial transactions.

Our methodology included reviewing written policies and procedures, financial records, minutes of meetings, and other pertinent documents; interviewing various personnel of the bank, as well as certain external parties; and testing selected transactions. We obtained an understanding of internal controls that we deemed significant within the context of the audit objectives and assessed whether such controls have been properly designed and placed in operation. We tested certain of those controls to obtain evidence regarding the effectiveness of their design and operation. We also obtained an understanding of legal provisions that are significant within the context of the audit objectives, and we assessed the risk that illegal acts, including fraud, and violations of contracts, grant agreements, or other legal provisions could

occur. Based on that risk assessment, we designed and performed procedures to provide reasonable assurance of detecting instances of noncompliance significant to those provisions.

We conducted our audit in accordance with the standards applicable to performance audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform our audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides such a basis.

The accompanying Résumé of Operations is presented for informational purposes. This information was obtained from various available sources including, but not limited to, the department's management and the state's information systems, and was not subjected to the procedures applied in our audit of the bank. For the areas audited, we identified:

1. Deficiencies in internal controls;

2. Apparent noncompliance with legal provisions; and

3. Need for improvement in management practices and procedures that we deemed to be reportable.

The State Auditors' Findings and Recommendations in the accompanying report presents findings arising from our audit of CGB.

COMMENTS

FOREWORD

The Connecticut Green Bank (CGB) was established through Public Act 11-80, effective July 1, 2011. CGB operates primarily under Chapter 283, Section 16-245n of the General Statutes. Subsection (d)(1)(A) of that section includes CGB as a public instrumentality and political subdivision of the state. Pursuant to Section 1-120 of the General Statutes, CGB is a quasi-public agency subject to the requirements in Chapter 12. As a quasi-public agency, CGB's financial information is included as a component unit in the State of Connecticut's Comprehensive Annual Financial Report (CAFR).

The Connecticut Green Bank administers the Connecticut Clean Energy Fund that was previously administered by Connecticut Innovations (CI). Originally the Clean Energy Finance and Investment Authority (CEFIA), it was renamed the Connecticut Green Bank on June 6, 2014 through Public Act 14-94.

The Connecticut 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. It was created to promote energy efficiency and investment in renewable energy sources. To achieve its mission, CGB uses limited public

resources to attract private capital investment in order to make clean energy more accessible to consumers. In accordance with Section 16-245n(d)(1)(B), CGB's purpose includes: (1) developing separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such others as CGB may determine, (2) supporting financing or other expenditures that promote investment in clean energy sources in accordance with a comprehensive plan developed by it to foster the growth, development and commercialization of clean energy sources and related enterprises, and (3) stimulating demand for clean energy and the deployment of clean energy sources within the state that serve end use customers in the state.

The principal source of CGB revenue is utility customer assessments made by the Public Utilities Regulatory Authority in accordance with Section 16-245n of the General Statutes. It is a charge per kilowatt-hour to each end-user of electrical services provided by utility companies in the State. Utility customer assessments can be used for both general and administrative expenses and program expenses of the CGB. During the audited period, the charge was 1 mill per kilowatt-hour. It is this assessment that provides the largest source of revenue for the CGB. CGB also receives a portion of Connecticut's funds from the Regional Greenhouse Gas Initiative (RGGI) for the financing of energy efficiency and renewable energy projects. Funds from RGGI auctions are used to fund commercial property assessed clean energy program (C-PACE) loans. Other sources of revenue include renewable energy certificate (REC) sales, clean renewable energy bond (CREB) sales, and the federal government.

When the Connecticut Green Bank was formed, it was primarily a grant organization. It issued grants to fund solar projects and provided incentive programs to encourage the participation of energy users. In fiscal year 2013, CGB decided to transition to innovative, low-cost financing of clean energy deployment to reduce reliance on grants, rebates, and other subsidies. This transition enabled CGB to invest its funds in activities that generate a return and create revenue that can be reinvested in solar energy for Connecticut. CGB now invests over 80% of its resources in loans, leases, and credit enhancements.

Component Units

The Connecticut Green Bank has 6 private subsidiaries intended to increase financing for different projects. The subsidiaries are legal, separate for-profit companies created to originate and administer the CGB solar and hydro energy programs as follows:

CEFIA Holdings, LLC

CEFIA Holdings, LLC (CEFIA Holdings) is a Connecticut limited liability corporation, owned by the Connecticut Green Bank (99%) and Connecticut Innovations (1%). It funds a portfolio of residential solar loans and investments in solar photovoltaic and solar thermal equipment for the benefit of Connecticut homeowners, businesses, not-for-profits and municipalities through its CT Solar Lease 2 program. CEFIA Holdings acquires the initial title to the solar assets and contracts with independent solar installers to complete the installation and arrange for the leasing of the solar assets (or sale of energy under power purchase agreements) to the end users. CEFIA Holdings is also responsible for procuring insurance, maintenance and warranty services for the ultimate owner of the solar assets, CT Solar Lease II. CEFIA Holdings

sells the residential and commercial projects to CT Solar Lease II before the projects are placed in service. After acquiring the residential and commercial projects, CT Solar Lease II administers the portfolio of projects with the assistance of an outside corporation. CEFIA Holdings is presented in CGB's financial statements as a blended unit.

CT Solar Loan I, LLC

CT Solar Loan I is a limited liability corporation wholly owned by CEFIA Holdings established to make loans to residential property owners for the installation of photovoltaic equipment. It is presented as a blended unit in CGB's financial statements.

CEFIA Solar Services, Inc.

CEFIA Solar Services is a Connecticut corporation, owned by CEFIA Holdings. It was established to share in the ownership risks and benefits derived from the leasing of solar photovoltaic, solar thermal equipment and the sale of energy, as it is the managing member of CT Solar Lease II. CEFIA Solar Services has an ownership interest in CT Solar II (1%) and is the managing member of the entity responsible for performing all management and operational functions pursuant to the operating agreement of CT Solar Lease II. CEFIA Solar Services is presented as a discrete unit in CGB's financial statements.

CT Solar Lease II, LLC

CT Solar Lease II is a Connecticut limited liability corporation that acquires the title to residential and commercial solar projects from the developer, CEFIA Holdings, using capital from its members along with non-recourse funding from participating banks. Repayment to participating banks is predicated upon the property owners' repayment to CT Solar Lease II of the advanced installation funds, as well as revenue from production-based incentives. CT Solar Lease II is owned by an outside investor-member limited liability company (99%) and by CEFIA Solar Services (1%) as the managing member. This entity is presented as a discrete unit in CGB's financial statements.

CT Solar Lease 3, LLC

CT Solar Lease 3 is a Connecticut limited liability company and is a subsidiary of CEFIA Solar Services Inc. It was formed to acquire title to solar photovoltaic equipment and related power purchase agreements (PPA) for not-for-profits, commercial enterprises and municipalities, from CEFIA Holdings LLC using capital from its members. The company has two members, CEFIA Solar Services Inc. (its managing member) and Firstar Development, LLC (its investor member). This entity is presented as a discrete unit in CGB's financial statements.

CGB Meriden Hydro, LLC

CGB Meriden Hydro, LLC is a single member limited liability corporation created for the purchase and leaseback of a hydroelectric facility. The hydroelectric facility was purchased from the facility's developer, Hanover Pond Hydro LLC (Hanover Pond), pursuant to a sale and

leaseback agreement. Hanover Pond remits a monthly lease payment to CGB Meriden Hydro equal to the monthly payment made by the City of Meriden to Hanover Pond for the purchase of electricity generated by the hydroelectric facility.

Significant State Legislation

Public Act 16-212, effective June 10, 2016, removed CGB from under CI for administrative purposes only. CGB may enter into a memorandum of understanding or other arrangement with CI with respect to the provision or sharing of space, office systems or staff administrative support. In addition, CGB was granted additional powers including to have perpetual succession as a body corporate and to adopt bylaws, policies and procedures for the regulation of its affairs and the conduct of its business; to make and enter into all contracts and agreements that are necessary or incidental to the conduct of its business; to invest in, acquire, lease, purchase, own, manage, hold, sell and dispose of real or personal property or any interest therein; to borrow money or guarantee a return to investors or lenders; and to hold patents, copyrights, trademarks, marketing rights, licenses or other rights in intellectual property.

Public Act 17-2 (June 2017 Special Session), effective October 30, 2017, diverted $14 million from the Clean Energy Fund to the General Fund, and $10 million from the Regional Greenhouse Gas Account to the General Fund in fiscal years 2018 and 2019.

Board of Directors and Administrative Officials

Pursuant to Section 16-245n subsection (e) of the General Statutes, the powers of CGB are vested in and exercised by a board of directors. The CGB board consists of eleven voting and 2 nonvoting members, each with knowledge and expertise in matters related to the purpose and activities of CGB, and includes 4 members appointed by the Governor, 4 members appointed by various legislative leaders, the State Treasurer, the commissioner of the Department of Energy and Environmental Protection (DEEP), and the commissioner of the Department of Economic and Community Development (DECD). In addition, the president of CGB serves on the board in an ex-officio, nonvoting capacity. The Governor appoints the chairperson of the board. The board adopts bylaws and procedures it deems necessary to carry out its functions. The members of CGB's board of directors as of June 30, 2017, were as follows:

Appointed by the Governor:

Reed E. Hundt
John Harrity
Kevin Walsh
Gina McCarthy

Legislative Appointments:

Thomas M. Flynn
Vacant * Eric Brown appointed on August 3, 2017
Matthew Ranelli
Elizabeth Crum

Ex-Officio:

Catherine H. Smith, Chairperson, Commissioner, DECD
Robert Klee, Commissioner, DEEP
Denise L. Nappier, State Treasurer

Non-voting Members:

Bryan Garcia, President of CGB
Vacancy

In addition, the board set up several committees and sub-committees to assist it in making decisions related to CGB. During the audited period, the CGB board had 4 standing committees: Audit, Compliance, and Governance Committee; Budget and Operations Committee; Deployment Committee; and the Joint Committee of the CT Energy Efficiency Board and the CGB Board of Directors. Bryan Garcia served as president throughout the audited period and continues to serve in that capacity.

RÉSUMÉ OF OPERATIONS

The financial position of CGB as of June 30, 2016 and 2017 is presented below. For comparative purposes, the amounts for the fiscal year ended June 30, 2015 are also presented. The financial position of CGB as of June 30, 2017, per its audited financial statements, is presented below.

	Fiscal Years Ended June 30,		
	2017	**2016**	**2015**
Assets			
Current:			
Cash and Cash Equivalents	$ 37,148,283	$ 48,072,061	$ 39,893,649
Accounts Receivable	404,807	1,430,622	35,155
Utility Remittance Receivable	2,507,659	2,670,634	2,518,850
Other Receivables	770,003	430,002	313,228
Due from Component Unit	-	-	-
Prepaid Expenses and Other Assets	10,012,025	4,245,806	1,030,251
Contractor Loans	-	2,272,906	3,112,663
Current Portion of Solar Lease Notes	869,831	845,479	803,573
Current Portion of Program Loans	1,910,048	1,378,242	10,264,825
Total Current Assets	53,622,656	61,345,752	57,972,194

Non-Current:			
Portfolio Investments	$1	$ 1,000,000	$1,000,000
Bonds Receivable	3,328,530	3,492,282	1,600,000
Solar Lease Notes, less Current Portion	7,242,822	8,162,635	9,015,437
Program Loans, less Current Portion	40,296,113	31,889,275	30,253,119
Renewable Energy Credits	654,767	812,770	933,054
Investment in Component Units	-	-	-
Capital Assets, Net of Depreciation and Amortization	61,510,207	58,114,914	26,971,087
Asset Retirement Obligation, Net	2,535,104	2,261,472	1,029,196
Restricted Assets:			
Cash and Cash Equivalents	22,063,406	9,749,983	8,799,005
Total Noncurrent Assets	137,630,950	115,483,331	79,600,898
Total Assets	**$191,253,606**	**$176,829,083**	**$137,573,092**
Deferred Outflows of Resources			
Deferred Amount for Pensions	9,978,107	2,575,368	1,669,961
Total Deferred Outflows of Resources	**9,978,107**	**2,575,368**	**1,669,961**
Liabilities			
Current Maturities of Long-Term Debt	$2,647,159	$1,794,181	$ 307,203
Accounts Payable and Accrued Expenses	8,660,946	2,984,746	5,820,170
Due to Component Units	-	-	-
Due to Outside Agency	-	30,127	49,516
Custodial Liability	1,844,791	2,155,128	647,964
Unearned Revenue	871,714	6,258,204	2,518,537
Total Current Liabilities	14,024,610	13,222,386	9,343,390
Asset Retirement Obligation	3,020,405	2,528,335	1,094,125
Long-Term Debt, Less Current Maturities	29,736,999	18,567,419	3,546,321
Fair Value of Interest Rate Swap	540,877	1,627,864	660,073
Pension Liability	25,245,439	16,096,113	14,899,766
Total Liabilities	**$72,568,330**	**$52,042,117**	**$ 29,543,675**
Deferred Inflows of Resources			
Deferred Amount for Pension	-	-	532,135
Net Position			
Invested in Capital Assets	$560,527	$655,737	$ 26,971,087
Restricted Net Position:			
Nonexpendable	60,026,996	58,709,303	1,000
Restricted for Energy Programs	16,843,271	5,294,983	8,799,005
Unrestricted (Deficit)	51,232,589	62,702,311	73,396,151
Total Net Position	**$128,663,383**	**$127,362,334**	**$ 109,167,243**

During the fiscal year ended June 30, 2017, cash decreased $10,923,778 compared to fiscal year 2016 mostly due to an increase in payments for the Residential Solar Incentive Program and a decrease in RGGI auction proceeds.

Capital assets increased by $31,143,827 and $3,395,293 in fiscal years 2016 and 2017, respectively, as a result of the continued acquisition of solar equipment by CT Solar Lease 2 LLC.

The Connecticut Green Bank has invested in emerging technology companies as equity investments and technology innovation programs and projects. As of June 30, 2017, portfolio investments represent equity and debt investments in 3 companies. CI manages CGB's portfolio investments. In the absence of readily determinable market values, investments are carried at fair value as estimated by the Valuation Committee of CI, using United States Private Equity Valuation Guidelines promulgated by the Private Equity Investment Guidelines Group. Those estimated values may differ significantly from the amounts ultimately realized from the investments due to the inherent uncertainty of valuations, and the differences could be material. This is commonplace with investments such as those held by CGB and disclosed in CGB's audited financial statements.

A schedule of revenues, expenses and changes in net assets for the fiscal years ended June 30, 2016 and 2017, follows. The financial position of CGB as of June 30, 2017, per its audited financial statements, is presented below.

	Fiscal Years Ended June 30,		
	2017	**2016**	**2015**
Operating Revenues			
Utility Remittances	$26,404,349	$26,605,084	$ 27,233,987
Grant Revenue	98,486	589,917	192,274
RGGI Auction Proceeds	2,392,647	6,481,562	16,583,545
Energy System Sales	-	-	16,689
REC Sales	2,570,647	2,653,783	1,474,488
Other Income	2,500,419	1,457,889	793,435
Total Operating Revenue	**$ 33,966,548**	**$ 37,788,235**	**$ 46,294,418**
Operating Expenses			
Cost of Goods Sold – Energy Systems	$-	$-	$ -
Grants and Program Expenditures*	-	-	22,130,676
Grants and Incentive Programs*	17,084,211	10,644,334	-
Program Administration Expenses*	16,824,382	16,497,328	-
General and Administrative Expenses	5,725,394	4,706,315	3,117,376
Total Operating Expenses	39,633,987	31,847,977	25,248,052
Operating Income (Loss)	**$ (5,667,439)**	**$ 5,940,258**	**$ 21,046,366**
NonOperating Revenue (Expenses)			
Interest Income –Promissory Notes	$2,921,710	$2,895,504	$ 2,217,368
Interest Income – Short Term Cash Deposits	223,298	120,613	93,949
Interest Expense LT Debt	(1,222,384)	(730,839)	(119,345)
Interest Income – Component Units	-	-	-
Interest Expense – Component Units	-	-	-
Payments to State of Connecticut	-	-	(19,200,000)
Distributions to Member	(436,452)	(301,548)	(104,579)
Realized Gain (Loss) on Investments	(93,974)	(33,723)	(1,180,285)
Unrealized Gain (Loss) on Investments	(999,998)	-	-
Unrealized Gain (Loss) on Interest Rate Swap	1,086,987	(967,791)	(660,073)
Provision for Loan Losses	(956,489)	(1,021,826)	(563,825)
Total Nonoperating Revenue (Expenses)	**$522,698**	**$(39,610)**	**$ (19,516,790)**

Change in Net Position before Payments to State of Connecticut and Capital Contributions	(5,144,741)	5,900,648	1,529,576
Capital Contributions	6,445,790	12,294,443	6,844,430
Change in Net Position	1,301,049	18,195,091	8,374,006
Net Position – Beginning of year	127,362,334	109,167,243	100,793,237
Net Position – End of Year	**$128,663,383**	**$127,362,334**	**$109,167,243**

*Program Administration Expenses were broken out of the Grant and Program Expenditures line item in 2016

Revenues

During the fiscal year ended June 30, 2017, grant revenue decreased $491,431 compared to fiscal year 2016 due to a decrease in federal grant awards. CGB's goal is to reduce reliance on grants, rebates, and other subsidies and move towards innovative low-cost financing of clean energy deployment.

CGB received payments from the state for the Regional Greenhouse Gas Initiative (RGGI) for the financing of energy efficiency and renewable energy projects through the CGB C-PACE Program. RGGI auction proceeds decreased from $16.5 million during the 2014-2015 fiscal year to $6.4 million and $2.3 million in fiscal years 2016 and 2017, respectively. Public Act 13-247 allowed the Commissioner of the Connecticut Department of Energy and Environmental Protection to transfer additional RGGI auction proceeds to CGB to support energy efficiency financing opportunities. This allocation was not continued during fiscal years 2016 and 2017.

CGB owns Class 1 Renewable Energy Certificates (REC) that are generated by certain commercial renewable energy facilities for which CGB provided the initial funding. Through its Residential Solar Incentive Program, CGB owns the rights to future REC generated by facilities installed on residential properties. Revenues from REC sales increased from $1,474,488 in fiscal year 2015 to $2,570,647 in fiscal year 2017.

Expenditures

Total expenditures for grants and programs were $27,141,662 in fiscal year 2016 and $33,908,593 in fiscal year 2017, an increase of $6,766,931. General and administrative expenditures increased $1,019,079 from $4,706,315 in fiscal year 2016 to $5,725,394 in fiscal year 2017. Total operating expenditures increased $7,786,010 from $31,847,977 in fiscal year 2016 to $39,633,987 in fiscal year 2017. Grant expenditures fluctuate from year to year, as the expenditures are based on the achievement of contract milestones by the grantee. In addition, CGB is transitioning to a financing model from primarily issuing grants to fund renewable energy and energy efficiency programs.

Other Examinations

Independent public accountants audited the Connecticut Green Bank's financial statements for the years under review. Those audits provided assurance that the financial statements presented fairly, in all material respects, the financial position of the business-type activities and the discretely presented component units of CGB as of June 30, 2016 and 2017, and the respective changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

As an integral part of their financial statement audits, the independent public accountants provided reports on compliance and internal control over financial reporting. These reports disclosed no instances of noncompliance concerning these requirements. The reports on internal control indicated that no material weaknesses in internal control over financial reporting were identified.

STATE AUDITORS' FINDINGS AND RECOMMENDATIONS

Our audit identified the following reportable conditions.

Reconciliation of Payroll Records

Criteria: Effective internal control monitoring procedures dictate that internal records should be reconciled to those maintained by other state fiscal offices.

Condition: We noted discrepancies regarding payroll account balances between Core-CT and Connecticut Green Bank (CGB) internal records for fiscal years ended June 30, 2016 and 2017, totaling $552,214 and $89,365, respectively. CGB uses Core-CT to process its payroll and uses the Intacct Financial Management and Accounting System for its remaining accounting functions. According to Core-CT, the total CGB payroll and fringe benefit balance for fiscal years ended June 30, 2016 and 2017 totaled $8,195,757 and $8,776,143 respectively. Additionally, CGB was unable to identify $12,250 in payroll costs recorded in Core-CT.

Cause: CGB was not reconciling the payroll records in its accounting system to Core-CT.

Effect: Inadequate reconciliation procedures increase the risk that errors will go undetected and could result in the financial statements being misstated.

Recommendation: The Connecticut Green Bank should strengthen internal controls over payroll to include a reconciliation between internal and Core-CT records. (See Recommendation 1.)

Agency Response: "The Green Bank acknowledges that reconciling its financial records to records maintained by the State Comptroller's CORE accounting system has not been a part of its internal accounting controls over its own accounting and financial reporting system because it does not use the CORE system for accounting and financial reporting. On a bi-weekly basis the Green Bank accesses CORE to generate payroll and benefits registers. The Green Bank uses these registers as support for its bi-weekly remittance to the State Treasurer for employee compensation and benefits paid on its behalf. The Green Bank has not been informed by the State Comptroller's office that it owes the State additional reimbursement for employee compensation and benefits for fiscal years 2017 and 2016.

The Green Bank's financial records are audited each year by an independent certified public accounting firm. Part of the audit includes a review of its internal controls over its accounting records. These audited financial records become a part of its published Comprehensive Annual

Financial Report. The Green Bank was not made aware of any adjustments or material internal control weakness in the area of accounting for payroll disbursements for fiscal years 2017 and 2016.

Subsequent to receiving this finding the Green Bank was able to reconcile its records to the CORE records. The unreconciled differences that require further review were $1,325 for fiscal 2017 and $89 for fiscal 2016. Reconciling items include year-end accounting accruals and payments to third parties for employee related expenses. Since the Green Bank does not use the CORE system for its accounting system, this activity is not recorded in CORE."

Questionable Severance Agreements

Criteria: Sound business practices dictate that quasi-public agency payroll expenses should be necessary and reasonable in nature and amount.

Section 5.3.2 of the Connecticut Green Bank bylaws states that the Budget and Operations Committee's responsibilities includes matters of employee separation and severance.

The CGB severance policy is intended to recognize the service of employees and mitigate the burden of displacement when a reduction in force is deemed necessary. It is not intended to set a standard for termination of employees under other circumstances.

Condition: During the audited period, CGB eliminated 3 positions yet made corresponding severance payments equal to 26 weeks of salary for all 3 employees, totaling $148,526. The employees received benefits in addition to salary while employed. CGB refilled these positions at lower compensation levels within 1 to 11 months. Furthermore, the severance agreements were approved by the Budget and Operations Committee as required by the bylaws but not approved by the board of directors.

In addition, CGB provided a transition agreement to one of these employees in which it allowed the employee to maintain employment until vesting for retirement benefits. Furthermore, it appears that the employee's duties did not change during the transition agreement. The transition agreement specified the following:

> "WHEREAS, Employee is currently an Associate Director of Outreach; and WHEREAS, Employer has made the decision to eliminate the position of Employee, and thus wishes to transition Employee's role with Employer according to the terms specified below.

> Employee will continue to be paid his salary through January 31, 2017, and will retain his title as Associate Director of Outreach.
>
> Employee's employment with Employer will end on January 31, 2017, and will be characterized as an immediate job elimination in conjunction with a retirement.
>
> Employee shall devote his best efforts in performing duties of his position as Associate Director of Outreach during the transition period."

In response to budget sweeps enacted by Public Act 17-2, CGB eliminated 4 positions during fiscal year 2018 and made corresponding severance payments to the 4 employees, totaling $130,450. One of the employees whose position was eliminated in fiscal year 2018 was considered a new hire due to the severance payments during fiscal year 2017. That employee worked for CGB for 10 months before receiving a severance agreement.

Cause: CGB informed us that it eliminated the positions as part of a reallocation of resources within the marketing department.

The CGB bylaws do not require the full board of directors to approve employee separations and severance agreements. Instead, the board assigns its Budget and Operations Committee, by a majority vote, (consisting of 3 of the board's members) the approval of severance payments.

Effect: The severance payments may not have been a prudent use of CGB resources.

Recommendation: The Connecticut Green Bank should revise its bylaws to require separation agreements be approved by its board of directors based on the recommendations of the Budget and Operations Committee. (See Recommendation 2.)

Agency Response: "Severed Employees

Per the Employee Handbook[1] of the Connecticut Green Bank, employment with the organization is "at will," which means "that either party may terminate the relationship at any time for any reason, with or without cause".

[1] Employee Handbook of the Connecticut Green Bank (p. 10)

In order to further the mission of the Green Bank, the Marketing Department underwent a restructuring to better align its support of the organization. On June 7, 2016, the Budget & Operations Committee exercised its powers as stated in the Bylaws of the Green Bank (i.e., Section 5.3.2) to assure "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" by unanimously accepting and approving the recommendation of the President and CEO and VP of Human Resources to release three employees – see Table 1.

Table 1. Breakdown of Employees Severed in FY 2016 and FY 2017

Position	Salary	Benefits	Years of Service	Date of Notice	Last Day of Service
Senior Manager	$ 85,589	$ 68,200	11.5	6/8/16	6/30/16
Senior Manager	$ 93,920	$ 75,136	15.0	6/8/16	6/30/16
Associate Director	$117,542	$ 94,033	10.0	6/8/16	1/31/17
Total	**$297,051**	**$ 237,369**	**36.5**		

These employees collectively served the State of Connecticut for 36.5 years of public service with total salaries of $297,051 and benefits of $237,369, receiving a maximum severance of $148,526, or 26-weeks of salary. Per the Severance Policy of the Green Bank, the Budget & Operations Committee can determine the nature and amount of the severance considering such factors as the length of service and circumstances of separation.

For the Associate Director position, the individual was allowed to stay onboard through a transition agreement to complete the closure of a program (i.e., Clean Energy Communities Program). Having led and administered the program for 10 years, the employee had developed valuable relationships with many of its stakeholders and beneficiaries. As such, the employee's tenure enabled them to close the program down in the most efficient and diplomatic way possible. To this end, the employee's ability to not only wind down the program on schedule but also preserve the organization's community and stakeholder relationships in the process, was not seen as one that could have been replicated with an immediate termination, and therefore the employee was offered a transition agreement. The employee's final responsibilities were to

determine what incentives cities and towns were to receive through the program, notice the cities and towns of the end of the program and the process for them to redeem their incentives, and to ensure that proper paperwork was in place to payout the remaining incentives earned by the town.

The Green Bank considers the termination of "at will" staff thoughtfully, especially those that have served the State of Connecticut a total of 36.5years at the Green Bank and its predecessor organizations (i.e., Connecticut Clean Energy Fund administered by Connecticut Innovations). In an effort to better adjust our marketing resources to better serve the mission and new direction of the organization, the President and CEO, with support from the Director of Marketing, felt it necessary to sever the employees with the review and approval of the Budget & Operations Committee. As difficult as this decision was, acknowledging the service of those severed with maximum severance, reducing organizational operating expenses, and maintaining the stability, continuity, and productivity of those staff not severed, was a management decision that reflects how the organization treats its people with just and fair treatment.

New Hired Employees

Following the severance of these employees, three (3) new staff were hired at different levels – see Table 2.[2]

Table 2. New Staff Hires into the Marketing Department

Position	Salary	Benefits	Start Date
Assistant	$ 35,000	$ 28,000	5/8/17
Senior Associate	$ 75,000	$ 60,000	10/18/16
Associate Director	$ 109,641	$ 87,713	1/17/17
Total	**$ 219,641**	**$ 175,713**	

These new hires not only saved the organization $139,066 in salary and benefits, but more importantly, their knowledge, skills, and abilities were more in line with the direction the organization was taking – leading to an improvement in overall performance of the Marketing Department in support of the mission of the organization.

It should be noted that an additional four (4) employees were severed in FY 2018 as a result of State of Connecticut sweeps of $16.3 million a year for each of FY 2018 and FY 2019 – see Table 3.

[2] It should be noted that one (1) of the new hires was terminated on February 15, 2018 and received a severance of $4,712 or 7 weeks of service per the Employee Handbook, as a result of the State of Connecticut sweeps of $16.3 million in each of FY 2018 and FY 2019.

Table 3. Employees Severed in FY 2018 as a Result of the Sustainability Plan Approved by the Board of Directors of the Connecticut Green Bank in Response to the Sweeps

Position	Salary	Benefits	Years of Service	Date of Notice	Last Day of Service
Assistant	$ 35,000	$ 28,000	0.5	1/8/18	2/15/18
Senior Associate	$ 74,684	$ 59,747	8.0	1/8/18	3/1/18
Associate Director	$ 119746	$95,797	10.5	1/8/18	3/1/18
VP of HR	$ 71,410	$57,128	11.0	1/8/18	6/28/18
Total	**$ 300,840**	**$240,672**	**29.0**		

Given the unfortunate circumstances of the State of Connecticut's fiscal situation and it's sweep of the Green Bank, the Board of Directors approved of a Sustainability Plan on December 15, 2017 that included severance of these employees, including the recognition that "Given the nature of the situation, there will also need to be a transition and reduction in staff that will need to be handled in a compassionate, thoughtful, and methodical manner, which we can discuss in executive session."[3] Per the Employee Handbook, all severed staff members were provided the maximum severance per the policy totaling $130,450 based on the time they have served the State of Connecticut. The Vice President of Human Resources stayed on an additional six months to assist the organization through this period of transition.

The President and CEO of the Green Bank raised the Auditors of Public Account's recommendation for the organization to revise its bylaws to require separation agreements be approved by the Board of Directors based on the recommendation of the Budget and Operations Committee at its October 26, 2018 Board of Directors meeting. After a full discussion, the Board instructed staff for any severances involving more than one person or one package with a value of more than $125,000, then they will be brought through the Budget and Operations Committee for a review and recommendation with final approval and authorization by the Board of Directors. With the passage of Public Act 18-137 (the "Act"), Green Bank staff intends to modify its Severance Policy, and subsequent Agreements, to be consistent with the Act."

[3] Sustainability Pathway – FY 2018, FY 2019 and Beyond memo from Bryan Garcia, President and CEO, to the Board of Directors of the Connecticut Green Bank on December 15, 2017.

Cancellation Fees Incurred for Proposed Projects

Criteria: Sound business practices dictate that applicants share responsibility over loan application processing fees.

Condition: During the audited period, Connecticut Green Bank incurred $141,500 in cancellation fees for Commercial Property Assessed Clean Energy (C-PACE) projects that did not move forward. Our review disclosed that CGB incurred 28 $1,750 cancellation fees for one C-PACE financing applicant, totaling $49,000. CGB provided documentation on all $141,500 in C-PACE cancellation fees. The cancellation fees reflect costs for project review. The applicant is not responsible for these costs, regardless of whether they move forward with the project.

Cause: CGB does not require C-PACE applicants to share in costs related to project review.

Effect: The cancellation fees are not a prudent use of CGB resources.

Recommendation: The Connecticut Green Bank should consider requiring a refundable application fee that would cover costs related to the review of potential C-PACE projects. (See Recommendation 3.)

Agency Response: "In many projects, project development work still needs to be done after a preliminary loan application comes to the Green Bank. The Green Bank has contracted with Sustainable Real Estate Solutions (SRS) to work with contractors and customers to develop these projects. The potential customer is still in a sales process at this point and economic projections for a project still need to be created and presented to the customer. They will then decide whether to "buy" the loan from the Green Bank. Like any traditional business sales process, the potential customer does not carry responsibility for the work done by the seller to develop a proposal for that potential customer. The market would not support an attempt to charge customers directly. The Green Bank and SRS, as the parties who benefit from a closed deal, share the upfront risk in these customer acquisition activities. Since most of the upfront project development work, and therefore risk, is borne by SRS, the Green Bank pays SRS these cancellation fees to partly offset that and keep them providing this essential service to the market. The Green Bank recoups these costs through closing fees and interest earned on deals that close."

Auditors' Concluding Comment:

C-PACE applicants can choose to seek alternative funding with other providers after development work has been performed, leaving Connecticut Green Bank to cover the cost of associated fees for projects that did not move forward. It is not realistic nor customary for financial

institutions to cover a loan applicant's project proposal costs if they decide to go to another lender. We believe that it is good business practice for the applicant to have a stake in the financing process by charging a refundable application fee as to avoid applicants shopping for a better deal at the expense of the Green Bank.

Untimely Reporting

Criteria: Section 1-123 (b) of the General Statutes requires that, for the quarter commencing July 1, 2010, and for each quarter thereafter, the board of directors of each quasi-public agency shall submit a financial report to the legislature's Office of Fiscal Analysis.

Section 16-245 (n)(f)(1) of the General Statutes requires that the board shall issue annually a report to the Department of Energy and Environmental Protection reviewing the activities of the Connecticut Green Bank (CGB) in detail and shall provide a copy of such report, in accordance with the provisions of section 11-4a, to the joint standing committees of the General Assembly having cognizance of matters relating to energy and commerce.

Public Act 11-80, Section 103 (a) states that CGB shall, on or before March 1, 2012, establish a three-year pilot program to promote the development of new combined heat and power projects in Connecticut. Public Act 11-80, Section 103 (c) requires on or before January 1, 2016 CGB shall report to the joint standing committee of the General Assembly having cognizance of matters relating to energy regarding the program established pursuant to subsection (a) of this section and whether such program should continue.

Section 1-123 (a) of the General Statutes requires that the board of directors of each quasi-public agency shall annually submit a report to the Governor and the Auditors of Public Accounts. Such report shall include, but not be limited to, the following: (6) the affirmative action policy statement, a description of the composition of the agency's work force by race, sex, and occupation, and a description of the agency's affirmative action efforts.

Section 4-33a of the General Statutes requires that all boards of trustees of state institutions, state department heads, boards, commissions, other state agencies responsible for state property and funds and quasi-public agencies, as defined in section 1-120, shall promptly notify the Auditors of Public Accounts and the Comptroller of any unauthorized, illegal, irregular or unsafe handling or expenditure of state or quasi-public agency funds or breakdowns in the safekeeping of any other resources of the state

or quasi-public agencies or contemplated action to do the same within their knowledge.

Condition: Our review disclosed that CGB did not submit the following reports in a timely manner for the fiscal years ended June 30, 2016 and 2017:

- Two of the 8 quarterly financial reports.
- Both annual reports on programs and activities undertaken.
- The report on Combined Heat and Power Pilot Program.

Review of the Section 1-123(a) Annual Report revealed section 6 of the 2016 report lacked a description of the composition of the agency's workforce by race, sex, and job title as well as a description of the agency's affirmative action efforts.

CGB failed to promptly notify the Auditors of Public Accounts of the improper use of funds by 2 contractors involved in the Residential Solar Investment Program as required by Section 4-33a of the General Statutes. The improper use of funds consisted of a contractor receiving CGB funds, totaling $80,357 in outstanding loans, for projects never completed. Additionally, another contractor incurred numerous violations including the submission of fraudulent equipment packing slips for payment on 66 projects.

Cause: CGB did not have adequate internal controls in place for reporting.

Effect: CGB did not comply with statutory reporting requirements.

Recommendation: The Connecticut Green Bank should strengthen internal controls to ensure compliance with reporting requirements as prescribed by the Connecticut General Statutes. (See Recommendation 4.)

Agency Response: "Statutorily Required Reporting

Section 1-123 subsection (b) quarterly financial report:

The Green Bank was late in filing two quarterly financial reports. Both the 9/30/2015 report and the 12/31/2015 report were filed on 5/31/2016, respectively beyond the close of their respective quarters. Beginning with the quarter ended 3/31/2016 CGB has and continues to submit quarterly financial reports on a timely basis as follows:

- Quarterly Financial Cash Flow Report – 3/31/2016 – submitted on 5/31/2016
- Quarterly Financial Cash Flow Report – 6/30/2016 – submitted on 8/10/2016

- Quarterly Financial Cash Flow Report – 9/30/2016 – submitted on 11/8/2016
- Quarterly Financial Cash Flow Report – 12/31/2016 – submitted on 2/23/2017
- Quarterly Financial Cash Flow Report – 3/31/2017 – submitted on 5/10/2017
- Quarterly Financial Cash Flow Report – 6/30/2017 – submitted on 8/9/2017
- Quarterly Financial Cash Flow Report – 9/30/2017 – submitted on 12/21/2017
- Quarterly Financial Cash Flow Report – 12/31/2017 – submitted on 2/28/2018
- Quarterly Financial Cash Flow Report – 3/31/2018 – submitted on 5/17/2018

Section 16-245 subsection (n)(f)(1):

The Green Bank submitted its FY 2016 annual report to the DEEP and to the legislative energy and commerce committees on 12/1/2017. The FY 2017 annual report was sent on 8/24/2018.

By statute the Green Bank "shall issue [these reports] annually." To date, the Green Bank has strived to include all activity during that calendar year and then submit the report in the following calendar year. Knowing now that this is considered to be a late filing, the Green Bank will work to produce and submit said reports, during the same calendar year that the fiscal year ends.

Public Act 11-80, Section 103 (a):

A 2015 law (Public Act 15-152(c)) had extended a reporting deadline for a separate program in an adjacent subsection of existing law, and was misinterpreted as applying to the broader section of that law. Public Act 11-80, Section 103 - as amended by Public Act 12-2, Section 156 - was in 2015 amended by Public Act 15-152(c) to split the reporting deadlines for the Combined Heat and Power Pilot Program and the Anaerobic Digestor Pilot Program.

This was also explained in the introductory paragraph of the Green Bank's report to the legislative Energy and Technology Committee – pertaining to this statutory mandate - on the Combined Heat and Power Pilot Program, filed 1/1/17:

"This report is being filed later than the statutory deadline due to confusion with interpreting the amended language of Public Act 15-152, which extended the reporting filing date for the Anaerobic Digestion Pilot

Program from January 1, 2016 to January 1, 2018. This same extension was thought to apply to the CHP Pilot Program deadline as well (see amended statute in Appendix 1)."
Section 1-123 (a) (6) Affirmative Action Policy:

We did locate the Affirmative Action Policy document meant to be submitted with the FY16 annual report in our files that was unintentionally omitted. We did property submit this report in FY17.

State Auditor Notification Finding

The use of funds by one contractor involved in the Residential Solar Investment Program (RSIP) relates to loans from the Green Bank to the contractor that went into default and were not paid back. Both the State Police and the Connecticut Department of Consumer Protection were notified by the Green Bank and involved early on due to alleged improper behavior by the contractor and concern over the potential negative impact on the contractor's customers.

For the second contractor involved in the RSIP referenced in this finding, the Green Bank initiated misconduct proceedings against the contractor, and subsequently the contractor entered into a settlement agreement where all RSIP projects were completed and contractual obligations were met. Although both contractors were alleged to have acted improperly, at no time was there "any unauthorized, illegal, irregular or unsafe handling or expenditure of state or quasi-public agency funds or breakdowns in the safekeeping of any other resources of the state or quasi-public agencies" which would trigger the statutory requirements under CT General Statute Section 4-33.

As such, it is the Green Bank's position that the (i) failure of a third-party borrower to repay a loan, and (ii) settlement agreement entered into by the Green Bank to resolve alleged improper behavior by such third-party contractor does not trigger the statutory requirements under CT General Statute Section 4-33. The Green Bank also took appropriate actions with relevant authorities and notified the State Auditors as it relates to the first contractor referenced above in an abundance of caution.

Voluntary Reporting
It should be noted that beyond all of the statutory reporting requirements of the Connecticut Green Bank in which it provides materials directly to the legislative and executive branches of government, that the organization also voluntarily reports out to the general public in other meaningful ways as well.

For example, the Connecticut Green Bank makes all of its Annual Reports, Comprehensive Annual Financial Reports, and Auditors of Public Account reports easily accessible on its website.[4]

And given that the Green Bank receives a majority of its funding from electric ratepayers (i.e., Clean Energy Fund per Section 16-245n(b) and regional greenhouse gas initiative allowance proceeds (per Section 22a-200(c)), it was among the first quasi-public agencies to participate in Open Connecticut. Through Open Connecticut, the Green Bank voluntarily provides check-book level vender payment data (i.e., from FY 2015 through FY 2017). Whether its funding is through ratepayers or taxpayers, the Connecticut Green Bank has voluntarily provided additional information to the general public to make it easier for them to follow where their dollars are going as they have a right to know.

All those public, quasi-public, private, or nonprofit organizations that receive such ratepayer and/or taxpayer funds to support the implementation of various public policies on energy, should consider beyond statutory reporting and include voluntary reporting such as through Open Connecticut."

Auditors' Concluding Comment:

The second RSIP contractor committed violations including the submission of fraudulent equipment packing slips for payment on 66 projects. This would require Connecticut Green Bank to notify the Auditors of Public Accounts in accordance with Section 4-33a of the General Statutes.

Inadequate Loans and Grants Procedures

Criteria:

Section 16-245n(a) of the Connecticut General Statutes requires that projects involve clean energy technology, which include solar photovoltaic energy, solar thermal, geothermal energy, wind, ocean thermal energy, wave or tidal energy, fuel cells, landfill gas, hydropower, hydrogen production and hydrogen conversion technologies, low emission advanced biomass conversion technologies, alternative fuels, used for electricity generation including ethanol, biodiesel, 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.

[4] https://www.ctgreenbank.com/strategy-impact/reporting-transparency/

Sound business practices dictate that applications be properly completed prior to the execution of a financing agreement.

Sound business practices dictate that agencies maintain adequate supporting documentation for all stages of a project, which must be kept on file for audit purposes.

Condition: CGB informed us that it notifies Commercial Property Assessed Clean Energy Program(C-PACE) applicants of the documents they need to provide, but they are initially not required to submit a formal application when seeking financing.

We were unable to determine the scope and compliance of projects related to energy efficiency solutions for colleges and universities, because the Connecticut Green Bank did not maintain adequate documentation.

We were unable to determine compliance with Section 16-245n(a) of the General Statutes for 2 projects related to the Clean Energy Communities Program, because CGB did not maintain project completion reports.

Cause: CGB does not have a formal application process in place.

CGB does not maintain adequate supporting documentation for all stages of a project.

Effect: Without a formal application, CGB could grant financing to unqualified recipients.

We are unable to determine whether CGB complied with CGS 16-245n(a) without adequate documentation.

Recommendation: The Connecticut Green Bank should strengthen internal controls by ensuring that applications are properly completed prior to the execution of a financing agreement. (See Recommendation 5.)

Agency Response: "C-PACE Program

The Green Bank does not require an application for financing for C-PACE projects that are funded by third party capital providers since the Green Bank does not provide any funding or financing for those projects. In those cases, the Green Bank fulfills an administrative function to ensure the statutory obligation for a C-PACE assessment is met and collects the necessary documents from the third-party capital providers to ensure that obligation is met. The Green Bank maintains an internal checklist for each of these projects to ensure the required documentation is collected to fulfill the statutory obligation.

For projects that request CPACE funding from the Green Bank, an application is required and can be found at http://www.cpace.com/Building-Owner/Get-Started/Apply-Now. In addition to this application, the information is collected to ensure the statutory obligation for a CPACE assessment is collected along with the following financial information from the applicant:

- Current year budget OR YTD income/expense statement for the property
- Documentation showing rental relationship between sole tenant and property ownership entity *FOR OWNER-OCCUPIED BUILDINGS ONLY*
- Previous two years' income/operating statements, statements of cash flows and balance sheets for the property (e.g. Building Owner Entity). Audited or reviewed for all statements is preferred; if unaudited/unreviewed, supply complete copy of most recent 2 years tax return packages
- Previous two years' audited (if available) income/operating statements, statements of cash flows, and balance sheets (audited or reviewed, if available) for the tenants' business (e.g. Business Entity). *This is for buildings where at least 2/3 of currently leased square footage is occupied by a tenant controlled totally or in part by the owner of the real estate.*
- Table listing all tenants, their monthly (or annual) lease payments, the percentage of the building they occupy and the end date of their existing leases. *This is for properties with tenants only.*

Campus Efficiency Now

In 2012, the Clean Energy Finance and Investment Authority (CEFIA) Board approved entering into a partnership with GreenerU to offer the Campus Efficiency Now (CEN) pilot program to members of the Connecticut Conference of Independent Colleges. Through CEN, GreenerU and CEFIA would finance and implement energy efficiency projects through an Energy Savings Agreement structure to allow colleges and universities to avoid debt financing and pay for the projects through realized energy savings. As a result of internal staff turnover, the final project documentation from GreenerU for projects financed by the Green Bank at the University of New Haven and University of Hartford were not properly filed. After learning of this issue, the Green Bank requested and received the required documentation from GreenerU. No further investments were made through the CEN.

Clean Energy Communities Program

The Clean Energy Communities program was a point-based grant program that encouraged cities and towns to invest in clean energy. The Green Bank executed a memorandum of understanding with each town and

municipality participating in the program. The MOU, as well as several subsequent communications explained the reward process and the types of documentation required to qualify the municipalities' planned use of the grant funds. Among the criteria cited in the MOU were the Green Bank's right to review any contract for which reward funds were being requested, as well as a requirement for all participating municipalities to submit purchase orders and invoices resulting from the work performed under their respective contracts. The MOUs did not demand subsequent review of disbursement documents (e.g. checks or wires), due to the fact that Connecticut municipalities' internal accounting control procedures and records are required by statute to be subject to the scrutiny of independent, annual audits."

Auditors' Concluding Comment:

CGB informed us during our review that it does not require an application for C-PACE projects it funds or those that are funded by third-party providers. We identified the lack of an application for C-PACE projects funded by Connecticut Green Bank during our testing.

Incomplete Inspection Reports

Criteria: Sound business practices dictate that inspection reports include customer name, date of inspection, and an inspection checklist or other method of project review.

Condition: We found that four employees of the State Department of Education (SDE) Connecticut Technical High School System performed inspections of Connecticut Green Bank programs. SDE did not consider this to be a dual employment issue and did not document the lack of an overlap in hours worked. Our audit testing sought to confirm that these inspectors performed consulting services on their own time and that a conflict did not occur. We could not confirm this because none of the 16 SDE employee inspection reports we reviewed included the date and time of the inspections. Additionally, 3 reports only consisted of photos and 3 did not include the address or project name.

Cause: CGB does not have adequate procedures in place for the review of inspection reports.

Effect: We were unable to determine if a conflict existed between services performed for each entity.

We were unable to determine when inspections took place or whether an adequate inspection took place.

CGB is issuing payments for inspections without knowing the date, time, and location of the inspection.

Recommendation: The Connecticut Green Bank should strengthen internal controls by ensuring that inspection reports are properly documented and contain the date and time of the inspections. (See Recommendation 6.)

Agency Response: "The Green Bank administers the Residential Solar Investment Program (RSIP) per Public Act 15-194. The RSIP has provided incentives to nearly 28,000 households totaling $115 million in incentives and nearly $870 million in total investment in the state economy since its inception in 2012.

The RSIP program currently has 12 inspectors who are responsible for:

- Inspecting residential solar PV projects assigned to them by Green Bank staff, including contacting the customer, conducting the inspection, and writing up a report; and
- Inspecting Smart-E projects and measures as assigned by Green Bank staff.

Of the 12 inspectors, the four (4) inspectors sited are employees with the Connecticut Technical High School System working for the State Department of Education (SDE), where they have expertise in energy-related matters.

The Human Resources Administrator for the SDE determined that since the Green Bank is a quasi-public agency, that it is not considered a state agency and thus there is not a dual employment situation. Therefore, it was determined that SDE employees may enter into contractual agreements with the Green Bank as a result. Regardless of this determination by SDE, the Green Bank believes that no conflict of interest would exist for the performance of these inspections.

The Human Resources Administrator for the SDE subsequently informed the state employees that if they held a second job outside of the state, that they must complete an Outside Employment Form. Each of the four state employees who have outside employment completed an Outside Employment Form.

The four (4) inspectors in question have inspected 777 projects during FY2016 and FY2017 – see Table 5

Table 5. Overview of Inspectors in Question

Inspector	# of Inspections FY2016	# of Inspections FY2017
Inspector #1	244	226
Inspector #2	4	0
Inspector #3	4	23
Inspector #4	159	117
Total	**411**	**366**

Given that the APA is raising a concern that employees of the SDE who have dual employment with the Green Bank as inspectors, the Green Bank has revised all inspection reports, specifically SMART-E inspection report, to include site arrival and departure times, total travel time and mileage (see the attached revised SMART-E inspection report). Also, Green Bank will require site arrival and departure times, total travel time and mileage on invoices submitted for payment."

Auditors' Concluding Comment:

We were unable to determine if a conflict existed due to inadequate procedures regarding review of inspection reports.

Inadequate Monitoring of Board Member Attendance

Criteria: Section 16-245n(e)(1) of the Connecticut General Statutes states that the powers of the Connecticut Green Bank (CGB) shall be vested in and exercised by a board of directors, which shall consist of 11 voting and 2 nonvoting members.

Article 4.6 of the CGB bylaws states that directors or their designees who miss more than 3 consecutive meetings shall be asked to become more active on the Board.

Condition: The Connecticut Green Bank Board of Directors has not filled a nonvoting position since August 2011.

Three board members missed more than 3 consecutive board meetings and CGB could not provide adequate documentation that it asked the board members to become more active.

Cause: CGB did not have adequate procedures in place to ensure that it followed board membership and attendance requirements.

Effect: CGB was not operating in compliance with the General Statutes and its bylaws related to board membership and attendance.

Recommendation: The Connecticut Green Bank should strengthen internal controls to ensure compliance with the General Statutes and bylaws. If the Connecticut Green Bank determines that any of its statutes are impractical or outdated, it should request a legislative change. (See Recommendation 7.)

Agency Response: "Per Section 16-245n(e)(1), the following is a breakdown of the Board of Directors of the Green Bank – see Table 4.

Table 4. Overview of the Board of Directors of the Connecticut Green Bank

Position	Appointee	Voting
Commissioner of DECD (or designee)	Ex Officio	Yes
Commissioner of DEEP (or designee)	Ex Officio	Yes
State Treasurer (or designee)	Ex Officio	Yes
Finance of Renewable Energy	Governor	Yes
Finance of Renewable Energy	Governor	Yes
Labor Organization	Governor	Yes
R&D or Manufacturing	Governor	Yes
Investment Fund Management	Minority Leader of House	Yes
Environmental Organization	President Pro Tempore of Senate	Yes
Finance or Deployment	Minority Leader of Senate	Yes
Residential or Low Income	Speaker of the House	Yes
President of the Green Bank	Ex Officio	No
~~Connecticut Innovations~~	~~Ex Officio~~	~~No~~

The three (3) members that missed more than three (3) consecutive meetings included:

- two (2) appointees of the Governor, and
- one (1) appointee of the Minority Leader of the Senate.

One of the Governor's appointees (i.e., R&D or Manufacturing) was in a career transition. Both the Governor's second appointee and the Minority Leader of the Senate's appointee have been noticed of their missing three

(3) consecutive meetings and were asked by the Chair, President and CEO, and General Counsel and CLO to become more active on the board.

As a result of the revisions to the Board of Directors of the Green Bank through Public Act No. 16-212, Connecticut Innovations' ex officio board position was explicitly removed from the Board of Directors in 2016. However, the Public Act was passed without a conforming change in the same statutory subsection of C.G.S. Sec. 16-245n(e)(1); presently this subsection still erroneously references two "non-voting" members even though Connecticut Innovations was removed, leaving only one remaining non-voting member - the President and CEO of the Connecticut Green Bank. This discrepancy can only be remedied through a legislative change that is to some extent outside the control of the Green Bank. Although this change was requested during the 2018 Regular Session, the request was not incorporated into any bill proposals enacted by the General Assembly. In 2019 this same legislative change was actively sought out by the Green Bank and was incorporated into Senate Bill 960 as amended and passed by the Senate by 33-0 with three abstentions; this legislation failed to receive action in the House.

For the unfilled "nonvoting" member of the Board of Directors, it is the Green Bank's position that no such unfilled position exists pursuant to the passage of Public Act No. 16-212. To address the discrepancy, the Green Bank will continue to request a legislative change (commonly referred to as a technical fix) to remove the erroneous reference to a second nonvoting member from the Board of Directors.

In the future, the Green Bank will notify the appointing authority of their appointee's violation of Article 4.6 in the Bylaws for them to determine an appropriate course of action for their designee."

RECOMMENDATIONS

The prior report on the Connecticut Green Bank contained 3 recommendations. Two were implemented and one is repeated.

Status of Prior Audit Recommendations:

- Connecticut Green Bank should consider revising their policies to address when established contracts should go through the RFP process to ensure that services are being obtained in the most cost-effective manner. They should also establish internal controls to ensure that strategically selected vendors will, whenever possible, be picked on a competitive basis. **We noted improvements in this area and this recommendation is not repeated.**

- Connecticut Green Bank should improve internal controls to track outstanding commitments and obtain approvals when funds are recommitted. **We noted improvements in this area and this recommendation is not repeated.**

- Connecticut Green Bank should strengthen internal controls to ensure compliance with reporting requirements as prescribed by the Connecticut General Statutes. **We found that reports were not filed in a timely manner, and this recommendation is repeated within Recommendation 4.**

Current Audit Recommendations:

1. **The Connecticut Green Bank should strengthen internal controls over payroll to include a reconciliation between internal and Core-CT records.**

   Comment:

   We noted discrepancies regarding payroll account balances between Core-CT and Connecticut Green Bank (CGB) internal records for fiscal years ended June 30, 2016 and 2017, totaling $552,214 and $89,365, respectively. CGB uses Core-CT to process its payroll and uses the Intacct Financial Management and Accounting System for its remaining accounting functions. According to Core-CT, the total CGB payroll and fringe benefit balance for fiscal years ended June 30, 2016 and 2017 totaled $8,195,757 and $8,776,143, respectively. Additionally, CGB was unable to identify $12,250 in payroll costs recorded in Core-CT.

2. **The Connecticut Green Bank should revise its bylaws to require separation agreements be approved by its board of directors based on the recommendations of the Budget and Operations Committee.**

   Comment:

   During the audited period, CGB eliminated 3 positions yet made corresponding severance payments equal to 26 weeks of salary for all 3 employees, totaling $148,526. The employees received benefits in addition to salary while employed. CGB refilled these positions at lower

compensation levels within 1 to 11 months. Furthermore, the severance agreements were approved by the Budget and Operations Committee as required by the bylaws but not approved by the board of directors.

In addition, CGB provided a transition agreement to one of these employees in which it allowed the employee to maintain employment until vesting for retirement benefits. Furthermore, it appears that the employee's duties did not change during the transition agreement.

In response to budget sweeps enacted by Public Act 17-2, CGB eliminated 4 positions during fiscal year 2018 and made corresponding severance payments to the 4 employees, totaling $130,450. One of the employees whose position was eliminated in fiscal year 2018 was considered a new hire due to the severance payments during fiscal year 2017. That employee worked for CGB for 10 months before receiving a severance agreement.

3. The Connecticut Green Bank should consider requiring a refundable application fee that would cover costs related to the review of potential C-PACE projects.

Comment:

During the audited period, Connecticut Green Bank incurred $141,500 in cancellation fees for Commercial Property Assessed Clean Energy (C-PACE) projects that did not move forward. Our review disclosed that CGB incurred 28 $1,750 cancellation fees for one C-PACE financing applicant, totaling $49,000. CGB provided documentation on all $141,500 in C-PACE cancellation fees. The cancellation fees reflect costs for project review. The applicant is not responsible for these costs, regardless of whether they move forward with the project.

4. The Connecticut Green Bank should strengthen internal controls to ensure compliance with reporting requirements as prescribed by the Connecticut General Statutes.

Comment:

Our review disclosed that CGB did not submit the following reports in a timely manner for the fiscal years ended June 30, 2016 and 2017:

- Two of the 8 quarterly financial reports.
- Both annual reports on programs and activities undertaken.
- The report on Combined Heat and Power Pilot Program.

Review of the Section 1-123(a) Annual Report revealed section 6 of the 2016 report lacked a description of the composition of the agency's workforce by race, sex, and job title as well as a description of the agency's affirmative action efforts.

CGB failed to promptly notify the Auditors of Public Accounts of the improper use of funds by 2 contractors involved in the Residential Solar Investment Program as required by Section 4-33a of the General Statutes. The improper use of funds consisted of a contractor receiving CGB funds, totaling $80,357 in outstanding loans, for projects never completed.

Additionally, another contractor incurred numerous violations including the submission of fraudulent equipment packing slips for payment on 66 projects.

5. **The Connecticut Green Bank should strengthen internal controls by ensuring that applications are properly completed prior to the execution of a financing agreement.**

   Comment:

   CGB informed us that it notifies Commercial Property Assessed Clean Energy Program(C-PACE) applicants of the documents they need to provide, but they are initially not required to submit a formal application when seeking financing.

   We were unable to determine the scope and compliance of projects related to energy efficiency solutions for colleges and universities, because the Connecticut Green Bank did not maintain adequate documentation.

   We were unable to determine compliance with Section 16-245n(a) of the General Statutes for 2 projects related to the Clean Energy Communities Program, because CGB did not maintain project completion reports.

6. **The Connecticut Green Bank should strengthen internal controls by ensuring that inspection reports are properly documented and contain the date and time of the inspections.**

   Comment:

   We found that four employees of the State Department of Education (SDE) Connecticut Technical High School System performed inspections of Connecticut Green Bank programs. SDE did not consider this to be a dual employment issue and did not document the lack of an overlap in hours worked. Our audit testing sought to confirm that these inspectors performed consulting services on their own time and that a conflict did not occur. We could not confirm this because none of the 16 SDE employee inspection reports we reviewed included the date and time of the inspections. Additionally, 3 reports only consisted of photos and 3 did not include the address or project name.

7. **The Connecticut Green Bank should strengthen internal controls to ensure compliance with the General Statutes and bylaws. If the Connecticut Green Bank determines that any of its statutes are impractical or outdated, it should request a legislative change.**

   Comment:

   The Connecticut Green Bank Board of Directors has not filled a nonvoting position since August 2011.

   Three board members missed more than 3 consecutive board meetings and CGB could not provide adequate documentation that it asked the board members to become more active.

ACKNOWLEDGEMENT

The Auditors of Public Accounts would like to recognize the auditors who contributed to this report:

JoAnne Sibiga
Joseph Onion

CONCLUSION

We wish to express our appreciation for the courtesies and cooperation extended to our representatives by the personnel of the Connecticut Green Bank during the course of our examination.

Joseph Onion
Staff Auditor

Approved:

John C. Geragosian
State Auditor

Robert J. Kane
State Auditor

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

CONNECTICUT GREEN BANK

Memo

To: Connecticut Green Bank Board of Directors

From: Brian Farnen, General Counsel and CLO

CC: Bryan Garcia, President and CEO

Date: October 17, 2019

Re: Severance Policy Revisions

Background

The ACG Committee convened a special meeting on August 26, 2019 to discuss the findings in the Fiscal Years 16-17 Audit Report of the State of Connecticut Auditors of Public Accounts (APA.) Specifically, one of the APA's recommendations is that the Green Bank should revise its Bylaws to require separation agreements be approved by its board of directors (Board) based on the recommendations of the Budget and Operations (B&O) Committee. Additionally, recently enacted Connecticut Public Act No. 18-137 set forth new restrictions on quasi-publics from making a severance payment in excess of fifty thousand dollars to an employee resigning or retiring from employment for the purposes of avoiding costs associated with potential litigation or pursuant to a nondisparagement agreement.

To address both the APA recommendation and the enactment of Public Act No. 18-137, the Green Bank Severance Policy is revised in the draft set forth in **Exhibit A**. Please note that I do not recommend revisions to the Green Bank Bylaws as the B&O Committee already has explicit purview to monitor and make recommendations to the Board on matters of employee separation and severance.[1] Lastly, an APA staffer informally reviewed the revisions to the severance policy this week and expressed their concurrence that the revisions addressed the APA's concern.

RESOLUTION

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;

NOW, therefore be it:

RESOLVED, that the Board of Directors approve of the revisions to the Green Bank Severance Policy as set forth in the memorandum to the Board dated October 17, 2019.

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[1] See Section 5.3.2 of the Connecticut Green Bank Bylaws.

EXHIBIT A
Severance Policy

A. Reduction in Force. In the event that the Connecticut Green Bank (hereafter "Green Bank") permanently eliminates one or more positions from its workforce, the Green Bank, with approval of its Board of Directors is authorized to offer the employees separated by such permanent reduction in force a severance package, as follows:

1. Either a lump sum payment or continuation on the payroll or a combination thereof of six weeks, plus for each full six-month period of continuous service at the Green Bank or another State of Connecticut quasi-public or public agency, an additional week of salary based on the employee's then current base salary, all subject to a maximum for each employee of 26 weeks;
2. Outplacement services by a firm or firms selected by the Green Bank for a period determined to be reasonable by the Board based upon employment conditions prevailing in the economy;
3. All benefits, except medical and dental insurance, shall cease as of the date of separation and the Board shall determine whether to extend the option to separated employees for medical and/or dental insurance other than as required by COBRA for some or all of the severance payment period;
4. Such package shall be conditioned upon the employee signing a full waiver and release of claims against, and/or an indemnification of the Green Bank within a time period established by the Board.

The purpose of this Severance Policy is to recognize the service of employees and mitigate the burden of displacement when a reduction in force is deemed necessary. It is not intended to set a standard for termination of employees under other circumstances.

B. Other Terminations. In the event that the Green Bank determines that it is in the best interest of the Green Bank to terminate the services of an employee without cause or to request the resignation of an employee, the Board of Directors is authorized, but not required, to offer a severance package. In determining whether to do so and the nature and amount of such package, the Board shall take into account such factors as it may deem relevant, including some or all of the following: the length of service, the performance and contributions of the employee, the circumstances of recruitment and relocation, the circumstances of separation, the employment conditions prevailing in the economy, the impact upon the Green Bank and other factors deemed relevant at the time by the Board. In no event shall the continuation of salary following termination or the amount of any lump sum payment in respect of salary exceed the then current base salary for 26 weeks. The Board shall condition any such package upon the employee signing a full waiver and release of claims against, and/or an

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indemnification of the Green Bank and such other terms and conditions as are deemed necessary or desirable.

C. Miscellaneous Considerations.

1. Severance pay under this Policy is in addition to any accrued vacation due to the employee upon termination.
2. Regular deductions, including contributions for medical and dental insurance, if any, will be made from any severance payments made pursuant to this Policy.
3. If an employee does not sign a full waiver and release of claims and/or an indemnification of the Green Bank under this Policy (excluding any applicable State or Federal whistleblower laws and the ability to file a charge with the Equal Employment Opportunity Commission or the Connecticut Commission on Human Rights and Opportunities), the employee will not receive any of the benefits set forth in this Policy, with the possible exception of a brief period of continued health and dental insurance resulting from the time period required for the signing of the waiver and release. In lieu of the receipt of severance benefits under this Policy, the employee will only receive payment of two weeks of base salary at the then current rate plus any accrued vacation.
4. Public Act No. 18-137[2] provides that:
    a. No quasi-public agency shall make a payment in excess of fifty thousand dollars to an employee resigning or retiring from employment for the purposes of avoiding costs associated with potential litigation or pursuant to a nondisparagement agreement
    b. No nondisparagement agreement or settlement agreement may prohibit an employee from making a complaint or providing information.

In order to insure compliance with Public Act No. 18-137, no severance payment in excess of $50,000 shall be authorized by the Board of Directors except upon an express finding by the Board that the amount of such payment is reasonable and appropriate based on one or more of the factors specified in paragraph B of this policy, and that such amount was not determined with reference to the costs of potential litigation or the value of any non-disparagement agreement.

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[2] Public Act No. 18-137 Sec. 26. (NEW) (Effective October 1, 2018) (a) On and after October 1, 2018, no quasi-public agency, as defined in section 1-120 of the general statutes, shall make a payment in excess of fifty thousand dollars to an employee resigning or retiring from employment with such quasipublic agency for the purposes of avoiding costs associated with potential litigation or pursuant to a nondisparagement agreement. (b) No nondisparagement agreement or settlement agreement as described in subsection (a) of this section may prohibit an employee from making a complaint or providing information in accordance with section 4-61dd of the general statutes.

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

CONNECTICUT
GREEN BANK

CONFIDENTIAL TO THE BOARD OF DIRECTORS

(ACTIVE FINANCING FACILITY PROPOSAL UNDER NEGOTIATION)

Memo

To: Connecticut Green Bank Board of Directors

From: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO and Louise Venables, Senior Manager, Clean Energy Finance

CC: Jane Murphy, Vice President of Finance and Administration; Brian Farnen, General Counsel and CLO; Eric Shrago, Director of Operations

Date: September 5, 2019

Re: Impact Investment Pilot in Support of the Sustainable CT Program

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Background & Purpose

This memo seeks approval from the Connecticut Green Bank ("Green Bank") Board of Directors (the "Board") for Green Bank or one of Green Bank's wholly-owned special purpose entities ("SPE") to enter into an agreement with Hampshire Foundation in support of a novel pilot impact investment program which seeks to link impact investors directly with specific green and resilience impacts for towns and cities across the State of Connecticut through the Sustainable CT program.

As highlighted in the Green Bank's Comprehensive Plan for Fiscal Year 2020 & Beyond, 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.

Presented for consideration by the Board is a pilot impact investment to test with the Hampshire Foundation a means to deliver acceptable program related investment returns to investors in return for a recurring source of foundation funding for Sustainable CT operations and the IOBY platform (i.e., a matching crowd-fund platform for local sustainability matching grants). From the foundation's perspective (specifically Hampshire Foundation), they get alignment between market rate returns through the Green Bank (i.e., investment in one of our Commercial Solar PPA funds) and social-environmental impact through grants supporting nonprofits such as Sustainable CT (i.e., environmental education at local level). Hampshire Foundation will also get an innovator benefit for being the first to do this sort of transaction as a foundation – directly granting impact returns from a green bank to a nonprofit in the community.

From the Green Bank's perspective, this pilot impact investment will increase the pipeline at the top of the funnel for our products (e.g., Green Bank Solar PPA, C-PACE, SBEA, Solar for All, Smart-E Loan, etc.) – creating more opportunities for local projects with municipalities, nonprofits, businesses, and families through Sustainable CT and its citizen engagement.

A Committed Partner to Investment Innovation – Hampshire Foundation

Hampshire Foundation was started by several families deeply interested in furthering their philanthropic goals. They do this through three distinct funding initiatives:

- Their flagship initiative, Peru Opportunity Fund, seeks to improve the livelihoods of farmers in rural Peru. It focuses exclusively on sustainable agriculture. The team in Perú places loans with social enterprises, financial institutions along with grants to improve technical know-how.
- Hampshire Foundation is also actively involved in promoting Smart Energy and energy efficiency. They work collaboratively with like-minded funders, government agencies and impact investors to encourage adoption of smart energy practices and policies.
- Hampshire Foundation's third initiative, Global Impact Fund, focuses on impact investing & grantmaking with global scale as its key objective.

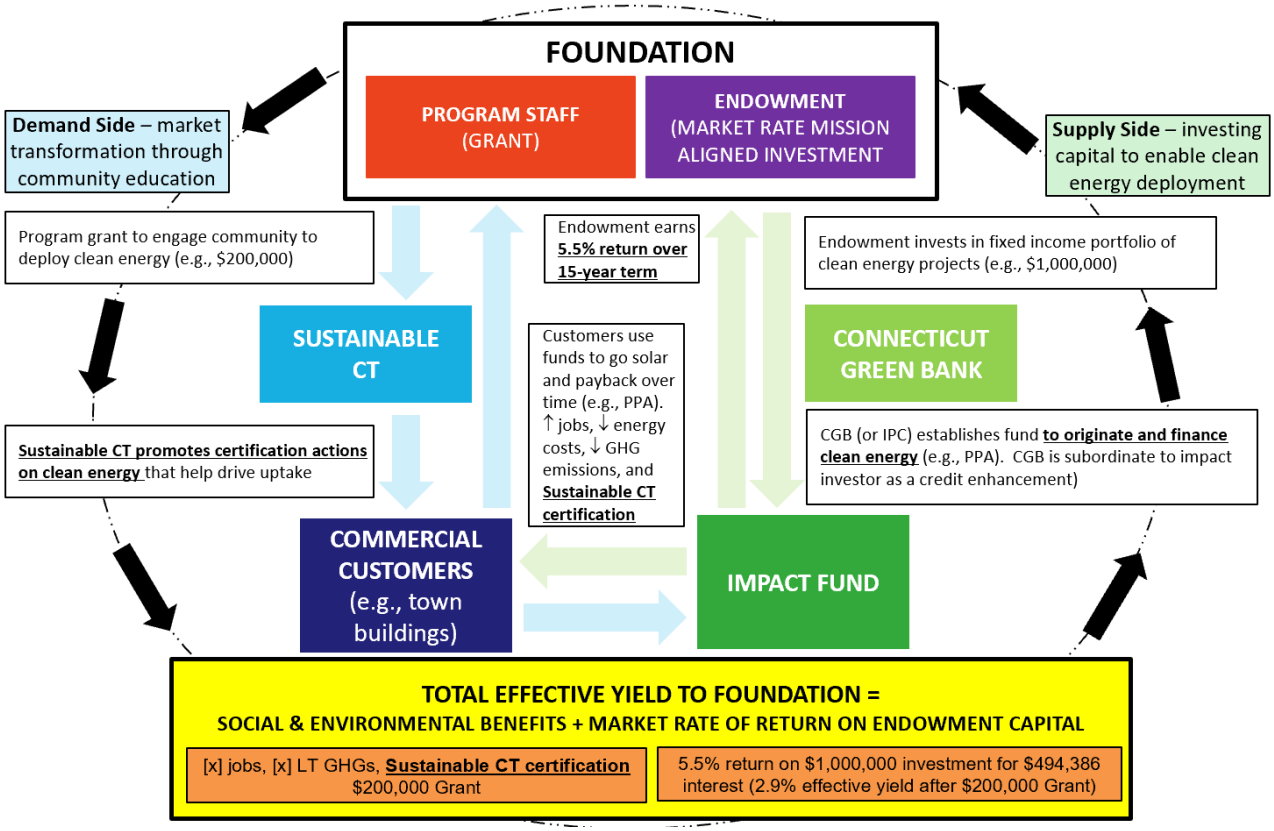
The leadership of Hampshire Foundation is well known to the Green Bank. In addition to supporting Sustainable CT with some initial grant funding, Hampshire Foundation also supported the Green Bank's strategic – exploratory efforts which resulted in the establishment of Inclusive Prosperity Capital. Prior to that, Hampshire Foundation approved an investment on the Green Bank's solar loan program with Sungage that led to a partnership with Mosaic which, by 2018, had securitized over ***$1 billion*** in solar loans – a program which had its genesis from the Green Bank.

A Pilot for Impact Investment Innovation

Hampshire Foundation and Green Bank are collaborating on an innovative impact investment pilot that would deliver acceptable fixed income investment returns to Hampshire Foundation in return for a recurring and definitive (i.e., fixed dollar or fixed percentage) source of foundation funding for Sustainable CT. The

Green Bank would carve out a stream of future cash flows from a bundle of our transactions and exchange these future cash flows for an investment today from Hampshire Foundation. For this pilot, Hampshire Foundation would have recourse to the Green Bank and would invest their capital into the fund at a rate of return similar to the Green Bank. In exchange, Hampshire Foundation would commit to invest a definitive portion of that return (via grants) into a nonprofit that is helping to originate more projects into the Green Bank portfolio (i.e., Sustainable CT). The grants to Sustainable CT funds community outreach for clean energy or resiliency projects – such as a low income community solar campaign. In such case, Sustainable CT in the town or city would support community education on the benefits of solar PV for LMI households – helping to drive uptake and ensure equitable investments in their community. The community solar project could then feed the Green Bank commercial solar PPA pipeline – yielding additional investable projects which, in turn, can be offered to additional impact investors that, similar to Hampshire Foundation, would devote a definitive portion of their investment returns to additional grants for Sustainable CT (or another non-profit). If the program works as intended, the non-profit (like Sustainable CT) would benefit from a long-term source of sustainable grant funding so that several years of program objectives can be planned and achieved, and the Green Bank would achieve an increased and ongoing pipeline of projects through the on-the-ground citizen engagement in communities across Connecticut. Such a pilot concept resembles the following:

Figure 1. Impact Investment Foundation Model - Financial and Social-Environmental Returns



Initial Impact Investment

Hampshire Foundation and Green Bank are in discussions whereby Green Bank would structure a fixed income investment using the power purchase agreement revenue stream generated through its commercial solar PPA program. A summary of that program is as follows:

Green Bank Solar PPA

Market Segment	**Small/medium commercial, MUSH, affordable housing, nonprofits, community assets** (Co-Investment)
Product Summary	3rd party solar power purchase agreement, backed by C-PACE lien where possible
Support Needed	▪ Good solar economics for C&I ▪ Local solar installer & project developer introductions ▪ Municipal, community and nonprofit introductions ▪ Subordinated debt capital – if available, but not required
CT Results	123 PPAs closed/completed, $102.6 MM, and 33.1 MW

The returns generated would be a simple fixed income investment. A hypothetical 15-year, $1 million investment is shown below:

Amortization Schedule - $1MM Investment

Year	Payment	Principal	Interest	Remaining Balance
1	$99,625.60	$44,625.60	$55,000.00	$955,374.40
2	$99,625.60	$47,080.01	$52,545.59	$908,294.39
3	$99,625.60	$49,669.41	$49,956.19	$858,624.98
4	$99,625.60	$52,401.23	$47,224.37	$806,223.76
5	$99,625.60	$55,283.29	$44,342.31	$750,940.46
6	$99,625.60	$58,323.87	$41,301.73	$692,616.59
7	$99,625.60	$61,531.69	$38,093.91	$631,084.90
8	$99,625.60	$64,915.93	$34,709.67	$566,168.97
9	$99,625.60	$68,486.31	$31,139.29	$497,682.67
10	$99,625.60	$72,253.05	$27,372.55	$425,429.61
11	$99,625.60	$76,226.97	$23,398.63	$349,202.64
12	$99,625.60	$80,419.45	$19,206.15	$268,783.19
13	$99,625.60	$84,842.52	$14,783.08	$183,940.66
14	$99,625.60	$89,508.86	$10,116.74	$94,431.80
15	$99,625.60	$94,431.80	$5,193.75	$0.00
Total	**$1,494,384.00**	**$1,000,000.00**	**$494,383.95**	

And here is the impact of the impact investor dedicating a portion, in this case, $200,000, of the $1 million investment to the non-profit beneficiary:

Product	Present Value of Interest Income	Nominal Value of Interest Income
[redacted]		

So, for instance, $13,000 or so could be allocated to the non-profit beneficiary each year over 15 years – or the amount could be "front-loaded" which, as an example, $40,000 could be contributed each year from the impact investment over 5 years. One issue which has arisen is that the impact investor would want to "earn" their returns before "contributing" the definitive portion of returns to the non-profit. The Green Bank could, in this case, advance the funds to the non-profit as a low interest loan, and then recover the loan from the contributions the impact investor will make from the investment returns.

Preliminary Terms for Approval

Green Bank and Hampshire Foundation are focusing on an investment of $1M over 3 years in the commercial solar PPA fund: Solar Lease 3 (SL3) as follows:

- CGB would accept a $1M investment up to 3 years.
- With the investment tied to a grant to Sustainable CT, Green Bank would pay a gross yield of 5.5%

[redacted]

Grant to Sustainable CT

Green Bank would advance funds to Sustainable CT as a low interest loan. Then Sustainable CT would pay back the Green Bank by way of assignment of the interest share Hampshire Foundation agrees. In this way, Sustainable CT gets funds sooner – rather than waiting 15 years for the cash flow.

In this structure, there are no other debtors to SL3. Hampshire Foundation will have recourse to CEFIA Holdings as either the transaction counterparty or as guarantor.

Strategic Selection

Green Bank is pursuing this arrangement and approval from Board on the basis of a Strategic Selection. The proposed impact investment satisfies three criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) uniqueness, (2) strategic importance and (3) urgency and timeliness:

(1) Uniqueness
The Green Bank has yet to arrange an impact investment with a foundation whereby the investment can be directed by the goals of Green Bank rather than by the foundation. In this case, the Green Bank desired to test the waters with Hampshire Foundation in direct support of Green Bank's work with Sustainable CT. This impact investment is in direct support of Green Bank's FY2020 and Beyond Comprehensive Plan.

(2) Strategic Importance
At the strategic meetings earlier this year, it was agreed that Green Bank needed to diversify funding sources to include foundations and other impact investors, including green bonds. Hampshire Foundation offers the opportunity to test this strategy with a limited impact investment up to $1 million.

(3) Urgency and Timeliness
Sustainable CT urgently needs funding to continue its promising work with towns and cities throughout the State of Connecticut. Moving quickly, Green Bank can secure this impact investment and use it to test the interest of other impact investors.

Conclusion & Recommendation

The Hampshire Foundation Impact Investment offers a unique opportunity for Green Bank to test and shape an impact investment with a willing impact investor. With Board approval, Hampshire Foundation and Green Bank will document are collaborating on an innovative impact investment pilot that would deliver acceptable fixed income investment returns to Hampshire Foundation in return for a recurring and definitive (i.e., fixed dollar or fixed percentage) source of foundation funding for Sustainable CT.

Staff recommends this pilot impact investment to the Board for approval.

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, SBEA, etc.) and the Comprehensive Plan specifically calls out Sustainable CT and impact investment.

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?

Funds from the Impact Investment are being used to replace Green Bank cash investment in the Commercial Solar PPA fund: Solar Lease 3. No immediate incremental benefit beyond the projects already funded by Solar Lease 3, but the grant funds to Sustainable CT will lead to additional clean energy projects which are too amorphous at this time to estimate impact.

Terms and Conditions

What are the terms and conditions of ratepayer payback, if any?

N/A - funds from the Impact Investment are being recycled into Green Bank cash for alternative investment in other projects.

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 Impact Investment are being recycled into Green Bank cash for alternative investment in other projects.

Risk

What is the maximum risk exposure of ratepayer funds for the program?

N/A – Currently – the Green Bank has funded the SL3 projects with ratepayer funds (cash) and an investment from US Bank. So when we receive the impact investment from Hampshire Foundation, this impact investment allows Green Bank to recover its cash investment. Funds from the Impact Investment are then being recycled into Green Bank investment in other projects. In lending to Sustainable CT, this loan will be against an assignment of revenues otherwise payable by Green Back to Hampshire Foundation in respect of their impact investment. So Green Bank is, in essence, repaying itself from the existing cash flows from the SL3 portfolio of projects – and not taking Sustainable CT credit risk.

Financial Statements

How is the program investment accounted for on the balance sheet and profit and loss statements?

When funds are received from Hampshire Foundation:

$w	Debit: Cash	
	$w	Credit: Impact Investment in Solar Lease 3 (due to others)

When funds are repaid to Hampshire Foundation:

$x	Debit: Impact Investment in Solar Lease 3 (due to others)	
$y	Debit: Impact Investment interest expense	
	$z	Credit: Cash

When funds are loaned to Sustainable CT:

$w Debit: Short Term Loan – Sustainable CT

$w Credit: Cash

When funds are repaid to Green Bank by Sustainable CT (via assignment):

$x Debit: Cash

$y Credit: Short Term Loan – Sustainable CT

$z Credit: Interest Income – Sustainable CT

Target Market

Who are the end-users of the engagement?

The end users of the Impact Investment are Sustainable CT (for the grant funds) and Green Bank as well as the underlying programs and projects that receive funding from the impact investment.

Green Bank Role, Financial Assistance & Selection/Award Process

The Green Bank role is as arranger / sponsor of the impact investment, and Hampshire Foundation was chosen as the impact investor via Strategic Selection and Award process.

Program Partners

Hampshire Foundation, West Hartford, CT

Risks and Mitigation Strategies

The main risk associated with the Impact Investment is that the underlying portfolio of SL3 PPAs yield insufficient cash flow to repay Hampshire Foundation. Given the small amount of the investment ($1 million) in comparison to the cash flow associated with the SL3 portfolio, this is a limited risk. If this should happen, the Green Bank has adequate resources to fulfill its obligations under the impact investment.

Resolutions

WHEREAS, Connecticut Green Bank ("Green Bank") staff has submitted to the Green Bank Board of Directors (the "Board") a proposal for Green Bank or one of Green Bank's wholly-owned entities ("SPEs") to enter into an agreement with the Hampshire Foundation, or an organization related to Hampshire Foundation, for an impact investment of up to $1,000,000 (the "Hampshire Foundation Impact Investment") whereby the Hampshire Foundation Impact Investment would be used in order to reinvest funds in other Green Bank investments, programs or its operations and to deliver a grant or grants to Sustainable CT as explained in a memorandum to the Board dated September 5, 2019; and

WHEREAS, the Hampshire Foundation satisfies three criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) uniqueness, (2) strategic importance and (3) urgency and timeliness;

WHEREAS, along with a general repayment obligation by the Green Bank (or, if such obligation of general repayment is by a Green Bank SPE, a general repayment obligation by such SPE together with, if necessary, a guarantee of the Green Bank), Hampshire Foundation could potentially be secured by a general non-

exclusive pledge of a commercial solar PPA portfolio owned in part by Green Bank or its SPEs together with their related cash flows associated with the commercial solar PPA program;

WHEREAS, Green Bank staff recommends that the Board approve the proposed Hampshire Foundation Impact Investment, generally in accordance with memorandum summarizing the Hampshire Foundation Impact Investment and the terms generally presented to the Board in a memorandum dated September 5, 2019; and

WHEREAS, Green Bank would benefit from a process that would open the door of the Green Bank to a broader array of impact investors to supplement funding sources for the Green Bank and diversify the Green Bank's base of stakeholders and to support Sustainable CT;

NOW, therefore be it:

RESOLVED, that the Board approves Green Bank (or one of its wholly-owned SPEs on behalf of Green Bank and, if necessary, with a guarantee of the Green Bank) to enter into the Hampshire Foundation Impact Investment as a strategic selection;

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 Hampshire Foundation Impact Investment 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

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

CONNECTICUT GREEN BANK

CONFIDENTIAL TO THE BOARD OF DIRECTORS

Memo

To: Connecticut Green Bank Board of Directors

From: Emily Basham, Associate Manager; Bryan Garcia, President and CEO

CC: Bert Hunter, EVP and CIO; Eric Shrago, Director of Operations

Date: September 5, 2019

Re: Grant Agreement with Sustainable CT Program – Citizen Engagement

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Background & Purpose

Per the Comprehensive Plan of the Connecticut Green Bank ("Green Bank"), this memo seeks approval from the Green Bank Board of Directors (the "Board") for it to enter into a grant agreement with Sustainable CT.[1] This grant will support Sustainable CT's capabilities to engage communities throughout the state and improve their sustainability by enabling citizens, businesses, and institutions to take action on clean energy, including participation in incentive and financing programs administered by the Green Bank and promoted through Sustainable CT.

As highlighted in the Green Bank's Comprehensive Plan for Fiscal Year 2020 & Beyond, Sustainable CT and the Green Bank are working together to 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";

[1] It should be noted that the staff of the Connecticut Green Bank were actively involved in assisting and setting up Sustainable CT since 2016 and its subsequent formation as a 501(c)3 nonprofit organization in 2019. Bryan Garcia serves on its Board of Directors as its Co-Chair and many members of the Green Bank staff provide support to the organization's efforts.

- Creating a structure that harnesses all types of capital for impact – from donations (e.g., through grant-providing platforms such as IOBY,[2] administered by Sustainable CT) to investment (e.g., through approaches such as green bonds, issued by the Green Bank);

- 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, an online crowdfunding platform will enable citizen leaders to have access to financial resources (i.e., grants) that they need for local sustainability projects. The Green Bank's FY2020 Budget, Research and Program Development Expenditures, allocates $100,000 in funding for the purposes of supporting Sustainable CT with its community engagement efforts.

In July 2017, the Green Bank was awarded Harvard University Kennedy School Ash Center's ("Ash Center") prestigious Innovations in American Government Award (IAGA). For this achievement, the Green Bank was awarded a $100,000 grant for "Sparking the Green Bank Movement". The Green Bank applied to the Ash Center for the grant, to which it was received in June of 2019 – see Exhibits A (grant application) and B (grant approval letter). Building upon a long-standing history of citizen engagement, the Green Bank is positioned to increase its impact further through a partnership with Sustainable CT by "offering up" its line of incentive and financing programs to help municipalities implement sustainability actions. For this, the Green Bank proposed and was approved to regrant $75,000 from the Ash Center grant to Sustainable CT for various programmatic purposes, including $25,000 matching grant for IOBY online platform and $50,000 matching grant for municipal outreach through the Sustainable CT Fellows program, which would be supplemented by an additional $25,000 for Sustainable CT operations directly from Green Bank funds.

Presented for consideration by the Board is a grant for $100,000 to Sustainable CT, supported primarily through the regranting of $75,000 from the IAGA grant award and $25,000 from the Green Bank, to increase our impact by applying the green bank model through the Sustainable CT program and, more specifically, through:

- **Awareness**- building more awareness of the Green Bank from stakeholders across the state through increased community engagement on our existing incentive and financing programs and services, as well as a soon-to-be launched Green Bonds US campaign;
- **Engagement**- engaging local municipalities, businesses, and their citizens with incentive and financing programs that will help them achieve their sustainability goals including Sustainable CT's introduction of an online crowdfunding campaign and its Sustainable CT Fellows program;
- **Action**- moving the local municipalities, businesses, and citizens beyond awareness and engagement to action, leading to the purchase and installation of more clean energy in their communities through incentive and financing program support from the Green Bank

From the Green Bank's perspective, this grant agreement will leverage the existing partnership with Sustainable CT to increase the pipeline of project leads for our incentive and financing programs (e.g.,

[2] IOBY, In Our Backyards, is a Yale FES founded and US-based civic crowdfunding platform operated by a 501(c)3 nonprofit organization incorporated in 2007 and launched in 2009. IOBY gives local leaders the ability to crowdfund the resources they need to build real, lasting change from the ground up by connecting local leaders with support and grant funding from their communities to make neighborhoods more sustainable, healthier, greener, more livable and more fun.

Green Bank Solar PPA, C-PACE, SBEA, Solar for All, Smart-E Loan, etc.) – creating more opportunities for local projects with municipalities, nonprofits, businesses, and families through Sustainable CT and its various citizen engagement approaches.

Increasing Green Bank's Impact in Connecticut through Sustainable CT

Launched in November 2018, Sustainable CT is a nonprofit effort to support Connecticut's 169 cities and towns become more sustainable through a voluntary certification program. Currently, 87 cities and towns are registered and 22 of them certified. This program includes 10 areas of focus from thriving local economics and natural resources stewardship to physical infrastructure and inclusive communities. Among these areas are numerous actions the Green Bank can increase its impact by applying the green bank model through its incentive and financing programs and services, including participating and promoting the C-PACE program, installing solar on municipal buildings through the Green Bank Solar PPA, streamlining solar permitting, supporting zero emission vehicle deployment, increasing renewable energy use in municipal buildings, and implementing community energy campaigns. Municipalities that take advantage of all the Green Bank's incentive and financing program can earn up to 120 sustainability points, more than halfway to the 200 points needed for Bronze certification.

The Green Bank has a strong foundation in citizen and community engagement, including the Solarize campaigns launched in communities across the state and reducing soft-costs for solar PV through the SunShot Initiative (including providing greater access for low-to-moderate income households). Although this legacy of engagement continues at the Green Bank, partnership with Sustainable CT will deepen our reach into communities enabling our incentive and financing programs to have a greater impact. Through the Sustainable Fellows program of Sustainable CT, students from colleges and universities in Connecticut work directly with community leaders and volunteers to conduct research, provide insight and create much-needed capacity at the local level. On an annual basis, the Fellows Program consists of 15-20 students, each receiving $5,400 to provide direct support full-time to local communities. Green Bank sponsorship through a grant agreement that will:

- Enhance commitment to sustainability by supporting communities where employees and customers live, work, and play
- Increase local capacity to make progress: The 2018 and 2019 Fellows produced open space maps and inventories, developed housing needs assessments, and designed and created buy-local campaigns, among many other projects
- Support the development of Connecticut's future workforce and accelerate Connecticut's low-carbon economy
- Create connections with community leaders across Connecticut
- Build partnership with Sustainable CT

Grant Allocation

In order to support Sustainable CT capabilities to engage communities to improve sustainability and further attract investment, including Green Bank incentive and financing programs, the grant funds will be used per the following:

1. $50,000 matching grant for Sustainable CT Fellows Program

2. $25,000 matching grants for projects submitted through the IOBY online crowdfunding platform
3. $25,000 organizational support to Sustainable CT

Desired Outcomes

- **Awareness**- more citizen engagement and cities and towns becoming registered and certified by Sustainable CT as sustainable communities given their progress on implementing clean energy projects and recognizing the benefits to them for doing so; and
- **Impact**- significant deployment of clean energy resulting from the Green Bank's incentive and financing programs in Sustainable CT communities which will reduce the burden of energy costs, create jobs, and reduce air emissions that damage public health and cause global climate change. To deliver this measurable impact, in partnership with Sustainable CT, the Green Bank will:
    - **Solar PPA** – launch no less than 3 Sustainable CT community efforts for the Green Bank's Solar PPA product that will create no less than 10 leads resulting in at least 25% of leads becoming closed PPA projects;
    - **C-PACE** – co-host no less than 5 business owner workshop events for the C-PACE program in Sustainable CT communities; and
    - **Solar for All** – launch no less than two community-based campaigns for the Solar for All program in Sustainable CT communities to increase the project pipeline by 25-30 projects per campaign.
- **Lessons Learned**- continuously sharing best practices and lessons learned with other municipalities and states in order for the Green Bank to transfer knowledge that increases and accelerates the uptake of clean energy through the adaptation and adoption of the green bank model and its line of incentive and financing programs.

Strategic Selection

Green Bank is pursuing this arrangement and approval from the Board on the basis of a Strategic Selection. The proposed impact investment satisfies all criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) special capabilities, (2) uniqueness, (3) strategic importance, (4) multiphase project; follow-on investment, and (5) urgency and timeliness:

(1) Special Capabilities
Evolving, in large part from the Connecticut Clean Energy Communities Program,[3][4] Sustainable CT is a 501(c)3 nonprofit organization focused on providing local cities and towns with the resources they need to achieve sustainability. It has exceptional experience and expertise in community engagement.

(2) Uniqueness
The highly visible IAGA that the Green Bank won in July of 2017, and the $100,000 grant awarded by the Ash Center in June of 2019, presents a unique opportunity to leverage funding (i.e., matching grants) through a highly visible community-based initiative across Connecticut.

[3] Created in 2005 by the predecessor of the Connecticut Green Bank – the Connecticut Clean Energy Fund
[4] "Climate Policy and Voluntary Market Initiatives: An Evaluation of the Connecticut Clean Energy Communities Program" by Matthew Kotchen as Working Paper 16117 of the National Bureau of Economic Research.

(3) Strategic Importance

At the strategic retreat of the Green Bank in February of 2019,[5] it was determined that by creating a public awareness and engagement program in partnership with Sustainable CT, the Green Bank could enlist local citizens to take action on clean energy – deploy it, invest in it, and defend it (e.g., build citizen support for the Green Bank). The Green Bank was very active in the formation of Sustainable CT and currently serves as its co-chair. Sustainable CT will match $75,000 of the Green Bank's contribution (e.g., through foundation grants, citizen contributions, etc.) and its programs will have broad reach and deliver exceptional education value of strategic importance to the Green Bank.

(4) Multiphase; Follow-on Investment

Green Bank recognized the ability of Sustainable CT to drive sustainable action and investment in communities at its inception. Through early participation in Sustainable CT's working groups, Green Bank has integrated its programs and products into Sustainable CT's menu of coordinated, voluntary sustainability actions for municipalities. The proposed grant bolsters the human resources available to municipalities through the Sustainable CT Fellows program and operational support to provide the capacity needed to participate in Green Bank incentive and financing programs and achieve certification. As highlighted in the Green Bank's Comprehensive Plan for Fiscal Year 2020 & Beyond, Sustainable CT and the Green Bank are working together to provide individuals, families, and businesses with investment opportunities to make an impact on sustainability in their communities.

(5) Urgency and Timeliness

The application to the Ash Center for use of the IAGA grant is time-sensitive. The Green Bank applied to the Ash Center for the grant in June 2019, to which it was received in July of 2019 for the purposes outline in this memo – to increase impact from the Green Bank's incentive and financing programs in Connecticut through a partnership with Sustainable CT.

Conclusion & Recommendation

Sustainable CT offers strategic importance for the Green Bank to increase its impact by applying the green bank model through its incentive and financing programs to help municipalities improve their sustainability and take action on clean energy. Supported primarily through the IAGA grant, the proposed grant agreement is necessary to expand upon the existing partnership between Sustainable CT and the Green Bank. With Board approval, the partnership will drive investment in projects in our communities, engage communities from project origination through financing, and create a measurable impact.

Staff recommend this grant agreement to the Board for approval.

[5] Connecticut Green Bank 2.0 – From 1 to 2 Orders of Magnitude (click here)

Strategic Plan

Is the program proposed, consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?

Yes – the proposed grant agreement underpins the partnership between the Green Bank and Sustainable CT that is highlighted and specified in Green Bank's Comprehensive Plan for Fiscal Year 2020 & Beyond and FY20 budget allocation of $100,000.

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?

An additional 2 Green Bank Solar PPA projects produce an average 9,200 MWh over the lifetime[6] of the projects and additional 50 Solar for All solar PV projects produce an average of 9,100 MWh over the lifetime of the projects. A $100,000 grant to Sustainable CT (of which $75,000 is from the Ash Center at Harvard University), nearly $800,000 of Green Bank investment through the Green Bank Solar PPA product, and $133,670 of incentive payments through the RSIP.

Terms and Conditions

What are the terms and conditions of ratepayer payback, if any?

As a result of the expected increase in interest revenues from 2 additional Green Bank Solar PV projects, derived from approximately $800,000 investment of Green Bank funds through the Green Bank Solar PPA (i.e., each project on average is a $650,000 investment of which 60% of the capital is from the Green Bank)[7] generating approximately $280,000 in present value interest income (i.e., from $375,000 in interest income over the life of the PPA), the costs of the grant as well as personnel and non-personnel related expenses will be covered.

Capital Expended

How much of the ratepayer and other capital that Green Bank manages is being expended on the project?

Of the $100,000 grant, $25,000 is coming from Connecticut ratepayers and $75,000 is coming from the Ash Center through the IAGA won by the Green Bank.

Risk

What is the maximum risk exposure of ratepayer funds for the program?

The maximum risk exposure is $25,000 of ratepayer funds being used as part of the $100,000 grant.

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[6] Green Bank average PPA system size is 172.65 kW; 2019 Solar for All average system size is 6.8kW and average incentive of $2,673.40

[7] Of the total investment of $13.4 MM of investment on the Green Bank Solar PPA in FY 2019, $8.1 MM was from the Green Bank.

Financial Statements

How is the program investment accounted for on the balance sheet and profit and loss statements?

When funds are received:

$100,000 Debit: Cash	[Harvard Grant]

When funds are paid:

$75,000 Credit: Cash	[Sustainable CT Grant – Harvard Grant]
$25,000 Credit: Cash	[Sustainable CT Grant – Clean Energy Fund]

Target Market

Who are the end-users of the engagement?

There are multiple end-users who will benefit from this engagement, including:

- Participating Sustainable CT Communities – those cities and towns that utilize the Green Bank's incentive and financing programs to reduce the burden of energy costs through the deployment of clean energy;
- Sustainable CT Fellows – Connecticut college and university students supporting Sustainable CT cities and towns across the state; and
- Citizens – local citizens who use the IOBY platform to match contributions through an online citizen engagement platform in support of local sustainability projects in their communities.

Green Bank Role, Financial Assistance & Selection/Award Process

The Green Bank will award the grant.

Program Partners

Sustainable CT – see Exhibit C

Risks and Mitigation Strategies

The following is the key risk and mitigation strategy:

Loss of the Grant – the $100,000 grant to Sustainable CT is intended to create new opportunities (i.e., new marketing channel) for the Green Bank to offer its incentive and financing programs. If there is not enough origination of transactions from the Green Bank's programs (e.g., closed Solar PPA's), then the likelihood of interest income paying for the grant over time is lessened. The mitigation strategy is to (1) use a majority of the IAGA grant as a match (i.e., $75,000 from Harvard), to prevent losses of ratepayer capital (i.e., $25,000 from Connecticut ratepayers), and (2) develop and track measurable performance targets to ensure that grant proceeds towards community-based marketing strategies are resulting in increased deal flow to the Green Bank.

Resolutions

WHEREAS, the Comprehensive Plan and FY 2020 budget identify Sustainable CT as a partner of the Connecticut Green Bank ("Green Bank"), including an allocation of $100,000 from the FY 2020 Research and Development budget;

WHEREAS, Connecticut Green Bank ("Green Bank") staff has submitted to the Green Bank Board of Directors (the "Board") a proposal for Green Bank to enter into a grant agreement with Sustainable CT for $100,000 for programmatic purposes in order to increase our impact by applying the green bank model through Sustainable CT's programs as explained in a memorandum to the Board dated September 5, 2019;

WHEREAS, Sustainable CT satisfies all criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) special capabilities, (2) uniqueness, (3) strategic selection, (4) multiphase, follow-on investment and (5) urgency and timeliness;

WHEREAS, the Green Bank's $100,000 Innovation in American Government Award is to be used to further the innovation and programs of the organization. The Green Bank has proposed and been approved to regrant $75,000 of these proceeds to Sustainable CT;

WHEREAS, Green Bank staff recommends that the Board approve a grant between the Green Bank and Sustainable CT, generally in accordance with memorandum summarizing the grant to the Board in a memorandum dated September 5, 2019; and

WHEREAS, Green Bank would benefit from Sustainable CT's public awareness and engagement program to increase participation in Green Bank's incentive and financing programs. Through the partnership, Green Bank and Sustainable CT are driving investment in projects in communities throughout the state.

NOW, therefore be it:

RESOLVED, that the Board approves Green Bank to enter into a Grant Agreement with Sustainable CT as a strategic selection;

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 Sustainable CT grant agreement 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: Emily Basham, Associate Manager, and Bryan Garcia, President & CEO

WINNER GRANT APPLICATION

Growing the Green Bank Movement –Increasing Impact Inside and Outside of Connecticut

June 10, 2019

> *"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."*[i]

In July of 2017, the Connecticut Green Bank was awarded the prestigious Innovations in American Government Award (IAGA) for "Sparking the Green Bank Movement". For the winner grant application, the Connecticut Green Bank proposes the project – "Growing the Green Bank Movement –Increasing Impact Inside and Outside of Connecticut" – to the Ash Center for its $100,000 grant to both: (1) increase the impact of the green bank model inside of Connecticut (i.e., reach deeper into communities across the state with our products and programs through a nonprofit focused on community sustainability) , and (2) replicate and disseminate the green bank model outside of Connecticut (i.e., increase impact of its best practice products through a nonprofit co-created by the Connecticut Green Bank focused on underserved market segments).

The Connecticut Green Bank has a long-standing history of citizen engagement within the communities of Connecticut. From the Solarize campaigns launched in communities across the state, to reducing soft-costs for solar PV through the SunShot Initiative (including providing greater access for low-to-moderate income households), the Connecticut Green Bank is positioned to increase its impact further in Connecticut's communities. In partnership with Sustainable CT, a nonprofit focused on providing municipalities with a menu of coordinated, voluntary actions, to continually become more sustainable, the Connecticut Green Bank intends to "offer up" its line of financing products and programs to help municipalities implement sustainability actions and be recognized for their ongoing sustainability achievements. Increasing the impact of the green bank model further, inside of Connecticut, is how the Connecticut Green Bank proposes to use a portion of its IAGA grant.

As a result of the Connecticut Green Bank's success in demonstrating the model's implementation in Connecticut, there has also been growing national public policy interest at the federal[ii] and local levels[iii] to realize similar results. Specifically, the Connecticut Green Bank, in partnership with the Connecticut Department of Energy and Environmental Protection (DEEP) and the Kresge Foundation, inspired by interest outside of the state and the desire to increase impact in underserved market segments (e.g., communities of color, low-to-moderate income households, etc.), formed a partnership to share the lessons learned in Connecticut through a jointly created nonprofit organization called Inclusive Prosperity Capital (IPC). Replicating and disseminating the green bank model of mobilizing private

investment through IPC, with a specific focus on investment in underserved market segments across the country, is the second area the Connecticut Green Bank proposes to use the IAGA grant.

For both these activities proposed in the project, the Connecticut Green Bank will be documenting and disseminating lessons learned so that the green bank model can continuously grow and be adapted and adopted by others across the country.

Agency Director receiving the grant (please type): Bryan T. Garcia

Signature of Agency Director: 

Date: JUNE 11, 2019

2. Management and Administration

The person who will be responsible for overall project management/grant administration is:

Name:	Bryan Garcia				
Address:	845 Brook Street				
City:	Rocky Hill	State:	CT	Zip code:	06067
Phone:	860-257-2170		Fax:		
Email:	bryan.garcia@ctgreenbank.com				

Assistant Name (if applicable):	Kerry O'Neill
Assistant Phone:	860-257-2884
Assistant Email:	kerry.oneill@inclusiveteam.org

The Person who will administer the grant activity on a day-to-day basis is (if different from project manager):

Name: ***Same as above***					
Address:					
City:		State:		Zip code:	
Phone:			Fax:		
Email:					

Please include a brief description of the governing structure of the agency:

The Connecticut Green Bank is governed through the following structure:

1. **State Government** – the executive and legislative branches of the State of Connecticut, which passed a law (i.e., CGS 16-245n) in July of 2011 creating the quasi-public organization;

2. **Governance** – 11 voting and 1 non-voting members of the Board of Directors that serve in their ex officio or appointed capacities to develop and oversee the successful implementation of the Comprehensive Plan of the organization;

3. **President and CEO** – hired by the Board of Directors to manage a staff that puts forth a budget, targets, and investment strategy to implement the Comprehensive Plan of the organization; and

4. **Business Units and Administration** – the Connecticut Green Bank operates two business units –Incentive Programs and Financing Programs – that mobilize investment and deploy clean energy in Connecticut's communities. These business units are supported by nearly 40 program and investment staff, as well as administrative support functions from finance, legal, marketing, and operations.

3. Proposed Activities:

Activity 1: Increasing Impact Inside of Connecticut

Overview:
In November of 2018, Sustainable CT was launched at the annual convention of the Connecticut Conference of Municipalities. Created by towns, for towns, Sustainable CT is a nonprofit effort to support Connecticut's 169 cities and towns become more sustainable through a voluntary certification program. This program includes 10 areas of focus from thriving local economies and natural resource stewardship to physical infrastructure and inclusive communities. Among these areas are numerous actions that the Connecticut Green Bank can increase its impact by applying the green bank model through its products and programs, including participating and promoting the C-PACE program, streamlining solar permitting, supporting zero emission vehicle deployment, increasing renewable energy use in municipal buildings, and implementing community energy campaigns, but to name a few.

The activity – "Increasing Impact Inside of Connecticut" – will apply the green bank model through its programs and products to communities throughout the state, to help them increase their energy and environmental impact and achieve sustainability certification through:

1. **Awareness** – building more awareness of the Connecticut Green Bank from stakeholders across the state through increased community engagement on our

existing products and services (e.g., C-PACE, Green Bank Solar PPA, Solar for All, etc.), as well as a soon-to-be launched Green Bonds Us Campaign;[iv]

2. **Engagement** – engaging local municipalities, businesses, and their citizens with programs and products that will help them achieve their sustainability goals including Sustainable CT's introduction of an online crowdfunding campaign and its Sustainable CT Fellows;[v]

3. **Action** – moving the local municipalities, businesses, and citizens beyond awareness and engagement to action, leading to the purchase and installation of more clean energy in their communities through financing support from the Connecticut Green Bank.

Target Audience(s)

- Local Officials (e.g., mayors, town councils, COGs)
- Community-Based Organizations (e.g., Sustainable Connecticut, Connecticut Conference of Municipalities, etc.)
- Local Businesses
- Citizens

Potential partners and co-sponsors (if applicable)

- **Foundations** – local community foundations supporting efforts to advance sustainability across Connecticut through matching contributions with the Connecticut Green Bank.

a) **Methods and Channels**

- **Outreach** – on the ground engagement at the local level with Sustainable CT and its Fellows to identify opportunities to finance clean energy projects for municipalities, businesses, and their citizens through the Connecticut Green Bank line of programs and products; and
- **Crowd Funding** – matching support for citizen-led sustainability projects through an innovative online platform administered by IOBY (i.e., In Our Backyards) and Sustainable CT.

b) **Desired Outcome(s)**

- **Impact** – significant deployment of clean energy resulting from the Connecticut Green Bank's programs and products in Sustainable CT communities which will reduce the burden of energy costs, create jobs, and reduce environmental degradation;

- **Achievement** – more citizen engagement and cities and towns becoming registered and certified by Sustainable CT as sustainable communities given their progress on implementing clean energy projects and recognizing the benefits to them for doing so; and

- **Lessons Learned** – continuously sharing best practices and lessons learned with other municipalities and states in order for the Connecticut Green Bank to transfer knowledge that increases and accelerates the uptake of clean energy through the adaptation and adoption of the green bank model.

c) **Project Management:** Bryan Garcia (President and CEO of the Connecticut Green Bank – and Co-Chair of Sustainable CT)

Activity 2: Increasing Impact Outside of Connecticut

Overview:
In August of 2018, the Connecticut Green Bank, in partnership with DEEP and the Kresge Foundation, formed a nonprofit organization called Inclusive Prosperity Capital. "Sparked" by the Connecticut Green Bank, the mission of IPC is to attract mission-oriented investors in "clean energy" in underserved market segments.

The activity – "Increasing Impact Outside of Connecticut" – will replicate and disseminate the green bank model taking the best practices and lessons learned in Connecticut outside of the state across the country through operational support and promotion of the green bank model.

Target Audience(s)

- Partner Locations – Illinois (i.e., in partnership with Elevate Energy), Michigan (i.e., in partnership with Michigan Saves), Minnesota (i.e., in partnership with the McKnight Foundation), and Washington, DC (i.e., in partnership with the DC Green Finance Authority).

- Private Investors – as a result of a $10 million balance sheet guarantee from the Kresge Foundation, IPC is raising up to $40 million of capital from impact investors to provide capital for its financing programs.

Potential partners and co-sponsors (if applicable)

- N/A

d) **Methods and Channels**

- **Outreach** – continuous outreach to partner locations and private investors to connect impact capital to local clean energy projects; and
- **Fundraising** – continuous raising of capital from various public and private sources to support partner locations.

e) **Desired Outcome(s)**

- **Investment** – deployment of clean energy in underserved market segments through IPC investment in underserved market segments outside of Connecticut;
- **Impact** – measured and demonstrated social and environmental impact (or benefits) in partner locations;
- **Lessons Learned** – continuously sharing best practices and lessons learned with others in order for the Connecticut Green Bank, through Inclusive Prosperity Capital, to transfer knowledge that increases and accelerates the uptake of clean energy through the adaptation and adoption of the green bank model in underserved markets.

f) **Project Management:** Kerry O'Neill, CEO of IPC

4. Timeline

Activity 1 – Increasing Impact Inside of Connecticut

Activity – Increase Impact in Connecticut	Timeline
Outreach	Summer 2019 and Summer 2020
Crowd Funding	Aug 2019 – Ongoing
Sharing of Lessons Learned and Best Practices	Ongoing

Activity 2 – Increasing Impact Outside of Connecticut

Activity – Replicate and Disseminate Outside Connecticut	Timeline
Outreach	Jan 2020 – Ongoing
Fundraising	Jan 2020 – Ongoing

Sharing of Lessons Learned and Best Practices	Ongoing

5. Budget and Budget Narrative

Activity 1 – Increasing Impact Inside of Connecticut

Activity – Adapt and Apply	Amount
IOBY Platform Match to Sustainable CT	$25,000
Municipal Outreach through Sustainable CT Fellows	$50,000
TOTAL	**$75,000**

Budget Narrative
The "Increasing Impact Inside of Connecticut" aspect of the IAGA grant is to apply the green bank model through its programs and products to communities throughout the state, to help them increase their energy and environmental impact and achieve sustainability through Sustainable CT. With the desired outcomes as the focus, the budget focuses on (1) supporting Sustainable Fellows for the 2019 and 2020 summers, which will invest $25,000 each summer from the Connecticut Green Bank (i.e., through the IAGA grant) to potentially be matched by a local community foundation – for up to a total of $100,000 of grant funds, and (2) supporting a 1:1 match for the online IOBY-Sustainable CT platform, which will invest $25,000 from the Connecticut Green Bank (i.e., through the IAGA grant) to raise an additional $25,000 from online contributors – for a total of $50,000 of grant funds in support of local sustainability projects. If successful, the Connecticut Green Bank would be using $75,000 of the IAGA grant to increase its impact inside and outside of Connecticut sharing its lessons learned and best practices, while attracting up to $75,000 of additional resources from community foundation(s) and citizens.

Activity 2 – Increasing Impact (i.e., Clean Energy in Underserved Markets in the US)

Activity – Replicate and Disseminate	Amount
Working Capital to IPC	$25,000
Total	**$25,000**

Budget Narrative
The "Increasing Impact Outside of Connecticut" aspect of the IAGA grant is to support the replication and dissemination of the green bank model focused on clean energy in underserved market segments outside of Connecticut through IPC. With the desired outcomes of investment and impact as the focus, the budget's focus is providing working capital directly to IPC to support their expansion outside of Connecticut. This working capital can be used to support travel, personnel, promotional materials, or whatever expenses are necessary to support the project outcomes.

For the project, and its activities – increasing impact insides and outside of Connecticut – the Connecticut Green Bank will be documenting and disseminating lessons learned so that the green bank model can continuously grow and be adapted and adopted by other jurisdisctions across the country.

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[i] Alexis de Tocqueville, *Democracy in America*

[ii] US Green Bank Act of 2019 introduced by Senators Blumenthal (CT), Markey (MA), Murphy (CT), Van Hollen (MD), and Whitehouse (RI). Democratic Presidential Candidates Inslee and Bennet proposed $90 billion and $1 trillion "green bank" and "climate banks," respectively as part of their campaigns.

[iii] American Green Bank Consortium – https://greenbankconsortium.org/

[iv] The Connecticut Green Bank, in 2020, will be issuing mini green bonds to engage citizens in investing in local projects through a Green Bonds US campaign.

[v] Students from Connecticut colleges and universities that receive training, supervision, and a stipend to help Sustainable CT communities implement actions and obtain points towards certification.

HARVARD Kennedy School
ASH CENTER
for Democratic Governance
and Innovation

June 11, 2019

Mr. Bryan Garcia
President and CEO
Connecticut Green Bank
845 Brook Street
Rocky Hill, CT 06067

Re: Sparking the Green Bank Movement

Dear Bryan,

I am pleased to inform you that the Ash Center for Democratic Governance and Innovation (the Ash Center) at the John F. Kennedy School of Government (Harvard Kennedy School) has approved Grant # 2017-002 and will make the grant of the Innovations in American Government Award to the Green Bank of the State of Connecticut. This grant will total exactly $100,000 to support the dissemination of this Innovations Award-winning initiative, Sparking the Green Bank Movement. The funds must be spent in accordance with the provisions of the grant guidelines and the objectives of the Innovations program.

Payment of grant funds will be issued via check from Harvard University.

These terms apply to the State of Connecticut's use of program funds:

Grant funds must be expended by **June 30, 2021.**

This grant is made only for the purposes stated in this letter and Connecticut Green Bank's approved grant proposal and budget. It is also understood that no substantial variances will be made from the original grant proposal or budget without the Center's prior approval. Any program funds not expended or committed for the purposes of the Innovations Program, or within the program period, will be returned to the Ash Center. The Center's policy is not to fund overhead charges of large institutions (indirect costs), including universities, and they are therefore not permitted under the terms of this grant.

During the grant period, two reports are to be furnished to the Center: an interim report on activities through **June 30, 2020**, to be submitted no later than **August 31, 2020** and a final report at the conclusion of the grant period, to be submitted no later than **August 31, 2021.** The report, which should be signed by an appropriate officer of your organization and sent to the Ash Center, should contain I) a narrative account of what was accomplished by the expenditure of funds, including a description of progress made toward achieving the goals of the grant; and 2) a financial accounting, according to the line-item categories of the approved budget. It is expected that these narrative and financial accountings will be submitted as a single report. Should the program fail to complete the activities or fully spend the grant funds by the end of the grant period, a written request for an extension should be sent to the Center, as well as a report on activities up to that point.

Throughout the grant period, the Center shall be furnished with copies of any publication, audio or video program, film, or other media product produced by your organization under this grant for archival and/or research purposes. The Center shall have the right to make additional copies of any grant product and to disseminate the information and materials through our networks and post the information on our website and portal.

All materials created under the grant agreement must include recognition of the Innovations in American Government Awards Program. The following text is recommended and should be placed on materials created under this agreement.

"This (publication, website etc.) is made possible by a grant from the Innovations in American Government Award, a program of the Ash Center for Democratic Governance and Innovation at Harvard Kennedy School."

After the end of the grant period, the Center will request brief, periodic reports from you or other program representatives. Representatives of the grant-winning program shall respond to such requests throughout the life of the grant-winning program. Moreover, representatives of the grant-winning program shall inform the Center of key personnel changes in order to ensure that program representatives can be contacted.

The Center may monitor and conduct a review of operations under this grant, which may include a visit from Center staff to observe your program, to discuss the program and finances with your personnel, and to review financial and other records and materials connected with the activities financed by the grant.

The Center also reserves the right to copy and distribute your grant proposal to future Innovations winners and finalists, or for Harvard Kennedy School research purposes.

The Center may include information regarding your Innovations award-winning program in their publications, reports and newsletters. The Center may also refer to the program in press releases.

If this letter correctly sets forth your understanding of the terms of this grant, please indicate your organization's agreement to these terms by having the enclosed copy of this letter countersigned by an appropriate officer of your organization and returned to me at the Center.

On behalf of the Innovations in American Government Awards Program at the Ash Center for Democratic Governance and Innovation at the John F. Kennedy School of Government, best wishes for the success of your program. As always, if you have any questions or require assistance in the administration of your program, do not hesitate to call me at (617) 496-4491.

Sincerely,

Christina Marchand
Senior Associate Director
Government Innovators Network and Innovations

State of Connecticut Green Bank Approved Grant Budget

Grant Activity	Proposed Budget
Platform Match to Sustainable CT	$25,000
Municipal Outreach through Sustainable CT Fellows $50,000	$50,000
Inclusive Prosperity Capital Dissemination	$25,000
Total	$100,000

ACCEPTED AND AGREED:

Connecticut Green Bank

By: Bryan T. Garcia
(Printed Name)

(Signature)

Title: President + CEO

Date: June 12, 2019

Why Participate?

- » Recognition
- » Funding & Resources
- » Community Building & Equity
- » Cost Savings
- » Peer Learning
- » Partnerships

HOW TO GET CERTIFIED

1. **Pass a resolution** that indicates your intent to participate in Sustainable CT and establishes a Sustainability Team.

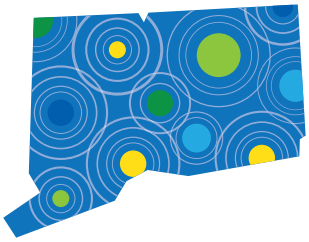
2. Designate an elected official or municipal employee to **register your community** at sustainablect.org.

3. **Complete actions** and track them on your Municipal Dashboard.

4. **Meet the requirements** for certification, and submit your progress through your Municipal Dashboard.

Sustainable CT

Local Actions. Statewide Impact.



Sustainable CT is a voluntary certification program to recognize thriving and resilient Connecticut municipalities.

An independently funded, grassroots, municipal effort, Sustainable CT provides a wide-ranging menu of best practices. Communities choose Sustainable CT actions, implement them, and earn points toward certification.

Find Out More:

sustainablect.org
info@sustainablect.org
860.465.0258

FOUNDING FUNDERS

Tremaine Foundation

hampshirefoundation

COMMONSENSEFUND

Take Action. **Make an Impact.** Get Recognized!

	Action	Points
1.	**THRIVING LOCAL ECONOMIES**	
1.1	Support Redevelopment of Brownfield Sites	5-90
1.2	Implement Sustainable Purchasing	10-30
1.3	Inventory and Promote Local Retail Options	5-30
1.4	Provide Resources and Supports to Local Businesses	5-20
1.5	Promote Sustainable Workforce Development	5-25
1.6	Participate in and Promote the C-PACE Program	5-15
2.	**WELL-STEWARDED LAND & NATURAL RESOURCES**	
2.1	Provide Watershed Education	5-20
2.2	Create a Watershed Management Plan	10-30
2.3	Engage in Watershed Protection and Restoration	15-45
2.4	Develop an Open Space Plan	5-40
2.5	Create a Natural Resource and Wildlife Inventory	10-15
2.6	Manage for Drought and Municipal Water Use	5-15
2.7	Provide Education on Water Conservation	5
2.8	Implement Low Impact Development	5-50
2.9	Manage Woodlands and Forests	10
2.10	Facilitate Invasive Species Education and Management	5-20
2.11	Implement Green Grounds and Maintenance Program	5-25
3.	**VIBRANT & CREATIVE CULTURAL ECOSYSTEMS**	
3.1	Map Tourism and Cultural Assets	5-15
3.2	Support Arts and Creative Culture	10-25
3.3	Develop a Creative Placemaking Plan	10-15
3.4	Provide an Arts and Culture Program for Youth	15-20
4.	**DYNAMIC & RESILIENT PLANNING**	
4.1	Integrate Sustainability into Plan of Conservation and Development and Zoning	5-90
4.2	Adapt Permitting Process to Promote Sustainable Development	5-20
4.3	Develop Agriculture-Friendly Practices	5-25
4.4	Assess Climate Vulnerability	5-25
4.5	Inventory and Assess Historic Resources	5-45
4.6	Streamline Solar Permitting for Small Solar Installations	10-20
5.	**CLEAN & DIVERSE TRANSPORTATION SYSTEMS**	
5.1	Implement Complete Streets	5-110
5.2	Promote Effective Parking Management	10-45
5.3	Encourage Smart Commuting	10
5.4	Support Zero Emission Vehicle Deployment	5-20
5.5	Promote Public Transit and Other Mobility Strategies	5-55

	Action	Points
6.	**EFFICIENT PHYSICAL INFRASTRUCTURE & OPERATIONS**	
6.1	Benchmark and Track Energy Use	5-10
6.2	Reduce Energy Use Across All Municipal Buildings	10-100
6.3	Achieve High Energy Performance for Individual Buildings	5-140
6.4	Increase Use of Renewable Energy in Municipal Buildings	10-50
6.5	Develop a Municipal Energy Plan	10-20
6.6	Manage Municipal Fleets	10
6.7	Install Efficient Street Lights	5-20
6.8	Implement a Community Energy Campaign	10
7.	**STRATEGIC & INCLUSIVE PUBLIC SERVICES**	
7.1	Hold a Sustainability Event	5-15
7.2	Provide Effective Community Communications	15
7.3	Train Municipal Commissions	5
7.4	Encourage Healthy and Sustainable Food Networks	10-35
7.5	Report Materials Management Data and Reduce Waste	5-55
7.6	Implement Save Money and Reduce Trash (SMART) Program	5-35
7.7	Recycle Additional Materials and Compost Organics	10-40
7.8	Develop a Food Waste Prevention and Food Scraps Recovery Campaign	5-15
7.9	Conduct Health Impact Assessments	5-25
7.10	Improve Air Quality in Public Spaces	10-45
8.	**HEALTHY, EFFICIENT & DIVERSE HOUSING**	
8.1	Design and Implement a Housing Needs Assessment	10-35
8.2	Grow Sustainable and Affordable Housing Options	10-50
8.3	Benchmark Energy and Water Use for Multifamily Housing	5-15
9.	**INCLUSIVE & EQUITABLE COMMUNITY IMPACTS**	
9.1	Optimize for Equity	10-50
10.	**INNOVATION ACTION**	
10.1	Implement Your Own Sustainability Action	5-20

Bronze Certification

Complete **1 Equity Toolkit** in action 9.1.
Complete at least **1 action** in each of the categories (1-9).
Successfully complete actions totaling **200 or more points.**

Silver Certification

Complete **3 Equity Toolkits** in action 9.1.
Complete at least **1 action** in each of the categories (1-9).
Successfully complete actions totaling **400 or more points.**

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

CONNECTICUT GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank

From: Mackey Dykes, Vice President, Commercial, Industrial & Institutional Programs

Cc Bryan Garcia, Brian Farnen and Bert Hunter

Date: October 18, 2019

Re: State Solar Pilot Program

Overview

In 2017, Connecticut Green Bank (CGB) staff began working with the Department of Energy and Environmental Protection to provide scoping, feasibility, development and financing assistance for solar PV projects at state of Connecticut (the "State") facilities. A set of pilot projects were identified at buildings owned by the Department of Administrative Services (DAS), the Department of Energy and Environmental Protection (DEEP), and the Department of Correction (DOC). Given CGB's experience with solar projects, CGB stepped in to help develop the projects, providing assistance in site feasibility analysis, ZREC procurement, and facilitating a procurement process for construction and financing. This work has culminated in 13.3 MWs of pilot projects which – depending upon the outcome of the RFP and RFI in the market for these projects, could require the Green Bank to expand its existing authority for commercial solar projects including certain development and financing activities.

Background

CGB staff has been working with a team of State agencies since 2017 to design and implement a pathway to deploy solar at State agencies. Since the State doesn't pay federal taxes, deploying solar through a third-party owned structure that allows the benefits of the Investment Tax Credit and depreciation to be passed through a power purchase agreement (PPA) makes the most financial sense. In addition, this structure allows the transaction to be "off the balance sheet" of the State since a PPA is a service agreement to purchase power and not to own and control assets or to finance the systems. CGB has considerable experience in financing solar through PPAs so the initial conversations centered around providing financing assistance. A set of facilities at DAS, DEEP, and DOC were identified for a pilot. Given CGB's experience with solar projects, CGB stepped in to develop projects at these identified sites. CGB contracted with CSW Energy to provide technical assistance in evaluating the sites for solar and then designing system layouts and initial specs for building and electric meters that were ideal candidates for solar.

Based on these designs and with the blessing of the agencies involved, CGB secured ZRECs for the projects that qualified for medium and large ZRECs. Given the lack of clarity around who would perform various roles for the State and how the PPA contracts could be procured, it became clear that CGB's assistance beyond just financing would be useful in moving projects from concept to execution. In addition, since CGB is a quasi-state agency, the State can sign a PPA with CGB with limited bureaucratic hurdles beyond agreeing upon an initial template PPA in coordination with the Office of the Attorney General. CGB could then leverage our experience with the solar market to run procurement processes to construct and finance the solar systems and secure the best deal for the State.

Pilot

CGB and the State agency team has put together the projects outlined in Table 1 for this pilot effort. Template documents, procurement processes, and development protocols have been developed during this process that can be leveraged as the State looks to deploy more solar to meet the goals of Governor Lamont's Executive Order #1[1]. This pilot effort would represent the first large-scale deployment of solar at State agencies.

Table 1. State Solar Pilot Projects

Project ID	Site Name	Property Address	Project Type	System Size (kW DC)
DOC_Cybulski_47	Cybulski	264 Bilton Rd, Somers, CT 06071	Ground	1073.25
DOC_Enfield_56	Enfield	289 Shaker Road, Enfield CT 06082	Ground	391.5
DOC_MansonYI_99	Manson Youth Institute	176 Jarvis St, Cheshire, CT 06410	Ground	2700
DOC_Obsorn_64	Osborn	100 Bilton Rd, Somers, CT 06071	Ground	2700
DOC_Robinson_22	Robinson A	289 Shaker Rd, Enfield, CT 06082	Ground	189
DOC_Robinson_61	Robinson B	289 Shaker Rd, Enfield, CT 06082	Ground	336.15
DOC_Robinson_70	Robinson C	285 Shaker Rd, Enfield, CT 06082	Ground	1350
DOC_Robinson_85	Robinson D	285 Shaker Rd, Enfield, CT 06082	Ground	630.45
DOC_Willard_50	Willard	391 Shaker Rd, Enfield, CT 06082	Ground	932.85
DOC_Cheshire_ Maloney_Webster	Maloney and Webster (Cheshire Correctional)	Jarvis St, Cheshire, CT 06410	Ground	2700

[1] https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-1.pdf

165_Capitol	State Office Building	165 Capitol Ave, Hartford, CT 06106	Roof	166
DEEP_Hatchery	Kensington Hatchery	120 Old Hatchery Rd, Kensington, CT 06037	Ground	135

Based on the above table and using as a benchmark $2.75 per watt[2] the 13.3 mW of installed capacity should represent a combined capital cost of approximately $36.58 million.

CGB has released an RFP for Engineering, Procurement, and Construction (EPC) services for these projects. CGB has also released a Request for Information (RFI) to create a pre-qualified group of financiers and project owners. Once EPC and other costs are known, CGB will run an RFP with this pre-qualified group of financiers and project owners to select the owner/counterparty and ultimate PPA price for the State. CGB will make CGB debt capital available to integrate into the respondents bid, if they so desire. CGB will then use the EPC and financing RFPs results to form the basis of a PPA between CGB and the State. Initially structuring this between CGB and the State is required by procurement rules. The projects will then be transferred to the financing RFP winner(s) to further develop and construct, and then operate and maintain through the projects for the life of the PPA.

Recommendation
Staff requests the authority to execute the documents which staff deems necessary for the successful procurement and financing of the pilot projects identified in Table 1 above (the “Pilot Projects”), including authority:

- To enter PPAs with the State;
- To enter into EPC contracts with RFP winner(s);
- To enter into a debt term sheet with financing RFP winner, subject to subsequent Board approval of specific debt terms prior to execution;
- Assign such PPA, EPC contracts and other associated contracts and assets to financing RFP winner;
- Create one or more CGB subsidiary to facilitate the structure outlined above, including to potentially safe harbor Pilot Projects for 2019 Investment Tax Credit;
- To provide development capital and construction financing in a total not-to-exceed amount of $5 million in new credit, subject to budget constraints;
- To enter into any other contracts or agreements ancillary to the foregoing.

Resolution

WHEREAS, Connecticut Green Bank (“Green Bank”) staff has been working with State of Connecticut (“State”) agencies to develop certain pilot solar projects (“State Pilot

[2] Most of the systems are ground mounted which is more expensive than rooftop solar.

Projects") identified in the Memorandum dated October 18, 2019 (the "Memo") 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;

WHEREAS, Green Bank is conducting an RFP for engineering, procurement, and construction services for the State Pilot Projects. Once project costs are known, CGB will run an RFP with this pre-qualified group of financiers and project owners to select the owner/counterparty and ultimate power purchase agreement price for the State.

NOW, therefore be it:

RESOLVED, that the Board of Directors approves funding, in a total not-to-exceed amount of $5 million 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 President of Green Bank; and any other duly authorized 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 on such terms and conditions as are materially consistent with the memorandum submitted to the Board on October 18, 2019; 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 effect the above-mentioned legal instruments.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Mackey Dykes, VP, Commercial, Industrial & Institutional Programs

845 Brook Street
Rocky Hill, Connecticut 06067

300 Main Street, 4th Floor
Stamford, Connecticut 06901

T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

Connecticut Municipal Electric Energy Cooperative (CMEEC)

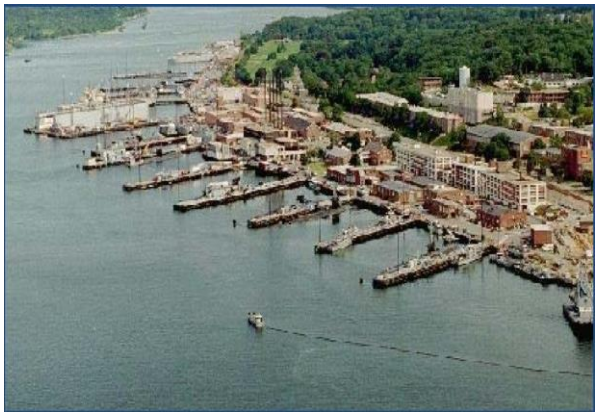
& US Naval Submarine Base – Groton, CT Fuel Cell Project

A Fuel Cell Debt Financing Program

Green Bank Loan Facility Modification Request

Construction Loan Approval Request

October 18, 2019



Document Purpose: This document contains background information and due diligence on a proposed credit facility for the FuelCell Energy, Inc. ("FCE" and NASDAQ: FCEL) fuel cell project under a power purchase agreement between FCE and the Connecticut Municipal Electric Energy Cooperative ("CMEEC") and located at the US Naval Submarine Base – Groton, CT. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

Program Qualification Memo

To: Connecticut Green Bank Board of Directors

From: Bert Hunter, EVP & CIO

Cc: Bryan Garcia, President & CEO; Brian Farnen, General Counsel & CLO; Selya Price, Director, Statutory & Infrastructure Programs; Jane Murphy, Finance and Administration

Date: October 18, 2019

Re: FuelCell Energy Loan Facility Modification Request

US Navy / CMEEC / Groton Fuel Cell Project – Construction Loan in advance of Term Loan

---

Purpose & Loan Modification

The purpose of this memo is to request approval from the Connecticut Green Bank ("Green Bank") Board of Directors (the "Board") for the ability of the Green Bank to use $3 million of $5 million of credit exposure already approved by the Board for a project finance Term Loan (the "Term Loan") toward the 7.4 megawatt FuelCell Energy, Inc. ("FCE") fuel cell under construction at the US Naval Submarine Base, Groton, CT (the "Navy Project") as a secured loan ("Construction Loan").

The $3 million loan would be structured as a modification of an existing loan facility with FCE at the parent level (the "Project Assurance Facility") which was approved by the Board in March 2019 and advanced to FCE in May 2019 as cash collateral security in support a $1.8 million letter of credit issued by Fifth Third Bank for the benefit of Eversource in support of project assurance requirements of FCE to Eversource in the Bridgeport Fuel Cell Project ("Bridgeport Project").

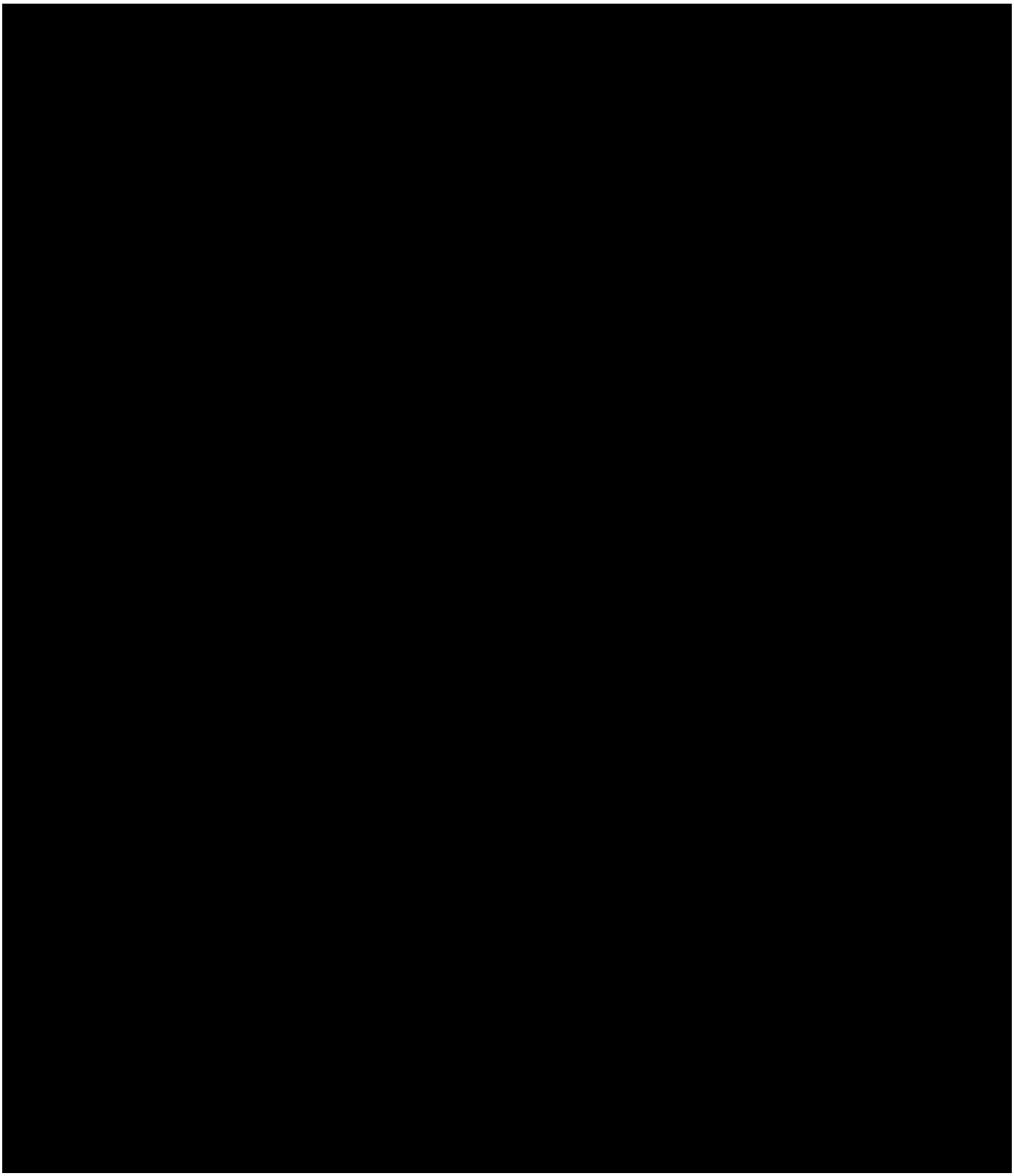
Security for the Project Assurance Facility, the outstanding funded amount of which would be increased following the loan modification from $1.8 million to $4.8 million, is being provided at the Bridgeport Project "ProjectCo level" by a claim on the cash flows of the Bridgeport Project subordinate only to the senior lenders to the Bridgeport Project: Fifth Third Bank and Liberty Bank (the "Senior Lenders"). Green Bank and Inclusive Prosperity Capital ("IPC") jointly arranged the $32.8 million acquisition financing (the "Bridgeport Loans") for the Bridgeport Project - $25 million from Fifth Third Bank and Liberty Bank and $6 million from the Green Bank as subordinate lender to the Bridgeport Project (in addition to the $1.8 million Project Assurance Facility). The Bridgeport Loans are fully performing and in covenant compliance,

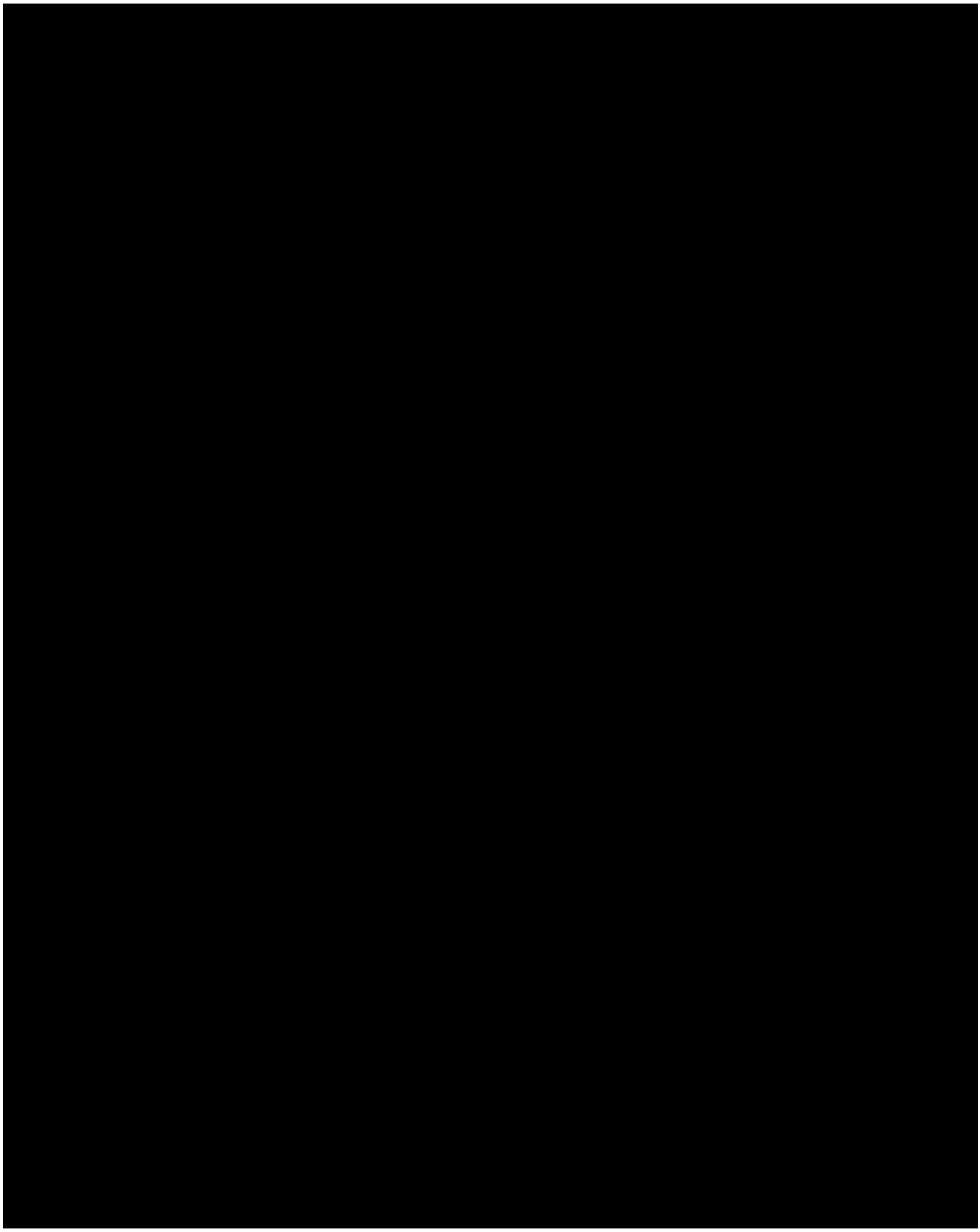
[redacted]

The New London / Groton US Navy Submarine Base is of economic importance to the Groton – New London region, employing more than 10,000 uniform servicepersons and civilian staff. The fuel cell is critical for the Navy Submarine Base resiliency program and has been awarded a substantial grant by CT DEEP under its microgrid program. Given the strategic importance of the Navy Base and the project, FCE's substantially improved operating and capital position, and collateral in an existing long-standing project which has consistently performed and with more than $36 million in excess cash flow after all senior loan and existing Green Bank loan repayments, staff is recommending this request for approval.

FCE Business & Financial Updates

[redacted]





FCE – New Leadership

Jason Few – Former member of the Board of Directors

Mr. Few was appointed President and Chief Executive Officer in August 2019. Prior to FuelCellEnergy, Mr. Few served as President of SustaynAnalytics LLC, a cloud-based software waste and recycling optimization company. Mr. Few has over 30 years of experience increasing enterprise value for Global Fortune 500 and privately held technology, telecommunication, and energy firms. Mr. Few has overseen transformational opportunities across the technology and industrial energy sectors, including:

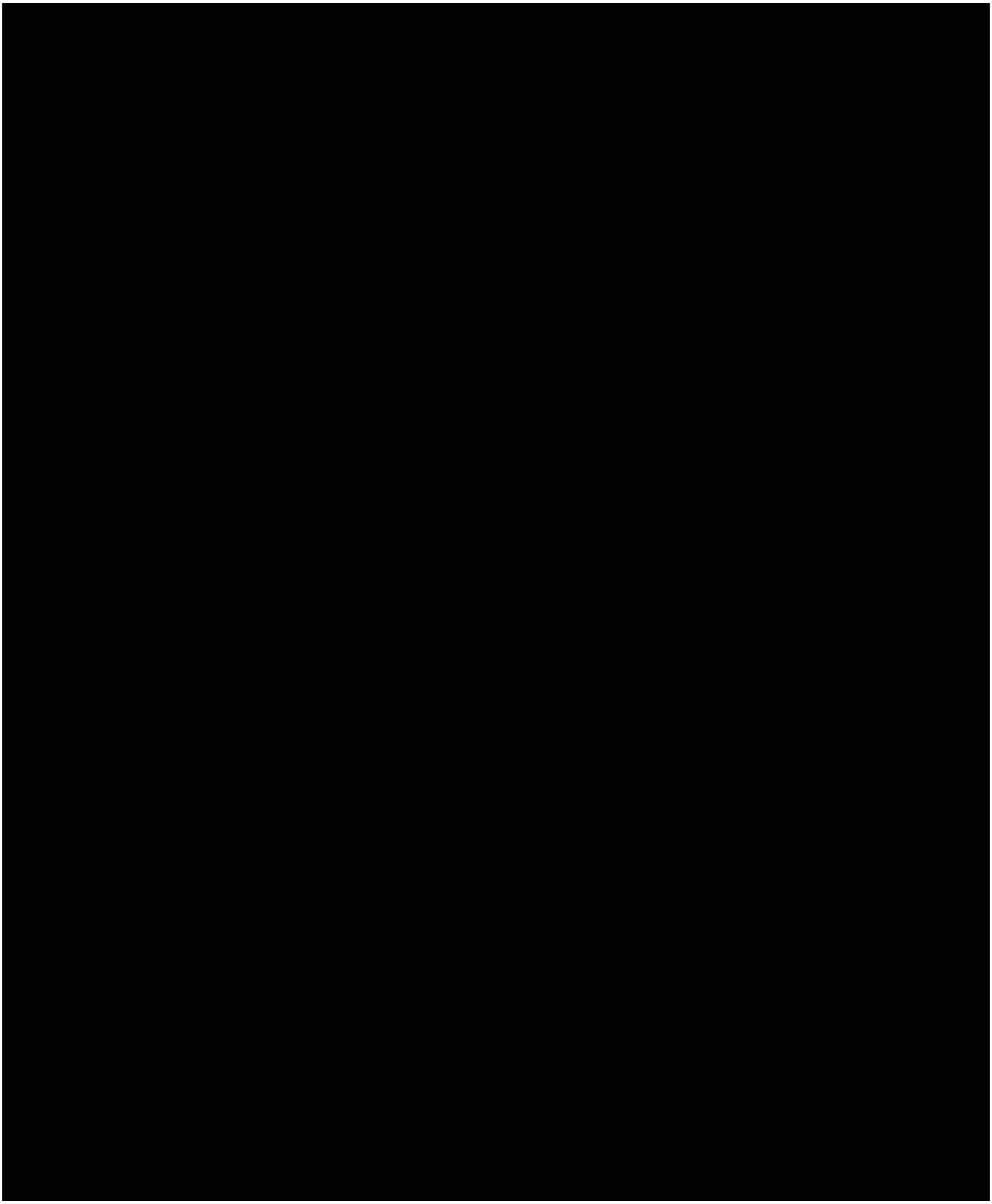
- Founder and Senior Managing Director of BJF Partners, LLC, a privately held strategic transformation consulting firm, where he has served since 2016
- Continuum Energy, an energy products and services company, where Mr. Few served as President and Chief Executive Officer from 2013 to 2016
- NRG Energy, an integrated energy company, where he served in various roles including Executive Vice President and Chief Customer Officer from 2009 to 2012
- President Reliant Energy, a retail electricity provider, where he also served as Senior Vice President, Smart Energy from 2008 to 2009.
- Mr. Few also serves as a Senior Advisor to Verve Industrial, an industrial cybersecurity software company.

Mr. Few is active in his community serving on the boards of Memorial Hermann Hospital, the American Heart Association, and the St. John's School Investment Committee.

He earned a bachelor's degree in computer systems in business from Ohio University. He received an MBA from Northwestern University's J.L. Kellogg Graduate School of Management.

FCE Near Term Liquidity Forecast

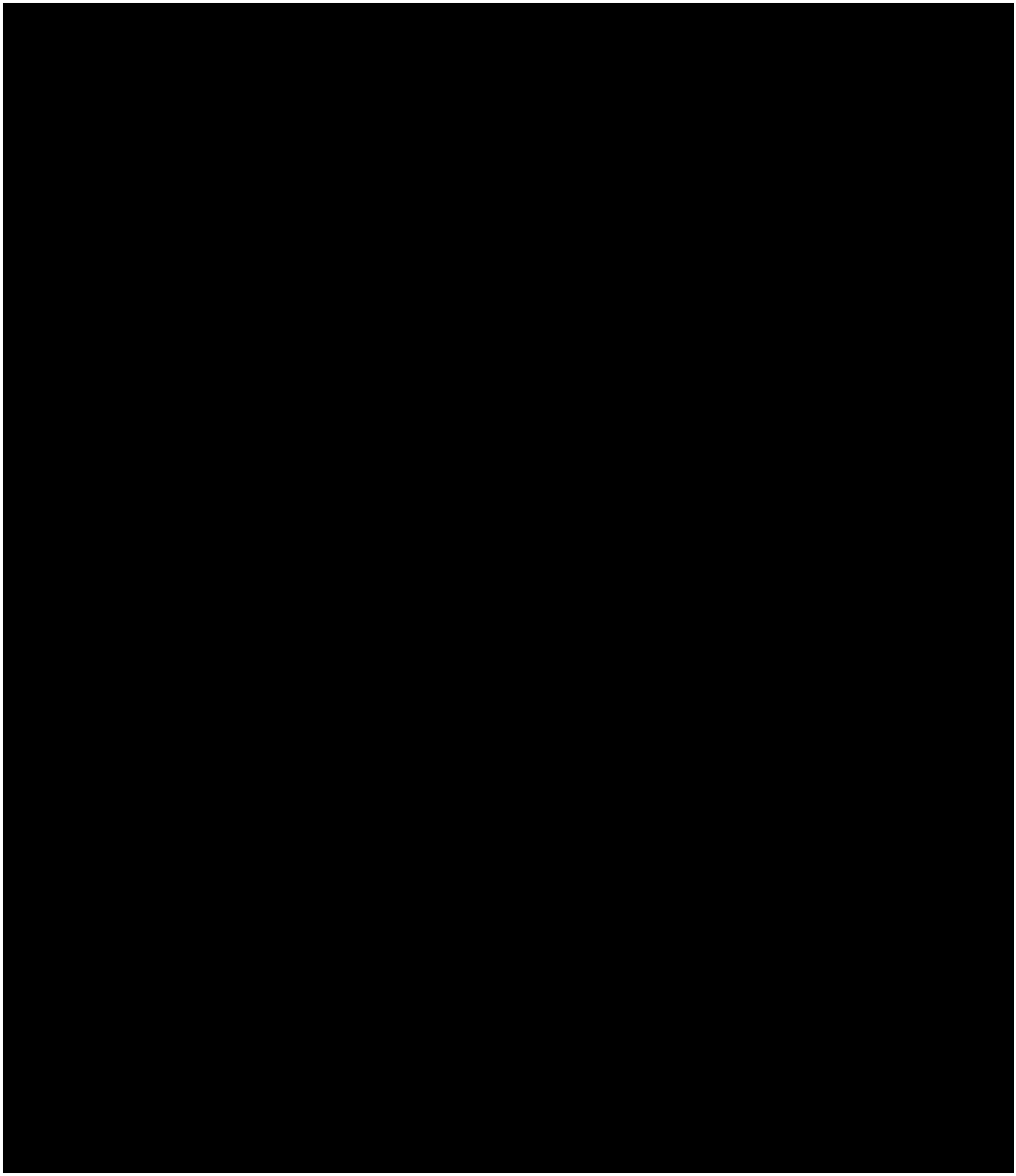
CONFIDENTIAL INFORMATION – FCE IS A PUBLIC COMPANY AND IS SUBJECT TO STRICT SEC DISCLOSURE RULES



Key Considerations for Liquidity Forecast

The liquidity forecast hinges on three key assumptions:

Loan Structure



Project	Financing Facility	Credit Exposure
Bridgeport (15 MW)	Acquisition Funding Facility – Subordinated	$ 6.0 million
Bridgeport (15 MW)	Performance Assurance Finance Facility – Subordinated	$ 1.8 million
Bridgeport (15 MW)	Performance Assurance Finance Facility – Subordinated	$ 3.0 million
Navy Project (7.4 MW)	Long Term Loan (construction takeout) – Subordinated	$ 2.0 million
Triangle (3.7 MW)	Long Term Loan (developer takeout) – Senior	$ 3.2 million
	Aggregate Exposure:	**$16.0 million**

Upon completion of the Navy Project, our exposure would be:

Project	Financing Facility	Credit Exposure
Bridgeport (15 MW)	Acquisition Funding Facility – Subordinated	$ 6.0 million
Bridgeport (15 MW)	Performance Assurance Finance Facility – Subordinated	$ 1.8 million
Navy Project (7.4 MW)	Long Term Loan (construction takeout) – Subordinated	$ 5.0 million
Triangle (3.7 MW)	Long Term Loan (developer takeout) – Senior	$ 3.2 million
	Aggregate Exposure:	**$16.0 million**

The net impact of the transaction is to move forward our commitment to the Navy Project using the security of excess cash flow in the Bridgeport Project.

Staff refers the Board to the attached Board Memorandum in respect of the Navy Project (approved held October 26, 2018) and the Performance Assurance Finance Facility (approved March 29, 2019) for additional due diligence background for the underlying Navy Project and the Bridgeport Project.

Given the strategic importance of the Navy Base and the project, FCE's substantially improved operating and capital position, its prospects for continued improvement given the diverse business lines and substantial project backlog, in addition to collateral in an existing long-standing project which has consistently performed with more than $36 million in excess cash flow after all senior loan and existing Green Bank loan repayments, staff is recommending this loan facility for approval.

Strategic Selection and Importance

With the goal of creating a viable market for the transition from subsidy-based to financing-based models of development for fuel cells in Connecticut, financing the Project is also of strategic importance to the Green Bank, as the Project exhibits the following criteria, which are required of all Green Bank strategic selection and award investments:

- **Special Capabilities –** FCE has significant experience in manufacturing and developing fuel cells (as discussed in the "Project Background – Highlights" section above), and is a locally-domiciled market leader in the industry. FCE can spearhead the pivot away from tax incentives and state procurement subsidies via cost reductions derived from technological innovation and market penetration.

- **Uniqueness –** The Project is of strategic national importance, supporting the U.S. Navy submarine base in Groton, CT, and it is actively under construction (see Appendix I) with over $34 million invested in the project, $23 million from FCE and $11 million of construction financing from 5th 3rd Bank.

- **Strategic Importance –** The Project is aligned with Green Bank goals, including the creation and retention of local jobs associated with FCE, the deployment of an innovative technology that will play an integral role in the economic transformation of the fuel cell industry, and the development of a clean energy generating asset that, both on an individual basis and as similar projects are deployed at scale, will continue to provide a combination of cleaner, cheaper, and more reliable energy, while creating jobs and supporting local economic development.

- **Urgency and Timeliness –** There is an urgent need to act on the opportunity as the Project is already well under construction and is working under a July 2020 completion deadline from the US Navy.

- **Multiphase Project –** Successful execution of the Credit Facility will set the stage for the Green Bank to support the development of similarly strategic projects both for FCE (e.g., the CT DEEP RFP projects) and for the greater fuel cell industry within Connecticut.

Strategic Plan

Is the program proposed, consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?

As confirmed in the Bridgeport Fuel Cell Project Qualification Memo approved by the Board and Deployment Committee on November 30, 2012, pursuant to the Green Bank's mandate to foster the growth, development, and commercialization of renewable energy sources and related enterprises, and to stimulate demand for renewable energy and the deployment of renewable energy sources that serve end use customers in Connecticut, the Board has determined that is in keeping with Conn. Gen. Stat. Section 16-245n for Green Bank to fund certain commercial activities that support projects involving the use of fuel cell technology for distributed generation ("DG") power production.

Staff recommends that these same criteria be applied to fuel cell facilities, such as the Project, for the reasons included throughout this Memo, and in particular as the Term Facility was approved by the Board at the Board meeting on October 26, 2018.

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?

The Project is expected to produce 56,239 MWh during the first year of operation, and up to 1,087,686 MWh during its 20-year useful life. Compared with $5,000,000 of ratepayer funds at risk, the Project is expected to yield up to 218 kWh per $1 of ratepayer funds over a 20-year term.

Terms and Conditions

What are the terms and conditions of ratepayer payback, if any?

The Project Assurance Financing Facility is currently yielding 5%. This rate is to be reset to 8% and has been pending the repayment of the Hercules facility – now complete as of the 1st week of October 2019.

During the operating term, the Term Facility carries an interest rate of 8.00% over a 15-year, fully amortizing term. The Term Facility will be advanced upon COD, expected in April 2020, and will be secured by a subordinated lien and position on Project assets and cashflows.

Capital Expended

How much of the ratepayer and other capital that Green Bank manages is being expended on the project?

$3,000,000 during construction (Construction Loan), repaid upon conversion on COD, and then an additional $2,000,000 term loan for a total of $5,000,000 after COD (Term Facility).

Risk

What is the maximum risk exposure of ratepayer funds for the program?

$3,000,000 during construction, and then $5,000,000 after COD (as previously approved).

Financial Statements

How is the program investment accounted for on the balance sheet and profit and loss statements?

The Construction Loan loan would result in a $3,000,000 reduction of cash and a $3,000,000 increase in promissory notes (Statutory & Infrastructure program).

Target Market

Who are the end-users of the engagement?

The U.S. Navy submarine base located in Groton, CT.

Green Bank Role, Financial Assistance & Selection/Award Process

Lender via Strategic Selection process pursuant to the Green Bank Operating Procedures.

Program Partners

FuelCell Energy, Inc., and Inclusive Prosperity Capital, Inc.

Resolutions

WHEREAS, FuelCell Energy, Inc., of Danbury, Connecticut ("FCE") has outstanding from the Connecticut Green Bank ("Green Bank") a $6 million loan that was used to successfully acquire a 15 megawatt fuel cell facility in Bridgeport, Connecticut (the "Bridgeport Project"), and FCE has operated and maintained the Bridgeport Project without material incident and is current on payments under the Bridgeport Loan;

WHEREAS, FuelCell Energy, Inc., of Danbury, Connecticut ("FCE") has outstanding from the Connecticut Green Bank ("Green Bank") a $1.8 million loan that was used to provide cash collateral in support of a letter of credit issued by Fifth Third Bank for the benefit of the Bridgeport Project (the "Project Assurance Financing Facility"), and FCE is current on payments under the Project Assurance Financing Facility;

WHEREAS, FCE has previously requested term loan financing support from the Green Bank to develop a 7.4 megawatt fuel cell project in Groton, Connecticut located on the U.S. Navy submarine base and supported by

a power purchase agreement ("PPA") with the Connecticut Municipal Electric Energy Cooperative ("CMEEC") (the "Navy Project");

WHEREAS, at its October 26, 2018 meeting, the Board approved a term loan facility in an amount not to exceed $5,000,000 for the Navy Project, as a ***strategic selection and award*** pursuant to Green Bank Operating Procedures Section XII;

WHEREAS, FCE has requested that $3 million of the term loan financing support from the Green Bank to the Navy Project be made available to the Navy Project to fund a portion of the Navy Project's construction expenses (the "Construction Loan"); and

WHEREAS, Green Bank staff recommends that the Board approve of the Construction Loan in an amount not to exceed $3,000,000 as set forth in staff's memorandum to the Board dated October 18, 2019;

NOW, therefore be it:

RESOLVED, that the Green Bank Board of Directors hereby approves the Construction Loan in an amount not to exceed $3,000,000 for the Navy Project, as a ***strategic selection and award*** pursuant to Green Bank Operating Procedures Section XII; and

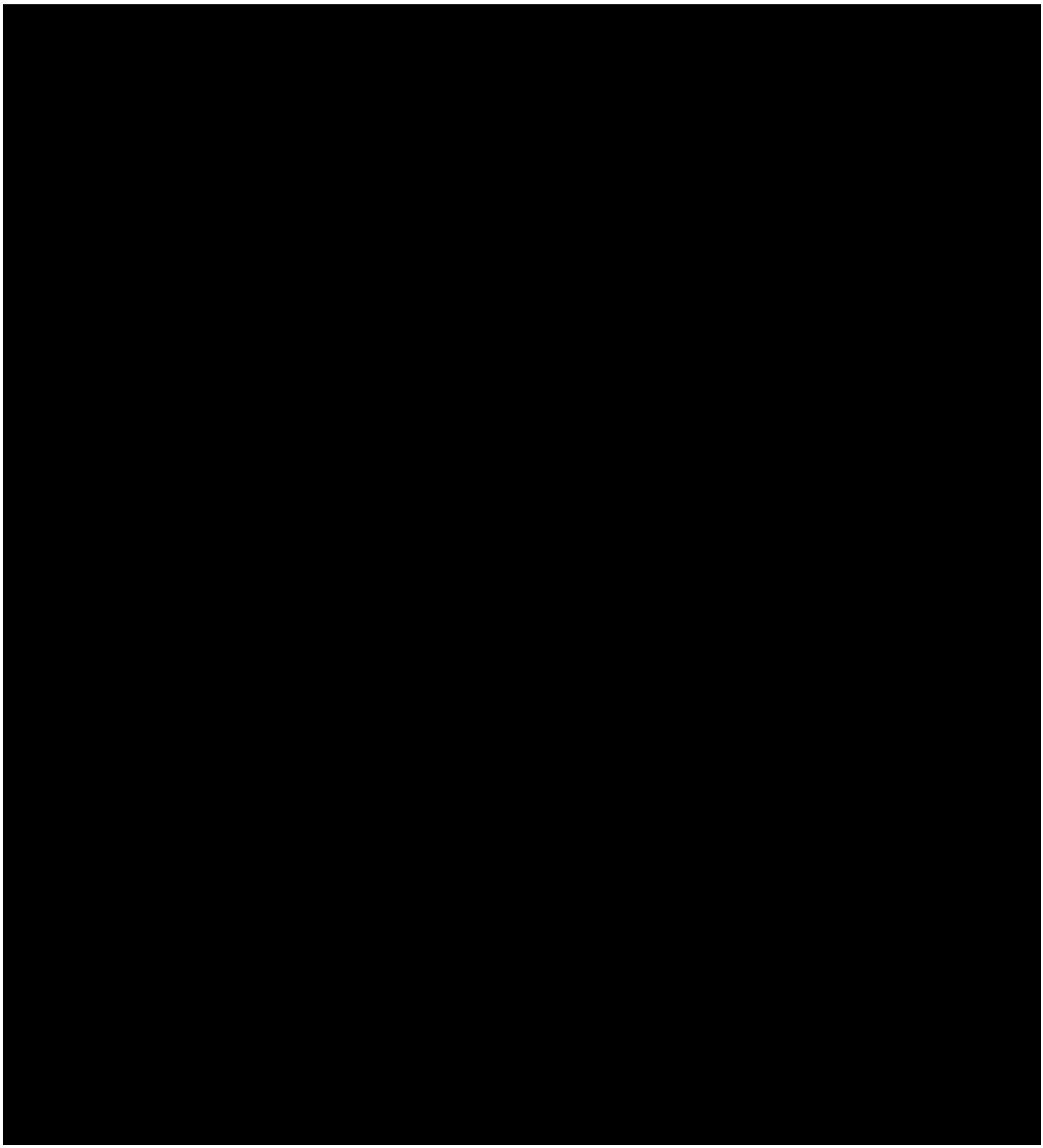
RESOLVED, that the President of the Green Bank and any other duly authorized officer is authorized to take appropriate actions to provide the Construction Loan to FCE in an amount not to exceed $3,000,000 with terms and conditions consistent with the memorandum submitted to the Board dated October 18, 2019, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 180 days from the date of authorization by the Board of Directors; and

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 Construction Loan.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO;

Appendix 1

Navy Project Update



CMEEC Groton - Monthly Spend Analysis

845 Brook Street
Rocky Hill, Connecticut 06067

300 Main Street, 4th Floor
Stamford, Connecticut 06901

T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

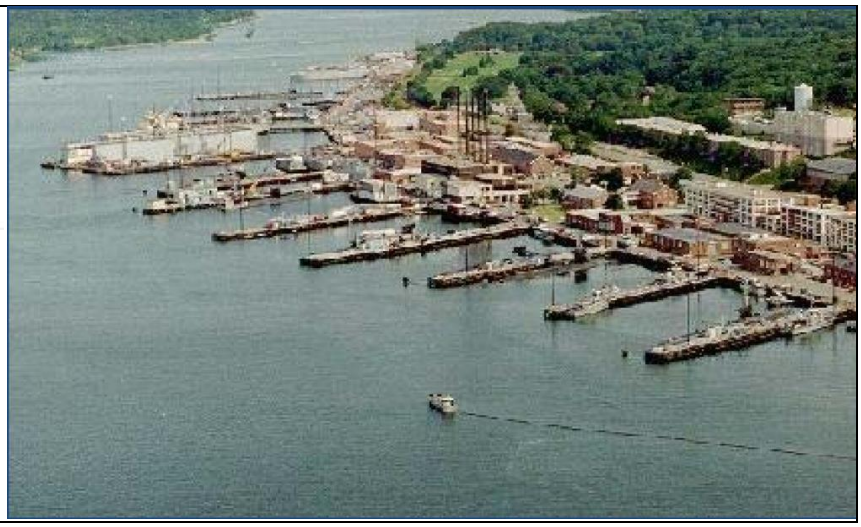
Connecticut Municipal Electric Energy Cooperative

& US Naval Submarine Base – Groton, CT Fuel Cell Project

A Fuel Cell Debt Financing Program

Due Diligence Package

October 26, 2018



Document Purpose: This document contains background information and due diligence on a proposed credit facility for the FuelCell Energy, Inc. ("FCE" and NASDAQ: FCEL) fuel cell project under a power purchase agreement between FCE and the Connecticut Municipal Electric Energy Cooperative ("CMEEC") and located at the US Naval Submarine Base – Groton, CT. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

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Program Qualification Memo

To:	Connecticut Green Bank Board of Directors
From:	Bert Hunter, EVP & CIO
Cc:	Bryan Garcia, President & CEO; Brian Farnen, General Counsel & CLO; Dale Hedman, Managing Director, Statutory & Infrastructure Programs
Date:	October 26, 2018
Re:	FuelCell Energy Credit Facility – CMEEC / Groton Fuel Cell Project – Subordinated Debt Financing

---

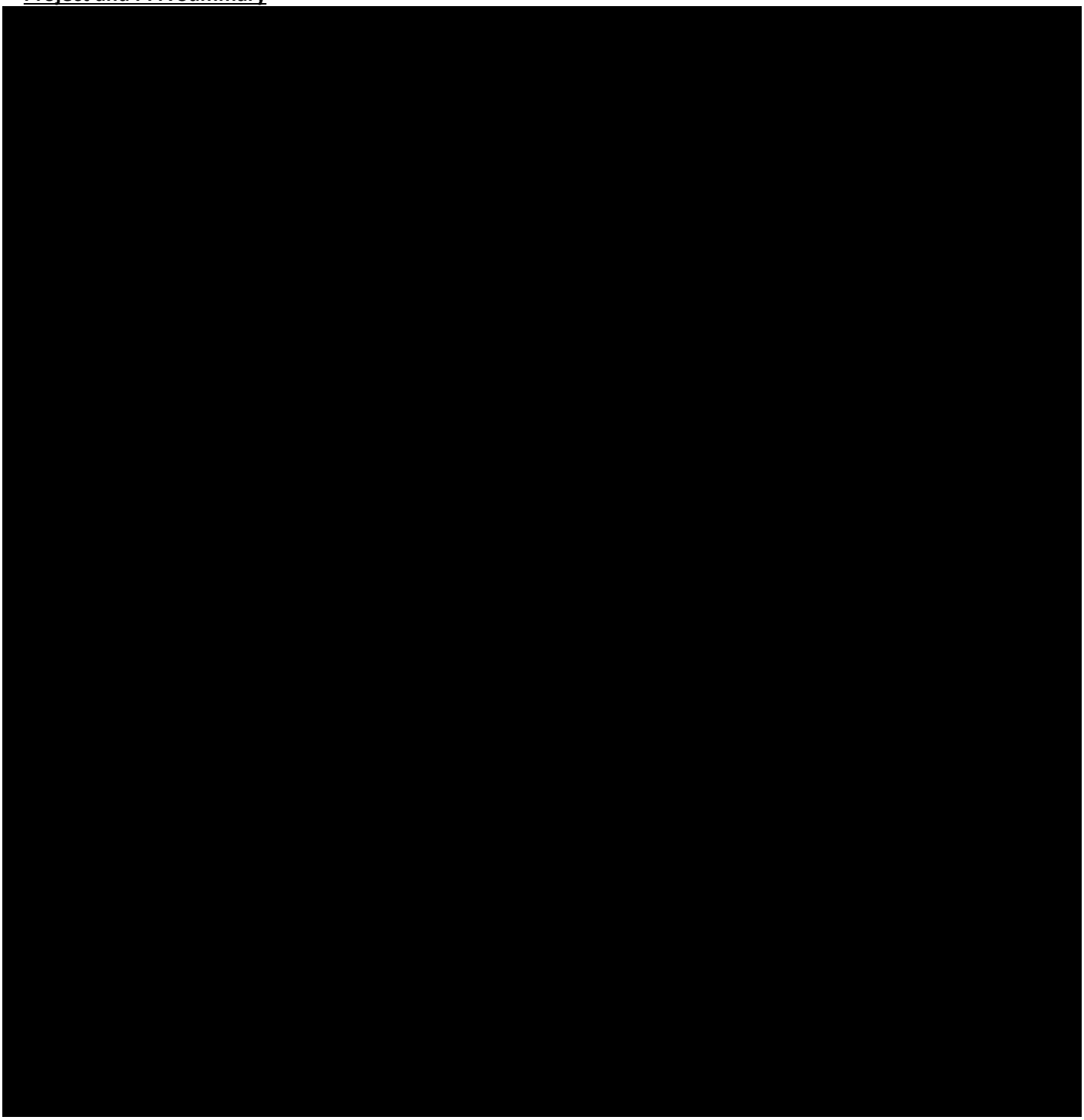
Purpose

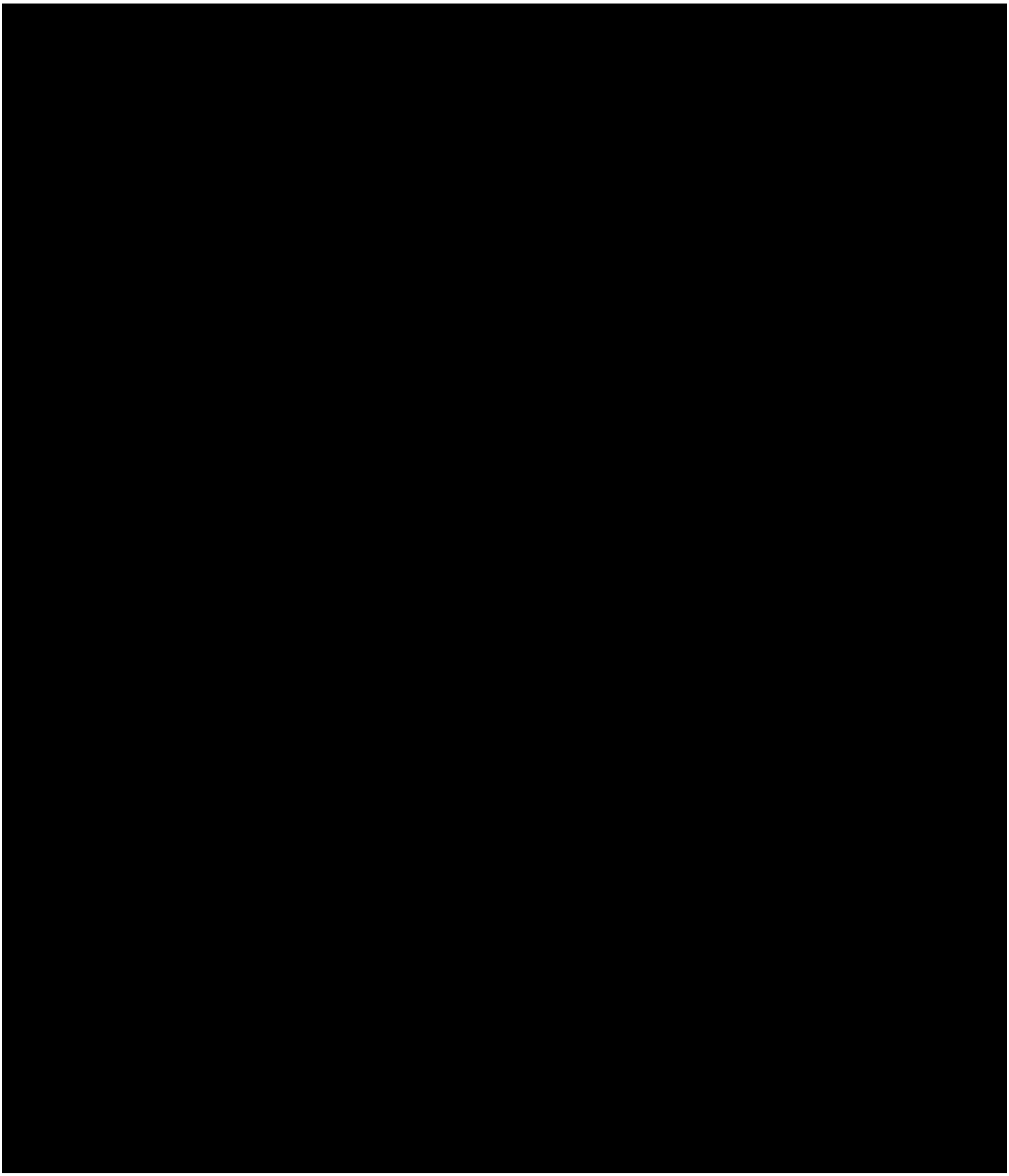
The purpose of this memo is to request approval from the Connecticut Green Bank ("Green Bank") Board of Directors (the "Board") for a $5,000,000 Subordinated Secured Credit Facility (the "Credit Facility"), in the form of a subordinated term loan to a to-be formed special purpose entity ("SPE"), as part of an overall senior-subordinated $23,000,000 term loan package (the "Term Facility") for the proposed 7.4 megawatt FuelCell Energy, Inc. ("FCE") fuel cell project located at the US Naval Submarine Base, Groton, CT (the "Project"). The SPE will be set up by FCE to own the Project, for the benefit of lenders and investors, and the $23,000,000 senior-subordinated term loan package will be collateralized by approximately $40 million in Project assets/cost and Project revenues.

national presence for commercial loans, and a proposal for a senior term loan facility shared jointly between Webster Bank and Liberty Bank (both facilities to be described in more detail later in this memo).

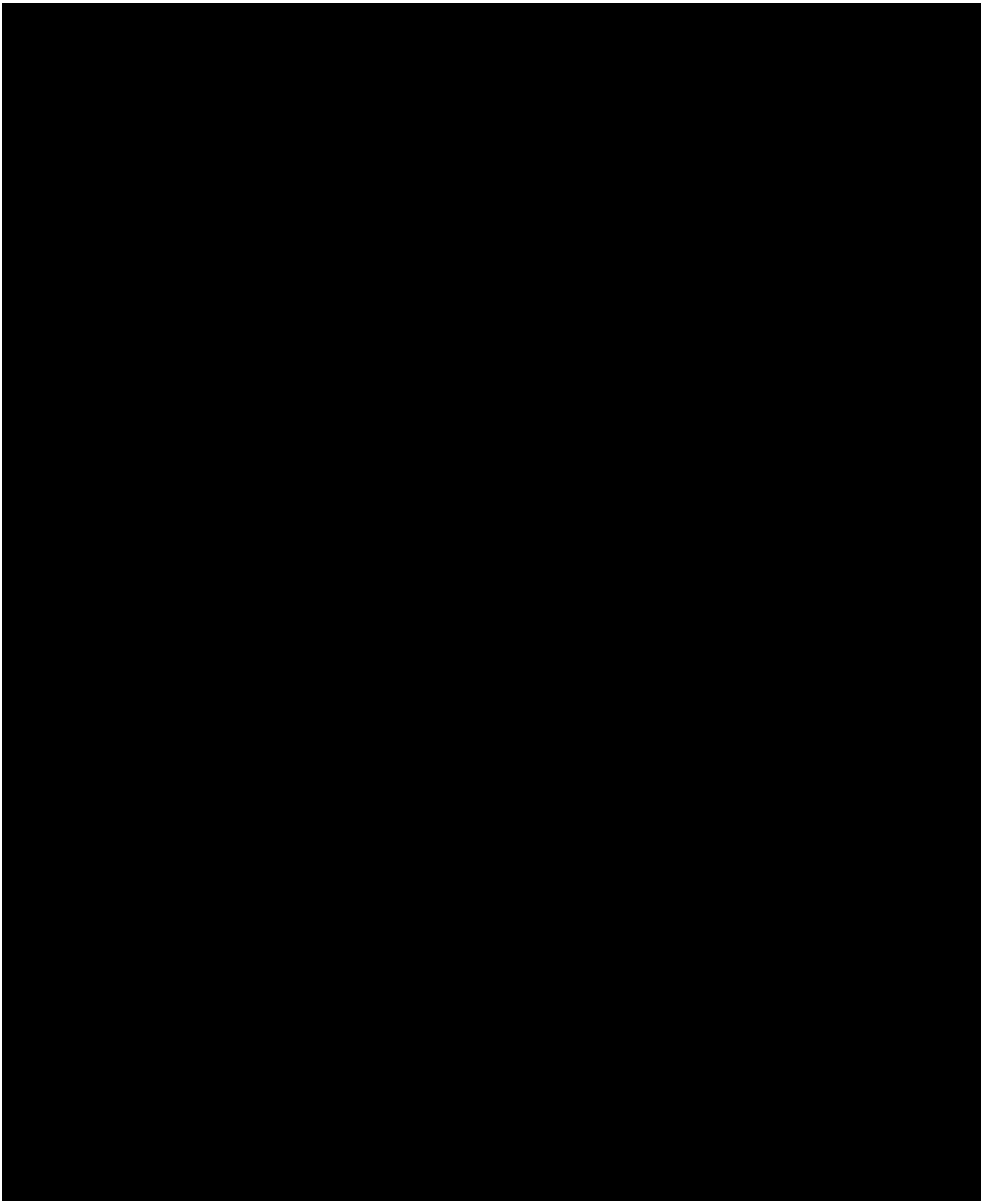
Project Background – Highlights

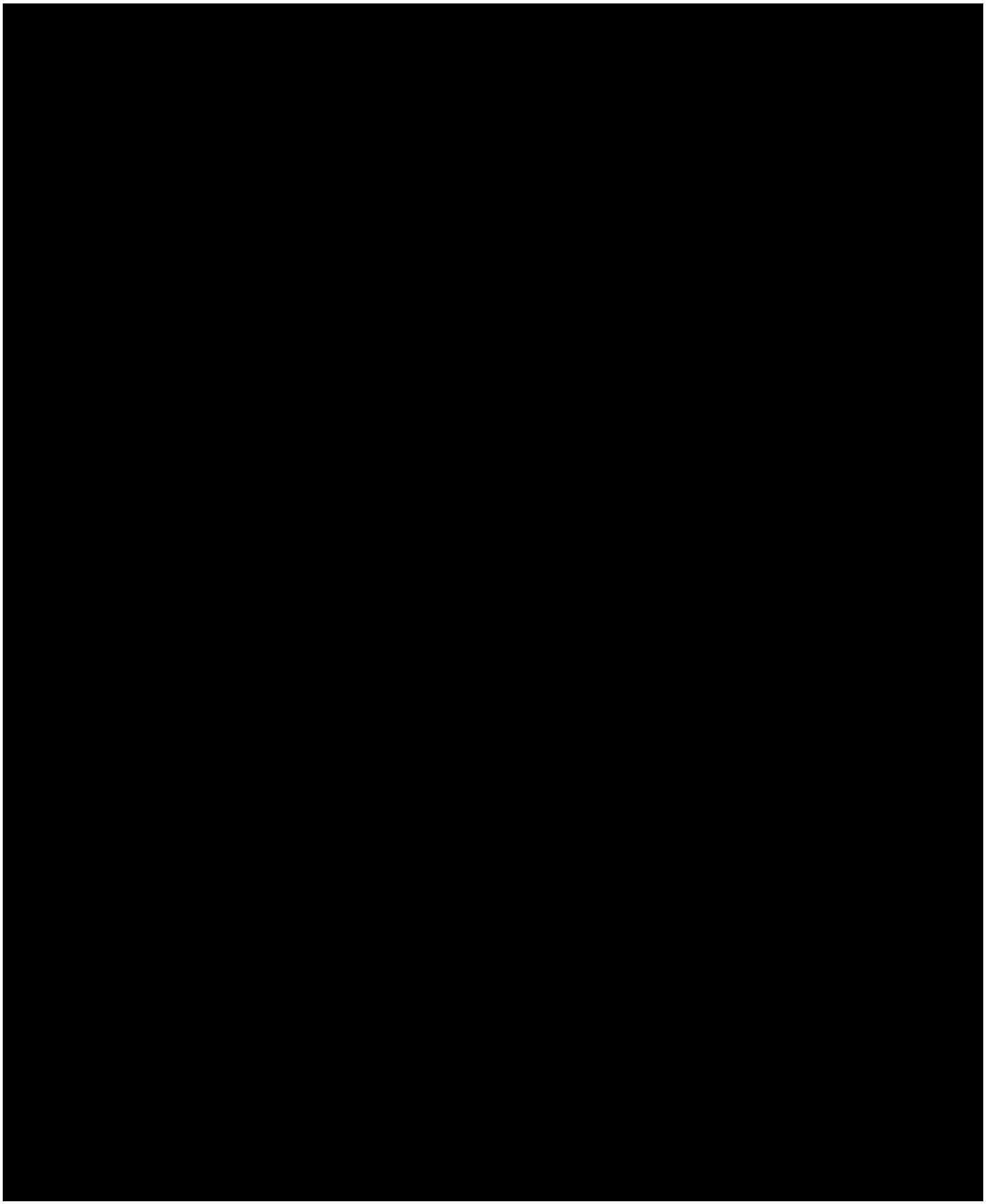
Project and PPA Summary

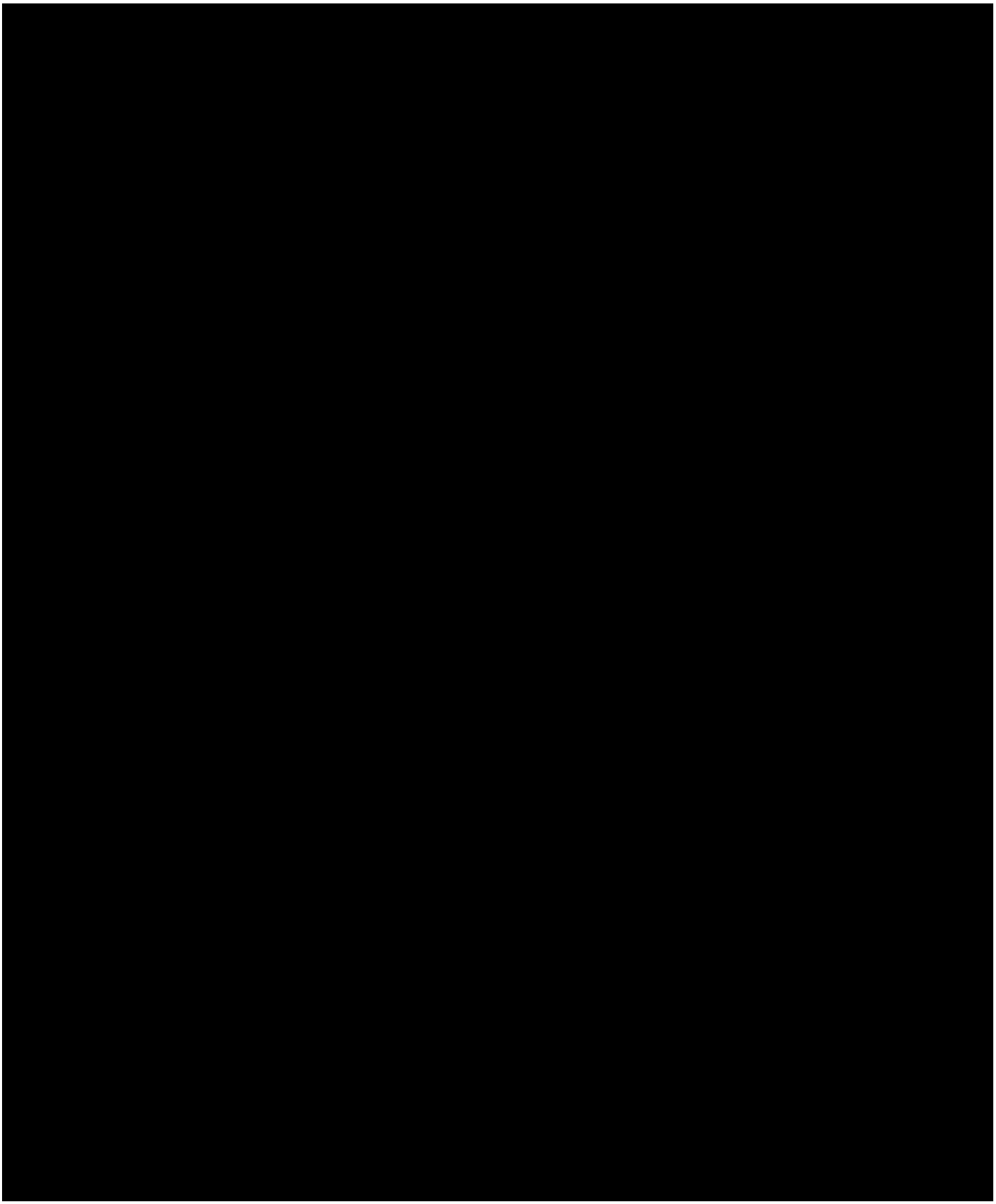




[3] Contracted RECs ("LRECs") are not available for this project due to its size and location in CMEEC service territory.







Support of the Project will directly lead to not only the creation and retention of jobs associated with the Project, but also to FCE's ability to ultimately bring back this workforce as other projects come on line and as it implements its long-term growth strategy.

Green Bank Strategic Alignment

With the goal of creating a viable market for the transition from subsidy-based to financing-based models of development for fuel cells in Connecticut, financing the Project is also of strategic importance to Green Bank, as the Project exhibits the following criteria, which are required of all Green Bank strategic selection and award investments:

- **Special Capabilities –** FCE has significant experience in manufacturing and developing fuel cells (as discussed in the "Project Background – Highlights" section above), and is a locally-domiciled market leader in the industry. FCE can spearhead the pivot away from tax incentives and state procurement subsidies via cost reductions derived from technological innovation and market penetration.

- **Uniqueness –** The Project is of strategic national importance, supporting the U.S. Navy submarine base in Groton, CT, and it has already been sited and is under construction, backed by approximately $5.6 million of developmental and construction capital by FCE to date.

- **Strategic Importance –** The Project is aligned with Green Bank goals, including the creation and retention of local jobs associated with FCE, the deployment of an innovative technology that will play an integral role in the economic transformation of the fuel cell industry, and the development of a clean energy generating asset that, both on an individual basis and as similar projects are deployed at scale, will continue to provide a combination of cleaner, cheaper, and more reliable energy, while creating jobs and supporting local economic development.

- **Urgency and Timeliness –** There is an urgent need to act on the opportunity as the Project is already under construction and is currently being financed in full by cash from FCE's balance sheet. This approach is inefficient, as it soaks up development capital that could be used for other projects in FCE's development pipeline, and it necessarily means that every month and construction milestone that passes foregoes an opportunity to match FCE's capitalization/liquidity needs with interested lending parties.

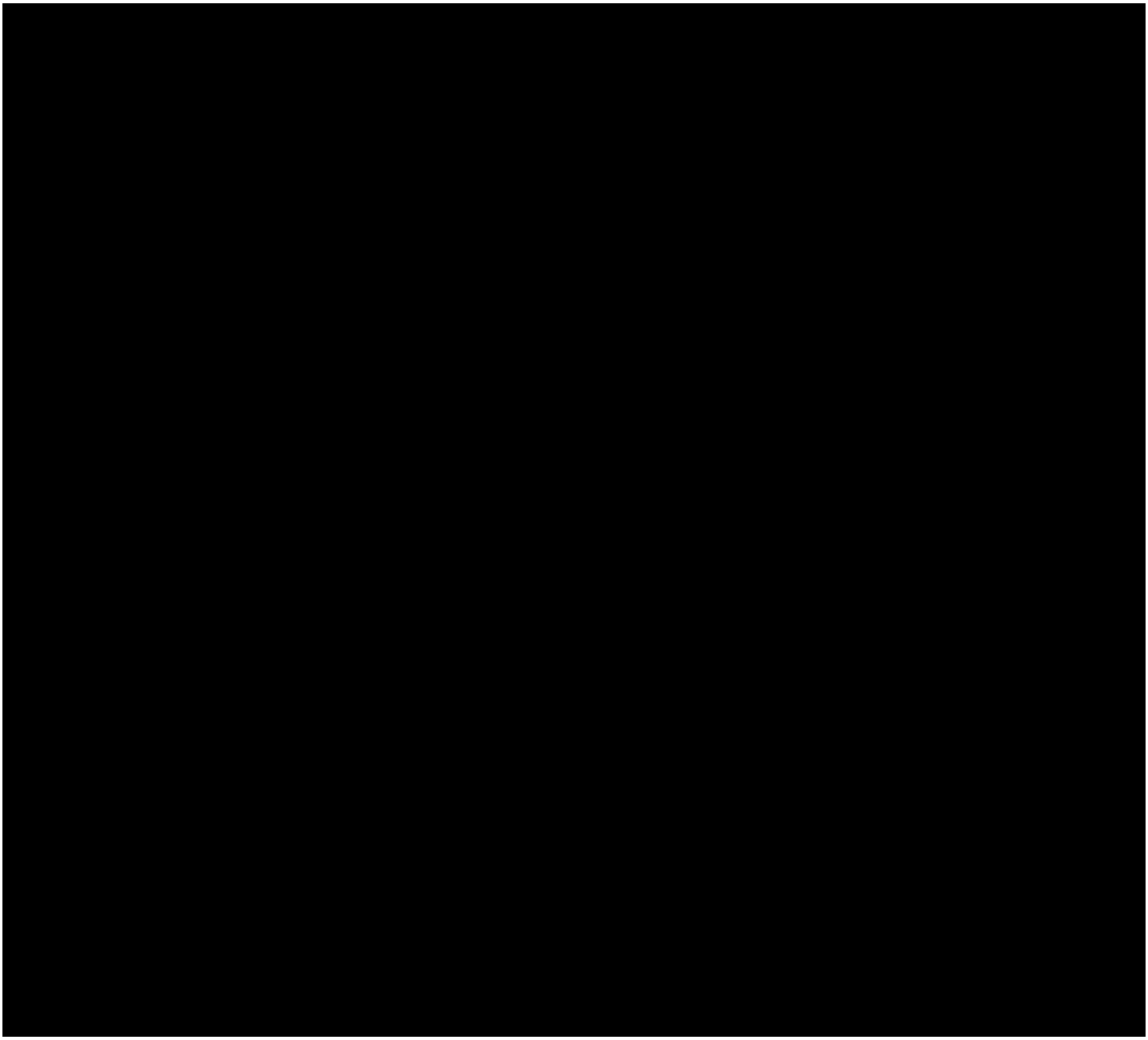
- **Multiphase Project –** Successful execution of the Credit Facility will set the stage for the Green Bank to support the development of similarly strategic projects both for FCE (e.g., the CT DEEP RFP projects) and for the greater fuel cell industry within Connecticut.

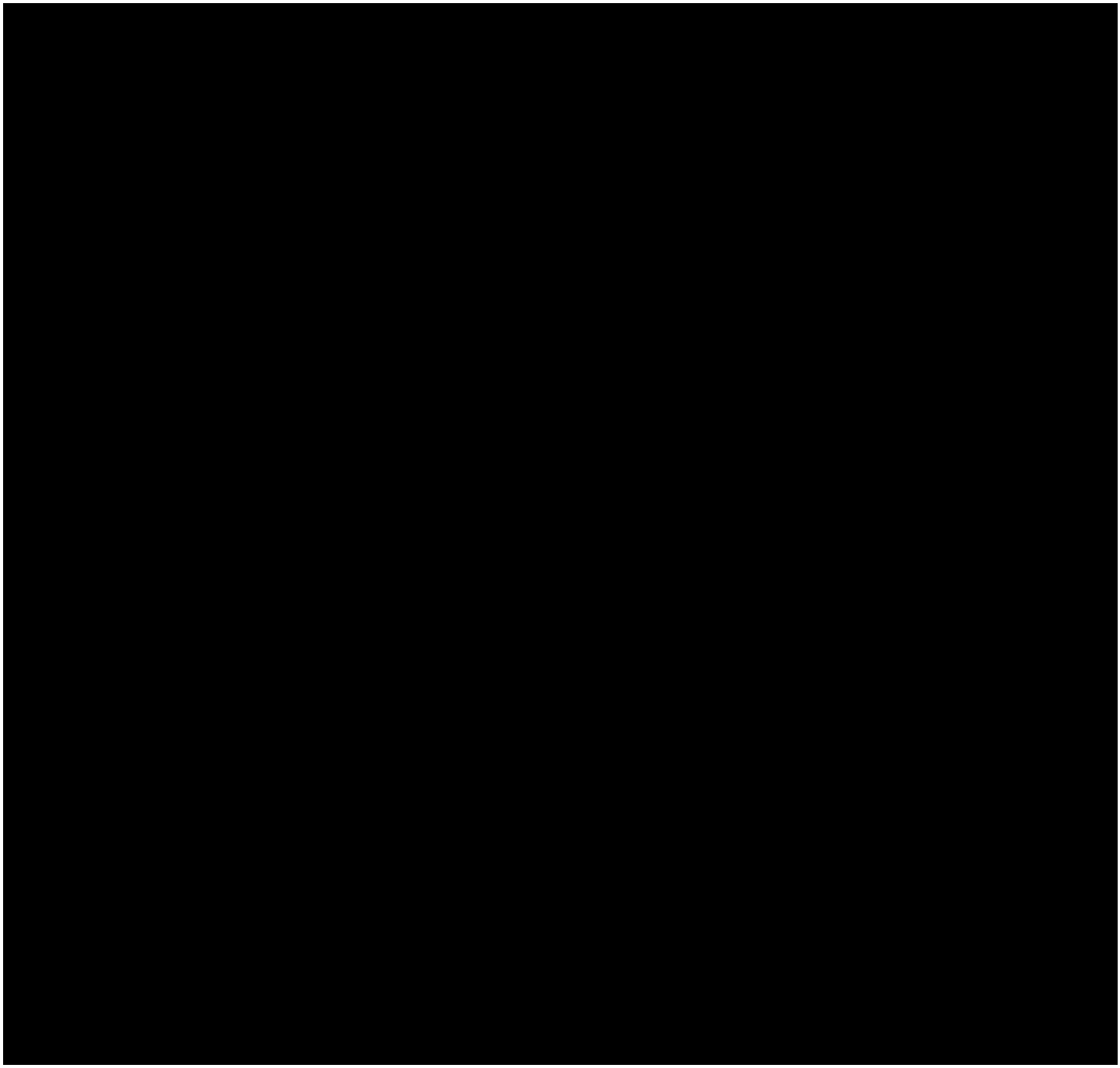
Green Bank Project Risk and Mitigants

The Green Bank faces risks by means of the Project itself and the Green Bank's subordinated position in the term financing structure of the Project. Green Bank staff believes it has identified and mitigated those risks.

Staff recommends the authorization of the Credit Facility on the basis that Project risks have been reasonably mitigated, and that the strategic importance of the Project, to both the state and Green Bank, warrant the investment:

Manufacturer Risk





F. Conclusion

While FCE is not without operating and business challenges, staff has gained sufficient confidence, through underwriting both this Project and the Triangle project in Danbury which received Board approval in 2017 as well as FCE's success in securing projects under the CT-DEEP and Long Island (NY) Power Authority RFPs, in FCE's ability to execute on its strategy with respect to win new business and retaining projects on balance sheet to generate recurrent cash and revenue streams for the company. Continuing successful implementation of this strategy will allow FCE to better align its operations with current reality, and to diversify revenues so as to provide a credible path to financial stability and sustained growth. FCE also raised approximately $30 million of capital in August

20108, further evidence of investor/market confidence in FCE prospects for the future. That said, FCE also needs to remain successful in continuing to develop its core business – and the existing fuel cells and its next generation high efficiency modules should position the company well to succeed competitively as the power generation marketplace progressively moves to cleaner, sustainable and higher availability sources.

Class I REC Risk

The Project will operate, at least initially, without a long-term REC pricing contract (i.e., >5 years) in place. This means that REC cash flows can vary due not only to variations in production but also to variations in the supply and demand dynamics of the Class I REC market in Connecticut.

While the overall risk profile of the Project is composed of different types of risk, including those that directly and indirectly impact production and REC market pricing, the Green Bank is exposed to REC pricing risk due to its position in the term financing capital stack and therefore requires its own consideration.

For each specific type of risk outlined below in subsequent sections, there are specific structures, concepts, and mitigants that staff has designed to minimize Green Bank exposure to certain downside scenarios. There are, however, several overarching mitigants that will be put in place due to the overall concept of risk, and in effect, can be applied to almost all of the defined Project risks. Those overarching mitigants are identified below:

General Risk Mitigants:

A.) The Credit Facility will benefit from a limited payment guaranty from FCE (the "Guaranty"). As stated above, the latest FCE balance sheet reports Net Assets (Total Assets minus Total Liabilities minus Preferred Equity) of approximately $96 million.

B.) The Credit Facility will be secured by a subordinated lien on, and security interest in, all Project assets, and collateral assignment of all Project cash flows (the "Project Collateral").

C.) The Credit Facility will benefit from a 5-year cushion between the end of the PPA contract (20 years) and the financing term (15 years).

D.)

E.) Green Bank staff has conducted extensive cash flow modeling and stress tests, under various "downside" scenarios, specifically with regards to the price of Class I RECS, to better understand and assess Green Bank's risk exposure and repayment prospects. Such modeling has helped (i.) in determining appropriate levels of risk mitigation, and (ii.) in giving staff confidence in the undertaking of financing the project, given the implemented structural and conditional mitigants. Such stress testing indicates that even if Class I RECs are priced at $5 per REC across the 15-year financing term, the Green Bank would still receive its principal and interest in full.

Technology Risk

The Project represents the largest commercial implementation to date of the latest configuration of FCE's DFC fuel cell technology, which is capable of achieving up to 60% electric power generation system compared with up to

47% in previous configurations. As such, there is a lack of performance history in the field, although there has been significant in-house testing of the technology, as explained below. Should the Project underperform – because the main revenue drivers of the Project are monetized on a per kilowatt hour ("kWh") basis – the Project's ability to adequately cover debt service payments to Green Bank will be impaired.

Technology Risk Mitigants:

1.) Green Bank funds will not be advanced until COD, at which point the Project will be fully operational and will have undergone systematic testing to ensure operating performance aligns with expectations.

2.) FCE has developed and operated a small-scale version of the technology on its corporate location over a 6-month period, providing valuable operating data and experience with the high-efficiency unit.

3.) FCE has significant experience and expertise in developing and operating innovative fuel cells, such as the Bridgeport Project, which remains the largest standalone fuel cell in the United States.

4.) At the portfolio level, FCE's long-term average historical fleet performance is at an availability factor of 96.2% and a capacity factor of 89%, and with technology improvements FCE expects that capacity factor to increase to 95%.

Production Risk

Aside from performance risk associated with any relatively new technology (which, as explained above, staff believes are reasonable under the circumstances as the technology is derivative of existing successful technology), Project cash flows available for debt service can fluctuate due to a range of unexpected operational issues, ranging from unexpected outages from fuel line disruptions to disturbance from the surrounding urban environment.

Production Risk Mitigants:

1.) Green Bank pro forma modeling scenarios account for annual allocations of cash to support O&M and planned restacking.

2.) FCE will operate and maintain the Project, into which it will have sourced approximately $17.6 million of developmental capital by the time the Project reaches COD.

3.) The PPA agreement between FCE and CMEEC requires a minimum production guarantee from FCE for the benefit of CMEEC, creating an incentive for FCE to maintain production beyond solely debt service requirements.

Credit Risk

As the off-taker in the PPA, purchasing energy from FCE and reselling it to the U.S. Navy as part of its purpose as an electric energy cooperative utility servicing the submarine base, Project cashflows are dependent on CMEEC's ability to pay for electric energy produced from the Project. Furthermore, CMEEC is leasing the land on which the Project is sited from the U.S. Navy and subleasing that land to FCE in order to operate and maintain the Project.

Should either CMEEC become financially impaired or the U.S. Navy terminate its land lease with CMEEC, the ability of the Project to repay the Green Bank with Project cashflows is at risk.

Credit risk mitigants:

1.) CMEEC is an investment-grade rated entity (Aa3 and A+ by Moody's and Fitch, respectively) that has approximately $193 million in total assets on its balance sheet as of June 30, 2018[11].

2.) CMEEC has been operating for 40 years, and its member utilities provide electricity to 70,000 customers within Connecticut[12].

3.) CMEEC has a executed lease with the U.S. Navy, for the purpose of the Project, the terms of which are aligned with the terms of CMEEC's sublease and PPA agreements with FCE for the Project.

Commodity Risk – Natural Gas

Because the terms of FCE's PPA with CMEEC dictate that CMEEC is responsible for fuel (natural gas) and fuel costs for the Project, there is no natural gas/commodity risk to the Project and the lenders/Green Bank.

Portfolio/Exposure Risk

Green Bank currently has a $6.0 million loan outstanding to FCE for the Bridgeport Project, and has an approval to place up to $5 million on the Triangle project in Danbury, CT – though that debt placement is on hold as the project has since become eligible for a 30% Investment Tax Credit ("ITC") and FCE is currently reviewing alternative financing structures that monetize the ITC. The addition of the Credit Facility, if placed in full, would bring Green Bank's total exposure to FCE and FCE projects up to $11 million, which represents 6.2% of Green Bank's Total Assets as of December 31, 2016 ($177 million). Green Bank staff intends to limit its total exposure to FCE and FCE projects to a total of $16.0 million. FCE and the Green Bank are also considering a refinancing of the Green Bank loan associated with the Bridgeport project which could be balanced across multiple FCE projects by cross-collateralizing these projects under a single loan facility, and Green Bank could also syndicate a portion of its loan(s) to IPC.

Portfolio/Exposure Risk Mitigants:

1.) Mitigants such as the Project Collateral, the Guaranty, and the potential to either syndicate or cross-collateralize across projects all combine to limit the exposure to losses that Green Bank could experience on principal invested.

2.) Staff's stress-testing of financial models show that, even under duress, the project can reasonably be expected to perform in a manner sufficient to deliver a return of principal, plus interest, to Green Bank, over the course of the financing term.

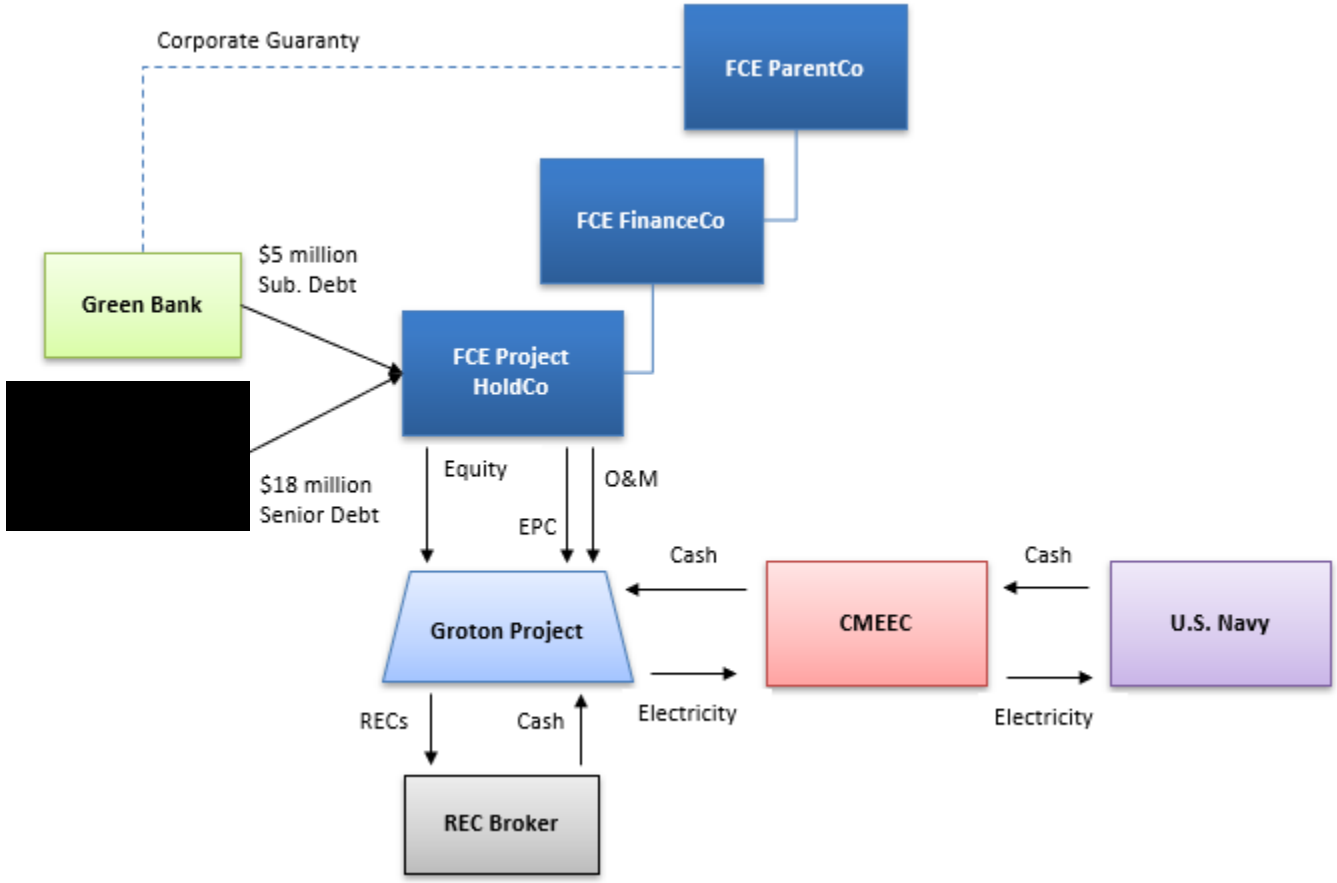
Proforma Projection Model for Debt Service

[11] https://cmeec.com/download/cmeec-operations-and-financial-reports-for-period-ending-june-2018/?wpdmdl=10266
[12] https://cmeec.com/about/

Staff has worked with FCE to develop reasonable projection model estimates for the Project. Staff then took these estimates and developed a stress-case scenario (see Exhibit C). Based on these estimates, staff anticipates that over the 15-year term the Project will generate sufficient cash flow to service the Loan. As additional assurance, staff looks to the financial backing from FCE for repayment in case of REC revenue shortfalls.

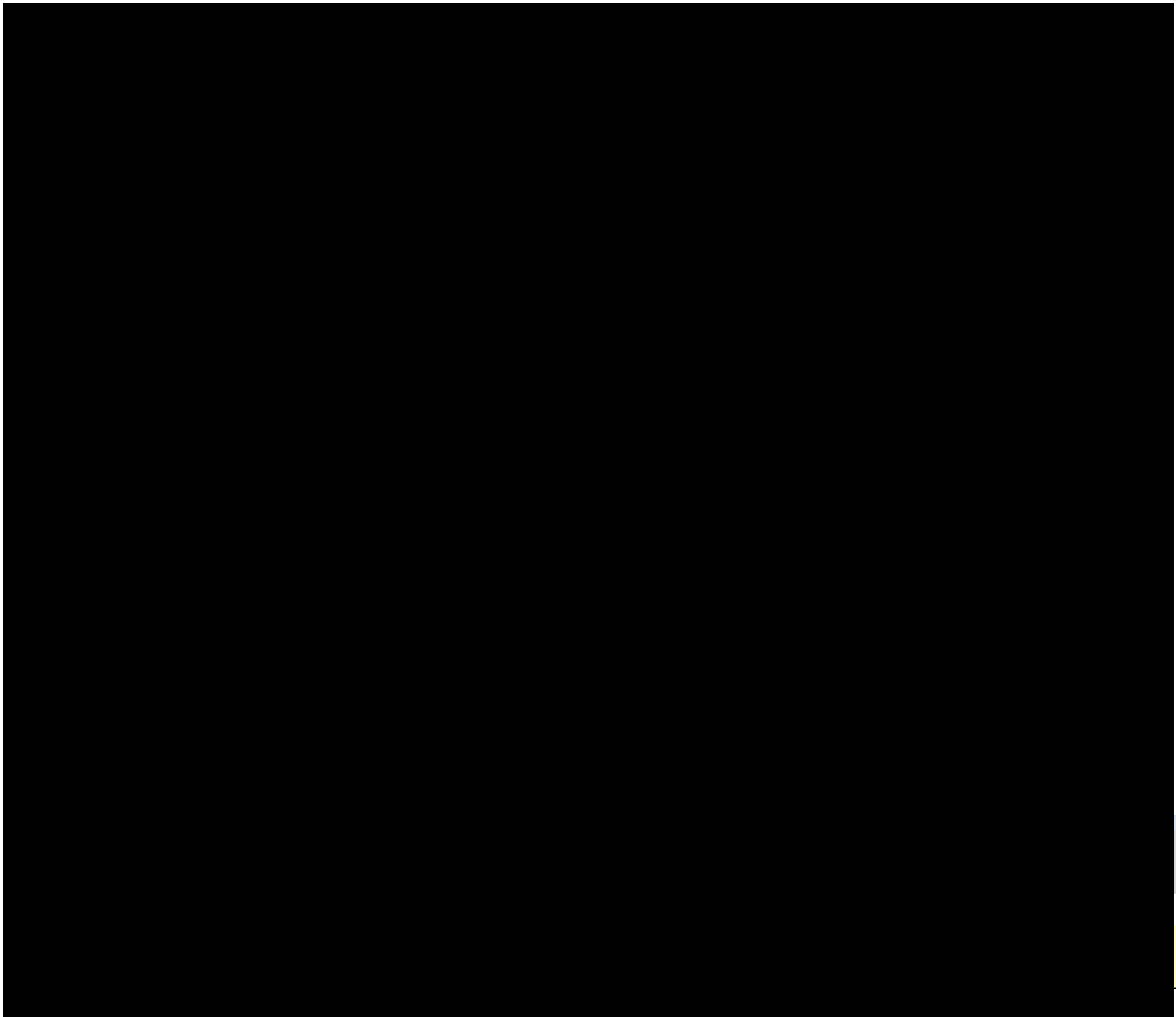
Capital Flow Diagram and Tables

Capital Flow Diagram - Term Financing



The Corporate Guaranty is specifically for a minimum required REC price

Sources and Uses – Project Construction



Strategic Plan

Is the program proposed, consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?

As confirmed in the Bridgeport Fuel Cell Project Qualification Memo approved by the Board and Deployment Committee on November 30, 2012, pursuant to the Green Bank's mandate to foster the growth, development, and commercialization of renewable energy sources and related enterprises, and to stimulate demand for renewable energy and the deployment of renewable energy sources that serve end use customers in Connecticut, the Board has determined that is in keeping with Conn. Gen. Stat. Section 16-245n for Green Bank to fund certain commercial activities that support projects involving the use of fuel cell technology for distributed generation ("DG") power production.

Staff recommends that these same criteria be applied to fuel cell facilities, such as the Project, for the reasons included throughout this Memo, and in particular as laid out in the **Strategic Selection and Importance** section of this Memo.

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?

The Project is expected to produce 56,239 MWh during the first year of operation, and up to 1,087,686 MWh during its 20-year useful life. Compared with $5,000,000 of ratepayer funds at risk, the Project is expected to yield up to 218 kWh per $1 of ratepayer funds over a 20-year term.

Terms and Conditions

What are the terms and conditions of ratepayer payback, if any?

The Credit Facility carries an interest rate of 8.00% over a 15-year, fully amortizing term. The Credit Facility will be advanced upon COD, expected in July 2019, and will be secured by a subordinated lien and position on Project assets and cashflows. In addition, the Credit Facility will benefit from a payment guaranty from FCE to backstop a minimum REC value.

Capital Expended

How much of the ratepayer and other capital that Green Bank manages is being expended on the project?

$5,000,000

Risk

What is the maximum risk exposure of ratepayer funds for the program?

$5,000,000

Financial Statements

How is the program investment accounted for on the balance sheet and profit and loss statements?

The loan would result in a $5,000,000 reduction of cash and a $5,000,000 increase in promissory notes (Statutory & Infrastructure program).

Target Market

Who are the end-users of the engagement?

The U.S. Navy submarine base located in Groton, CT.

Green Bank Role, Financial Assistance & Selection/Award Process

Lender via Strategic Selection process pursuant to the Green Bank Operating Procedures (see **Strategic Selection and Importance** section of this Memo).

Program Partners

FuelCell Energy, Inc., and Inclusive Prosperity Capital, Inc.

Risks and Mitigation Strategies

Lending risks and mitigation strategies have been addressed in the **Project Risks and Mitigants** section of this Memo.

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 ("CES") and Integrated Resources Plan ("IRP"), and (3) Green Bank's Comprehensive Plan for Fiscal Years 2018 and 2019 (the "Comprehensive Plan") in reference to the CES and IRP, Green Bank continuously aims to develop financing tools to further drive private capital investment into clean energy projects;

WHEREAS, FuelCell Energy, Inc., of Danbury, Connecticut ("FCE") has used previously committed funding (the "Bridgeport Loan") from Green Bank to successfully develop a 15 megawatt fuel cell facility in Bridgeport, Connecticut (the "Bridgeport Project"), and FCE has operated and maintained the Bridgeport Project without material incident, is current on payments under the Bridgeport Loan, and has received approval from the Green Bank for funding from the Green Bank (the "Triangle Loan") to develop a 3.7 megawatt high efficiency fuel cell project in Danbury, Connecticut (the "Triangle Project");

WHEREAS, FCE has requested financing support from the Green Bank to develop a 7.4 megawatt fuel cell project in Groton, Connecticut located on the U.S. Navy submarine base and supported by a power purchase agreement ("PPA") with the Connecticut Municipal Electric Energy Cooperative ("CMEEC") (the "Project");

WHEREAS, staff has considered the merits of the Project and the ability of FCE to construct, operate and maintain the facility, support the obligations under the Loan throughout its 15-year term, and as set forth in the due diligence memorandum dated October 26, 2018, has recommended this support be in the form of a term loan not to exceed $5,000,000, secured by all project assets, contracts and revenues as well as a and limited payment guarantee of FCE (the "Credit Facility");

WHEREAS, Green Bank staff recommends that the Green Bank Board of Directors ("Board") approve of the Credit Facility, in an amount not to exceed $5,000,000.

NOW, therefore be it:

RESOLVED, that the Green Bank Board of Directors hereby approves the Credit Facility in an amount not to exceed $5,000,000 for the Project, as a *strategic selection and award* pursuant to Green Bank Operating Procedures Section XII; and

RESOLVED, that the President of the Green Bank and any other duly authorized officer is authorized to take appropriate actions to provide the Credit Facility to FCE (or a special purpose entity wholly-owned by FCE) in an amount not to exceed $5,000,000 with terms and conditions consistent with the memorandum submitted to the Board dated October 26, 2018, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 180 days from the date of authorization by the Board of Directors; and

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 Term Loan.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO;

EXHIBIT A – CONSTRUCTION FACILITY TERM SHEET

October 10, 2018

Chris Magalhaes
Connecticut Green Bank

Fifth Third Bank ("Fifth Third") is pleased to provide you with this summary term sheet ("Term Sheet"). This Term Sheet summarizes the basic terms and conditions that Fifth Third is considering relative to the proposed financing.

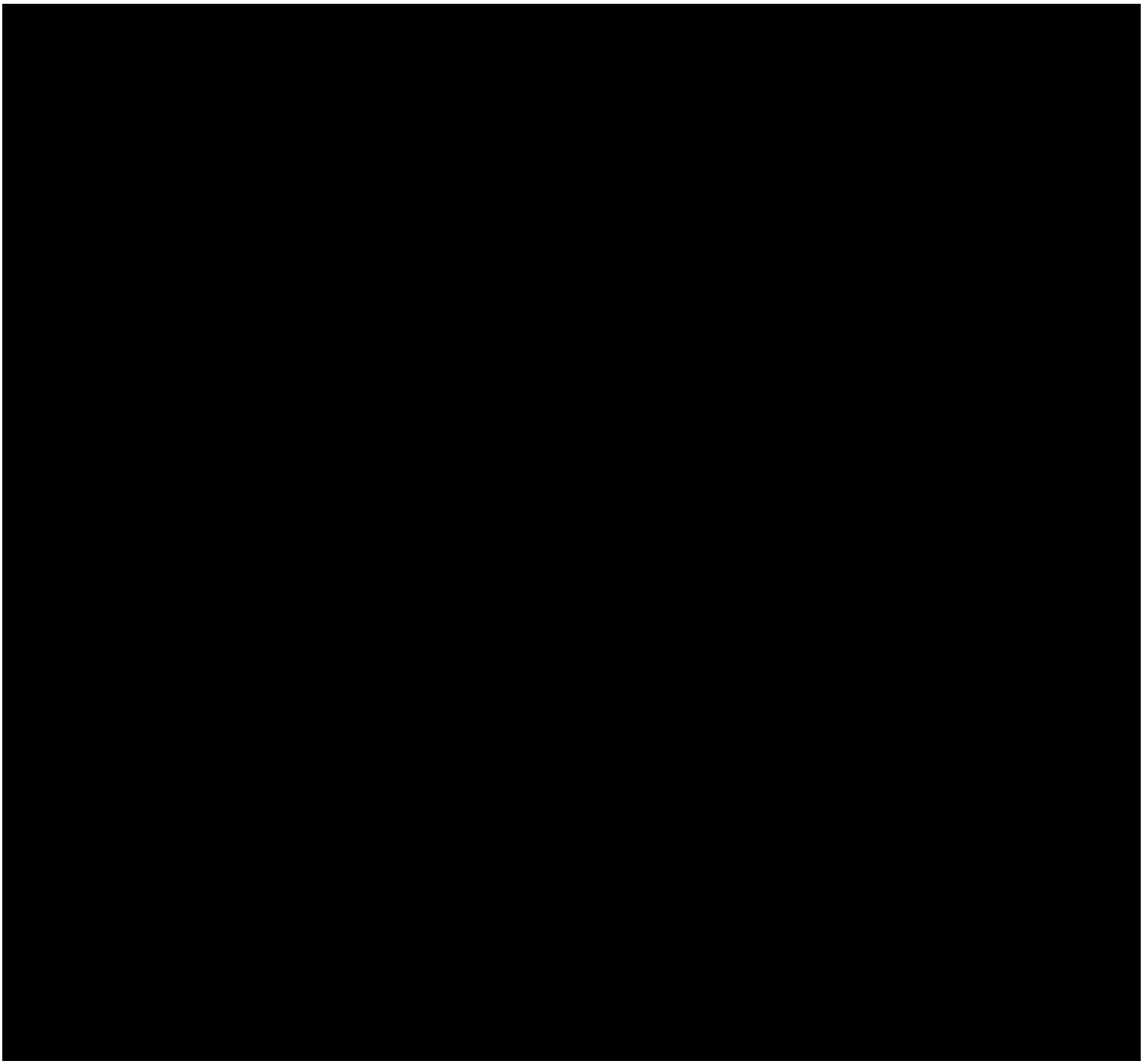
Summary Terms and Conditions

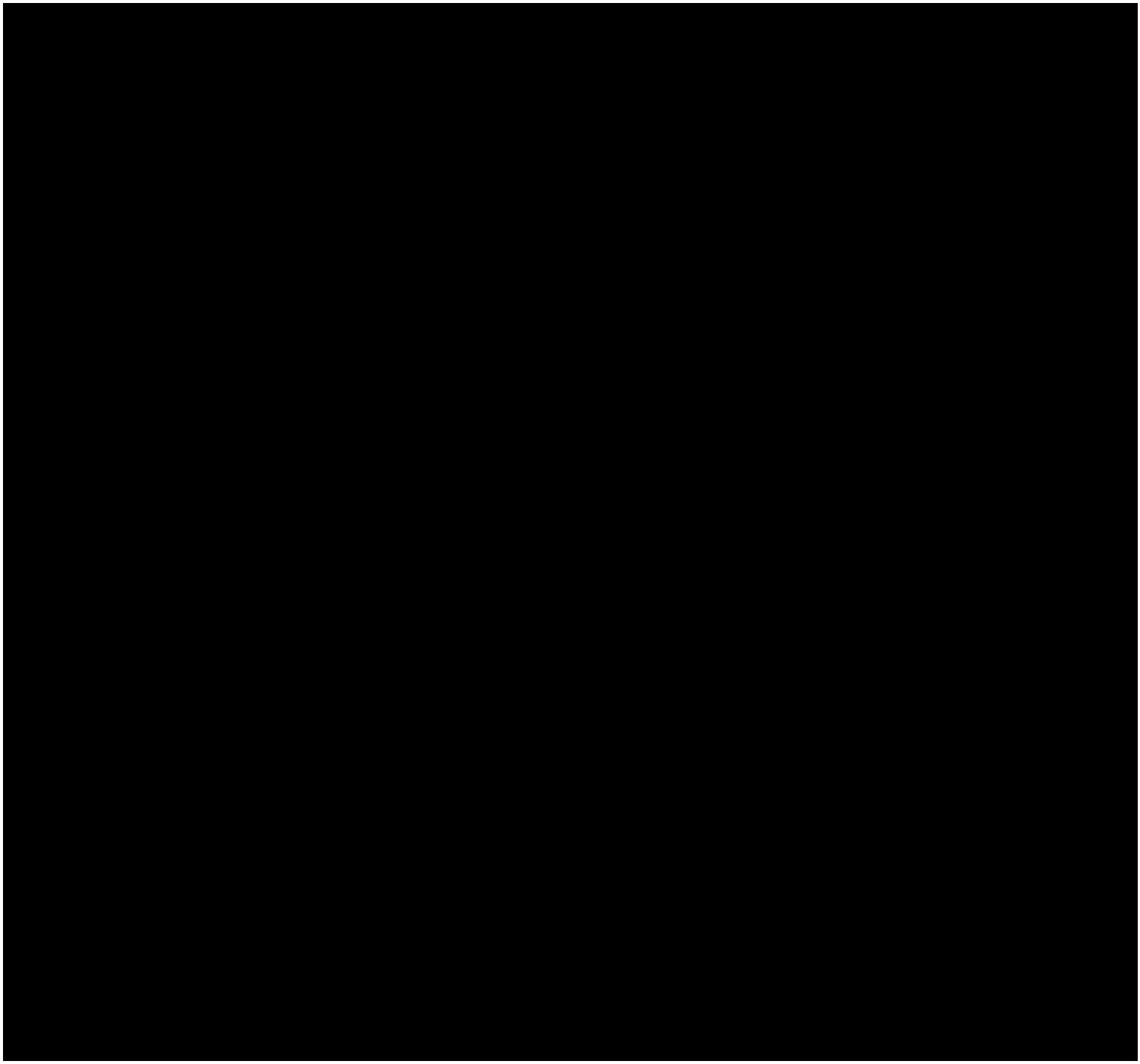
[redacted]

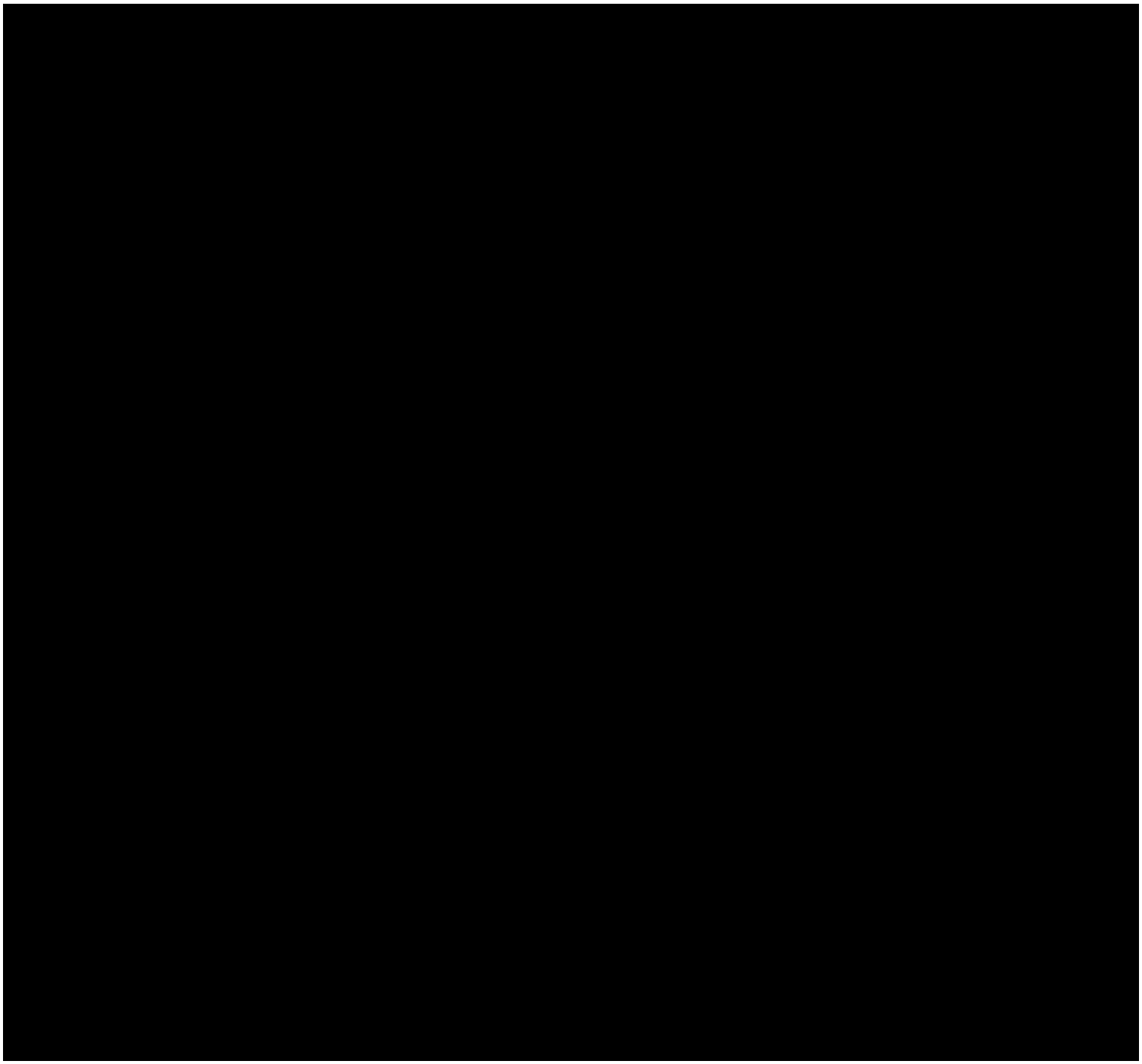
Sincerely,

FIFTH THIRD BANK
Natalie Trojan
Vice President
646-852-9269

EXHIBIT C – PRO FORMA MODEL







845 Brook Street
Rocky Hill, Connecticut 06067

300 Main Street, 4th Floor
Stamford, Connecticut 06901

T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

Bridgeport, CT Fuel Cell Project

Green Bank Performance Assurance Finance Facility

Related to a Green Bank Fuel Cell Acquisition Financing Facility

Approval Request

March 27, 2019

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Document Purpose: This document contains background information and due diligence on a proposed performance assurance finance facility for FuelCell Energy, Inc. ("FCE" and NASDAQ: FCEL) related to the acquisition of a fuel cell project designed, built, and operated by FCE and currently owned by Dominion Energy, Inc. ("Dominion" and NYSE: D) and located in Bridgeport, CT. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

Program Qualification Memo

To: Connecticut Green Bank Board of Directors

From: Bert Hunter, EVP & CIO[1]

Cc: Bryan Garcia, President & CEO; Brian Farnen, General Counsel & CLO; Selya Price, Director, Infrastructure Programs

Date: March 27, 2019

Re: FuelCell Energy Performance Assurance Finance Facility – Bridgeport Fuel Cell Project

---

Summary

The purpose of this memo is to request approval from the Connecticut Green Bank ("Green Bank") Board of Directors (the "Board") to allow the Green Bank to shift approximately $1.8 million of approved credit exposure from a merchant (i.e. subject to spot market electricity and REC market pricing) project secured financing facility, with a reliance on a FuelCell Energy, Inc. ("FCE") corporate guaranty to backstop that merchant exposure, to an FCE corporate loan with a project-secured collateral package. Green Bank staff believes the mix of corporate and project level credit exposures between the two facilities (discussed below) present overall similar risk profiles to the Green Bank, and therefore the requested approval does not represent a material overall change in portfolio risk exposure. On March 27, 2019, the Green Bank Deployment Committee (the "Deployment Committee") approved a resolution to recommend this transaction to the Board for approval.

[redacted]

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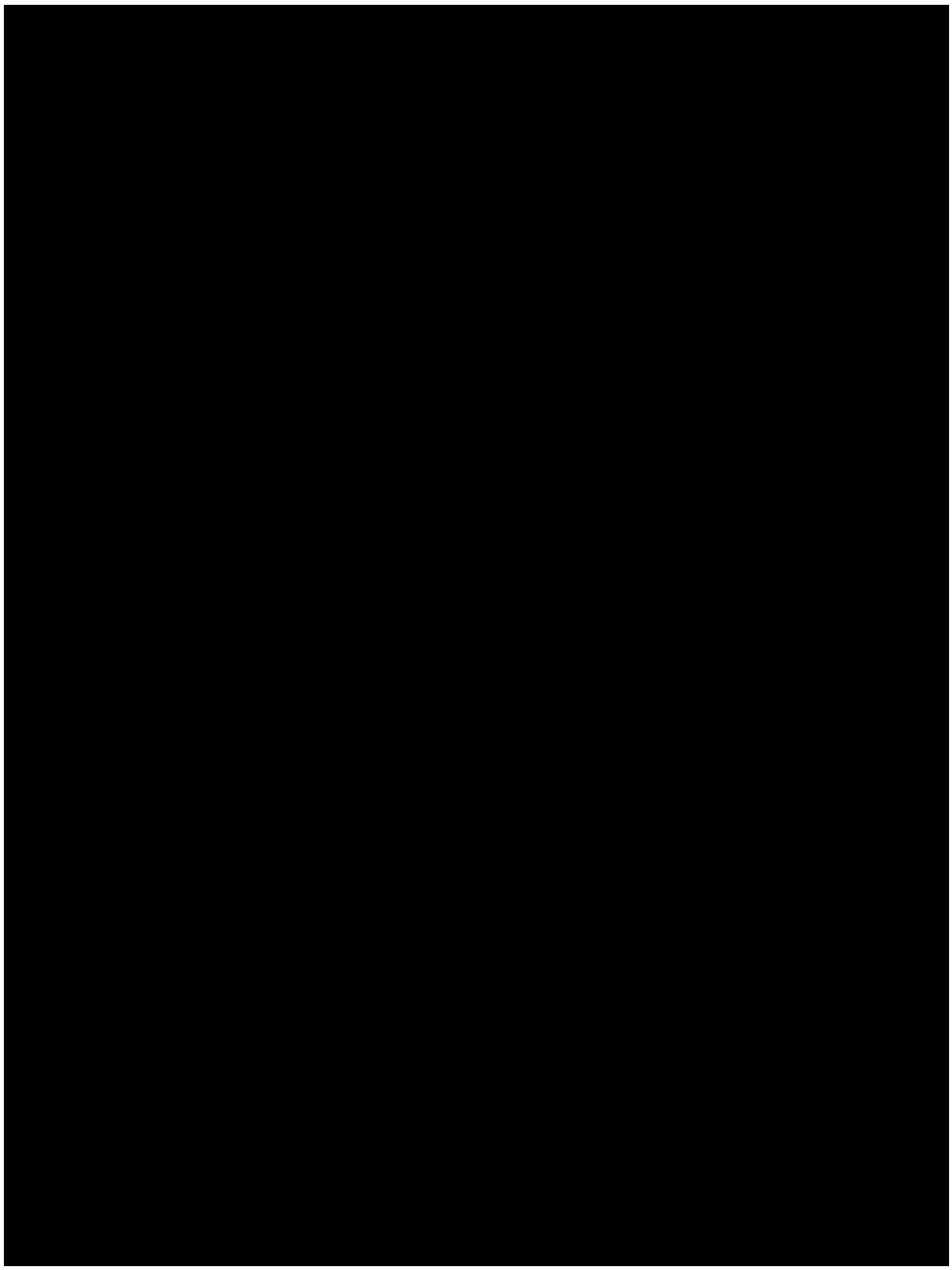

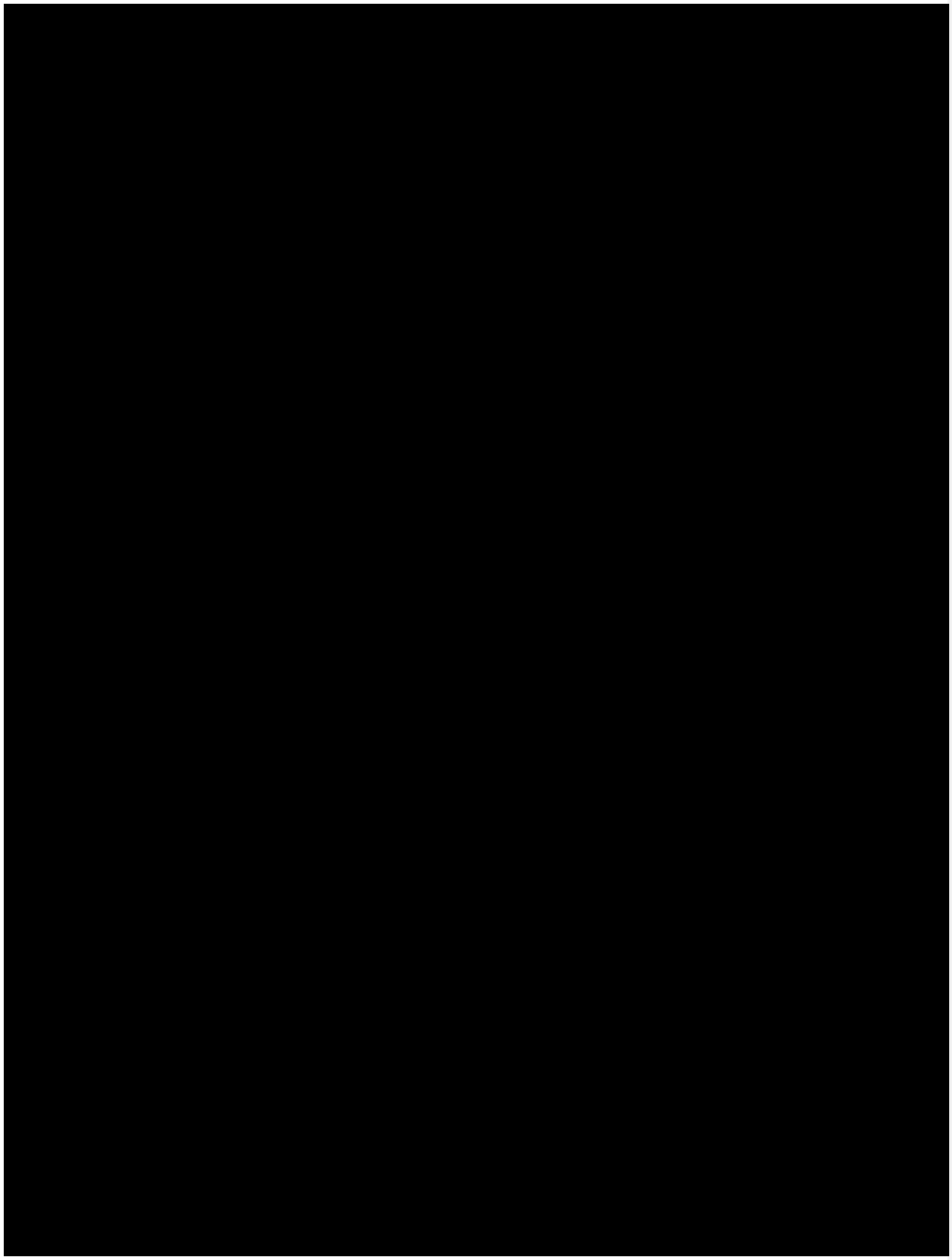

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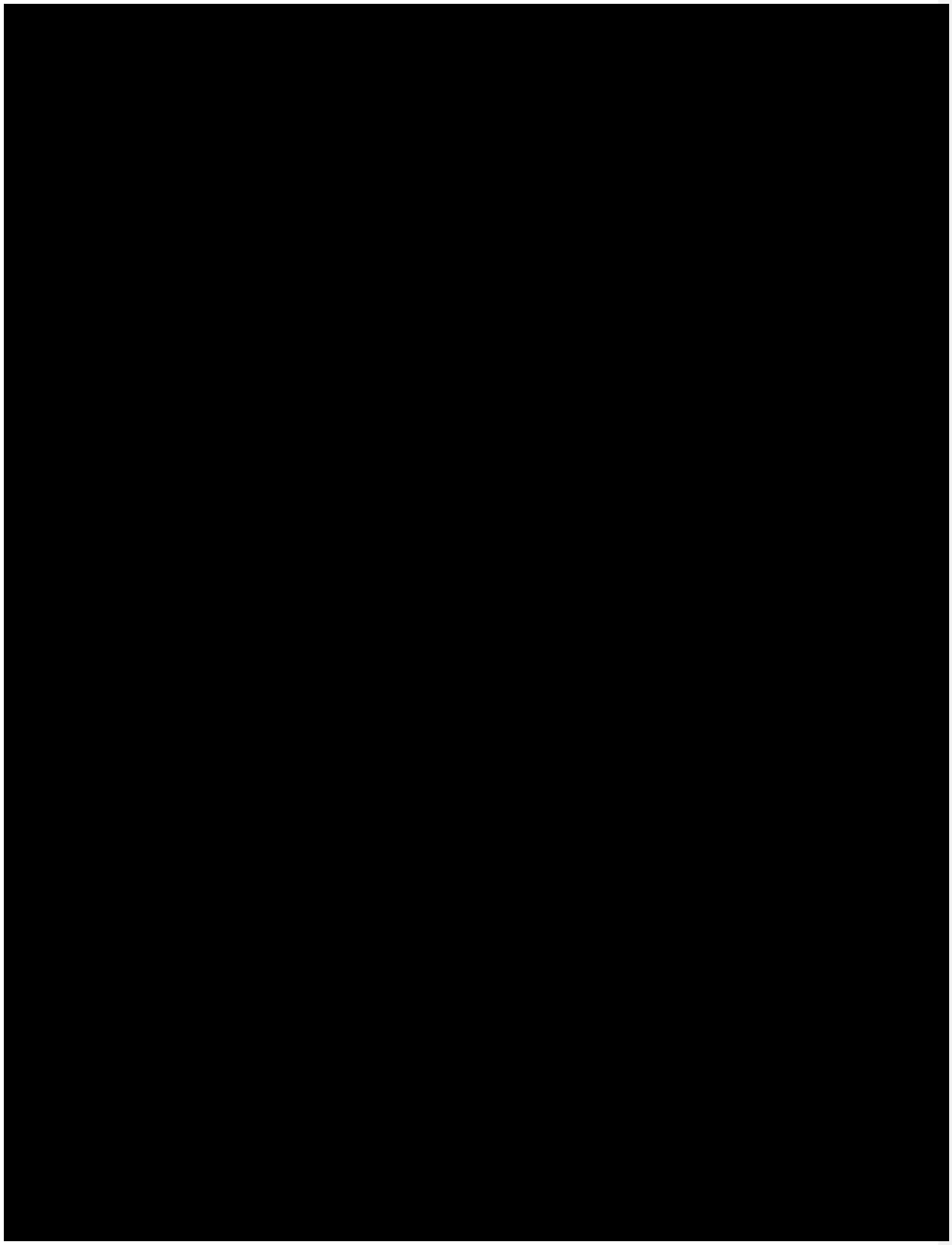
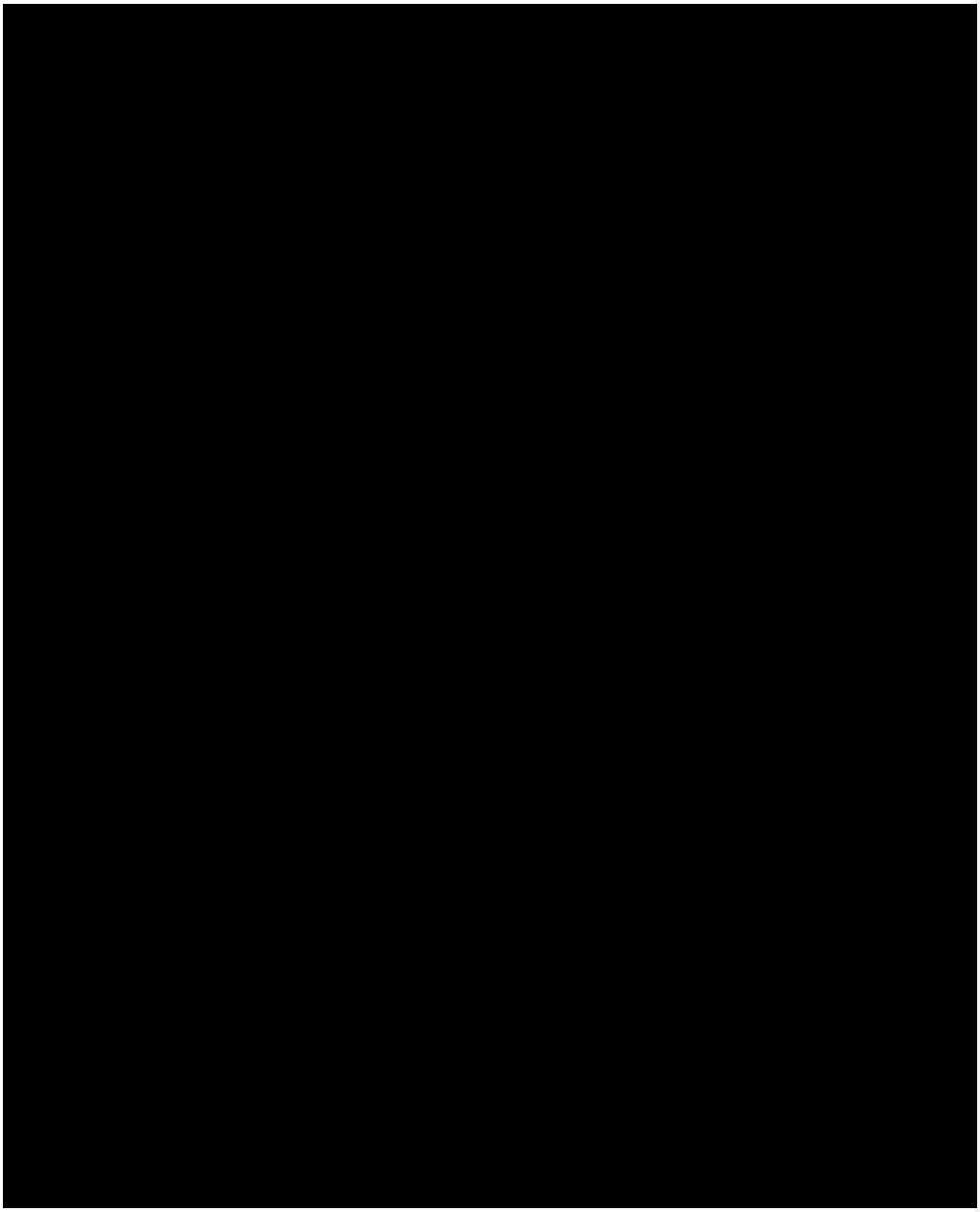
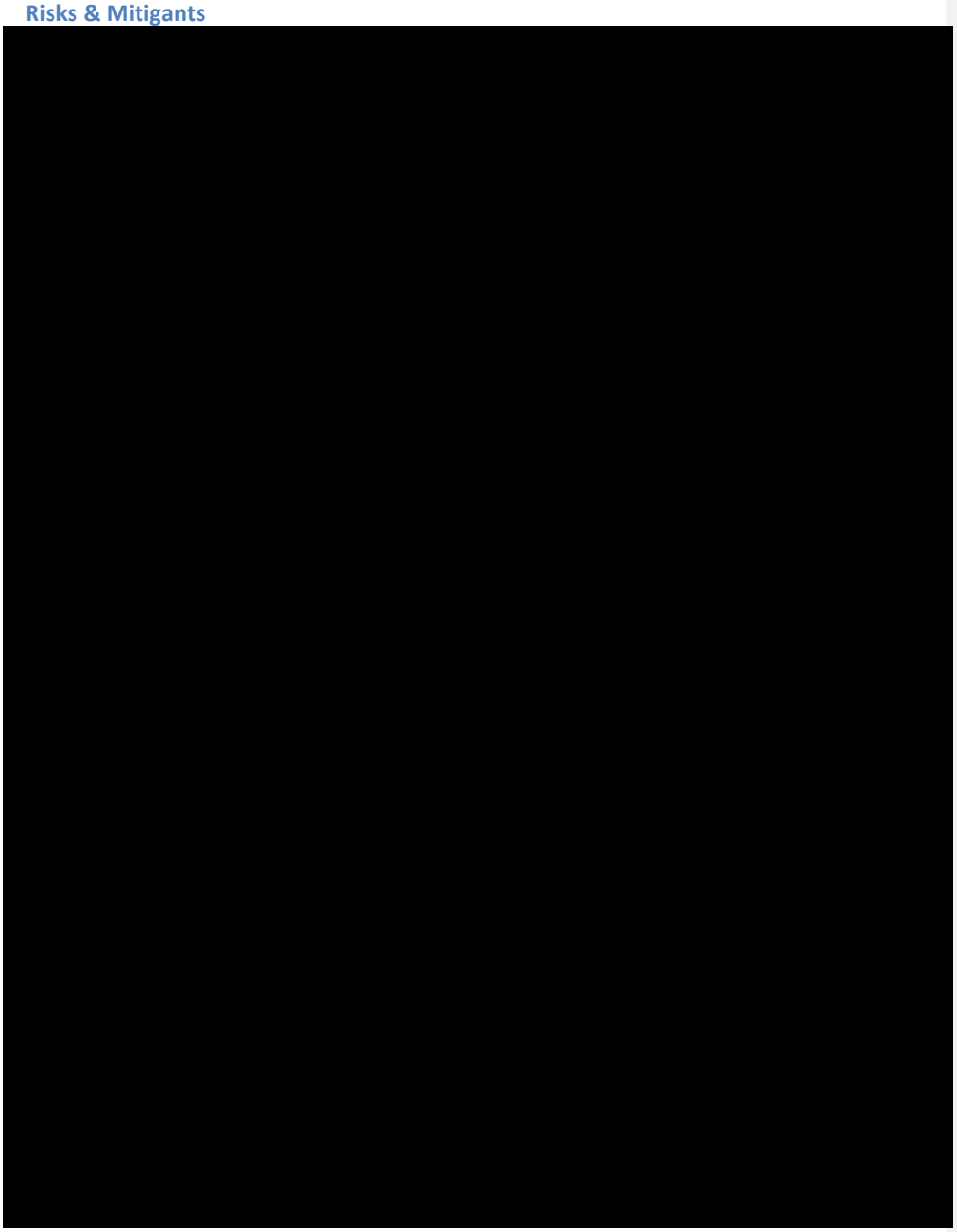
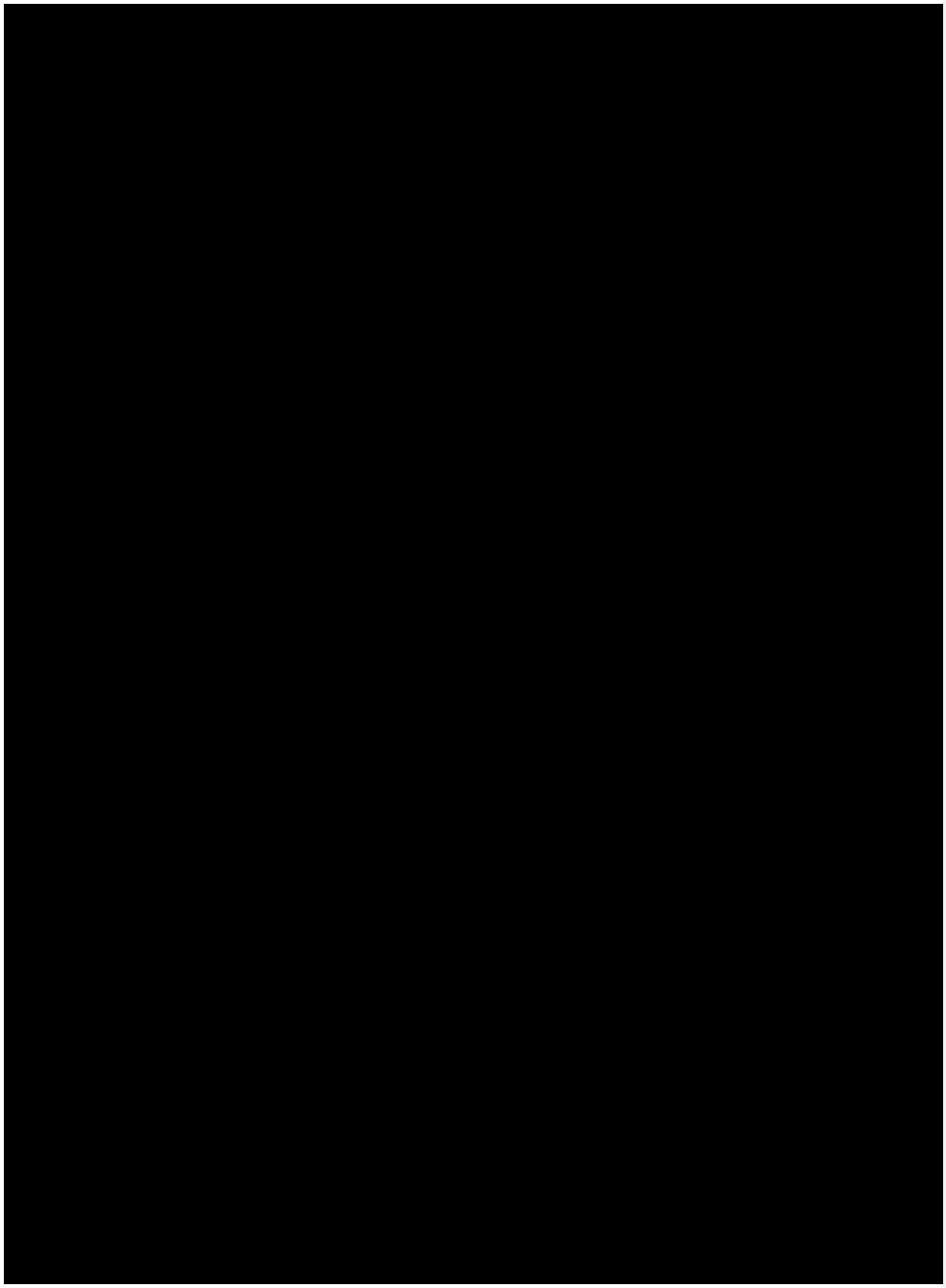
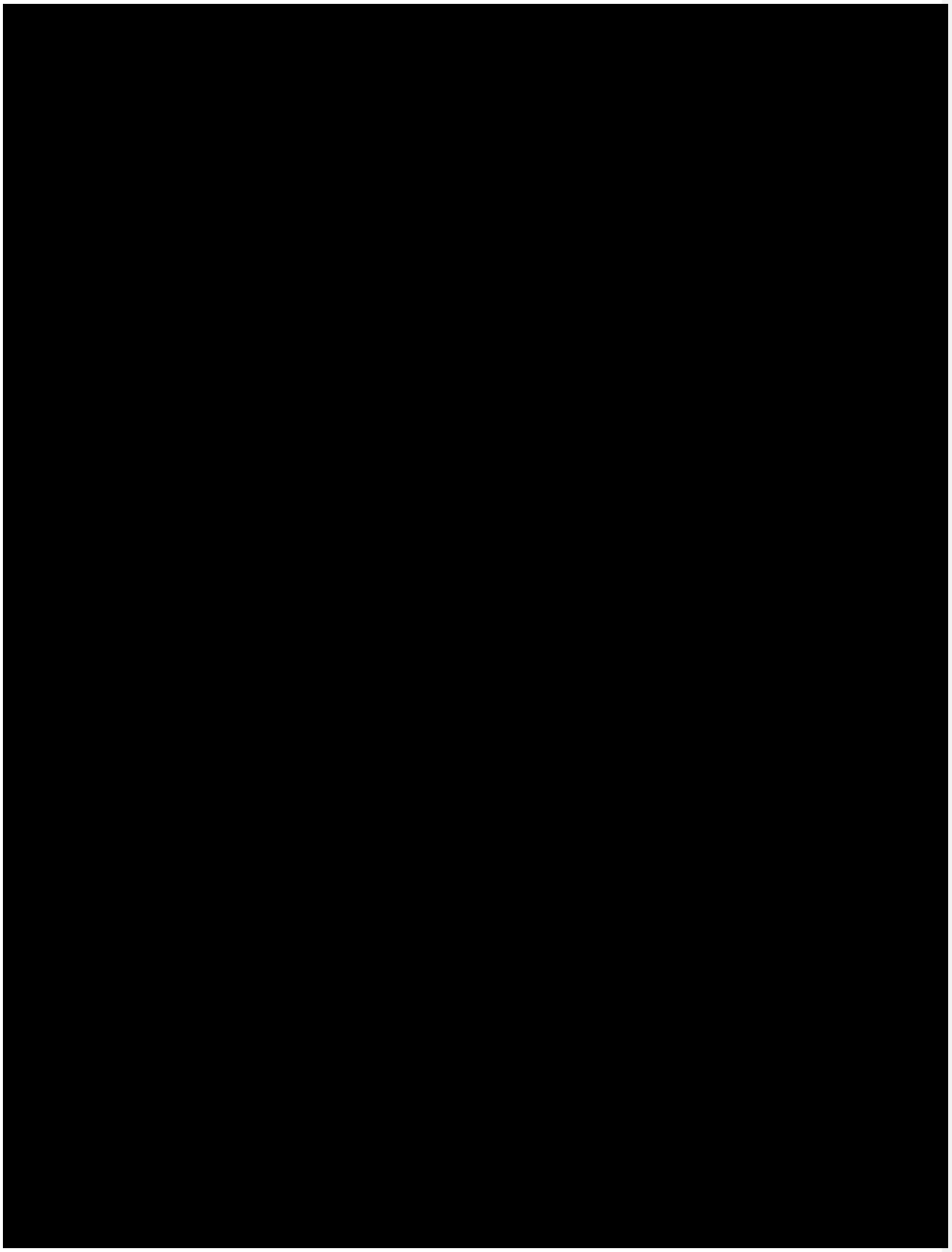


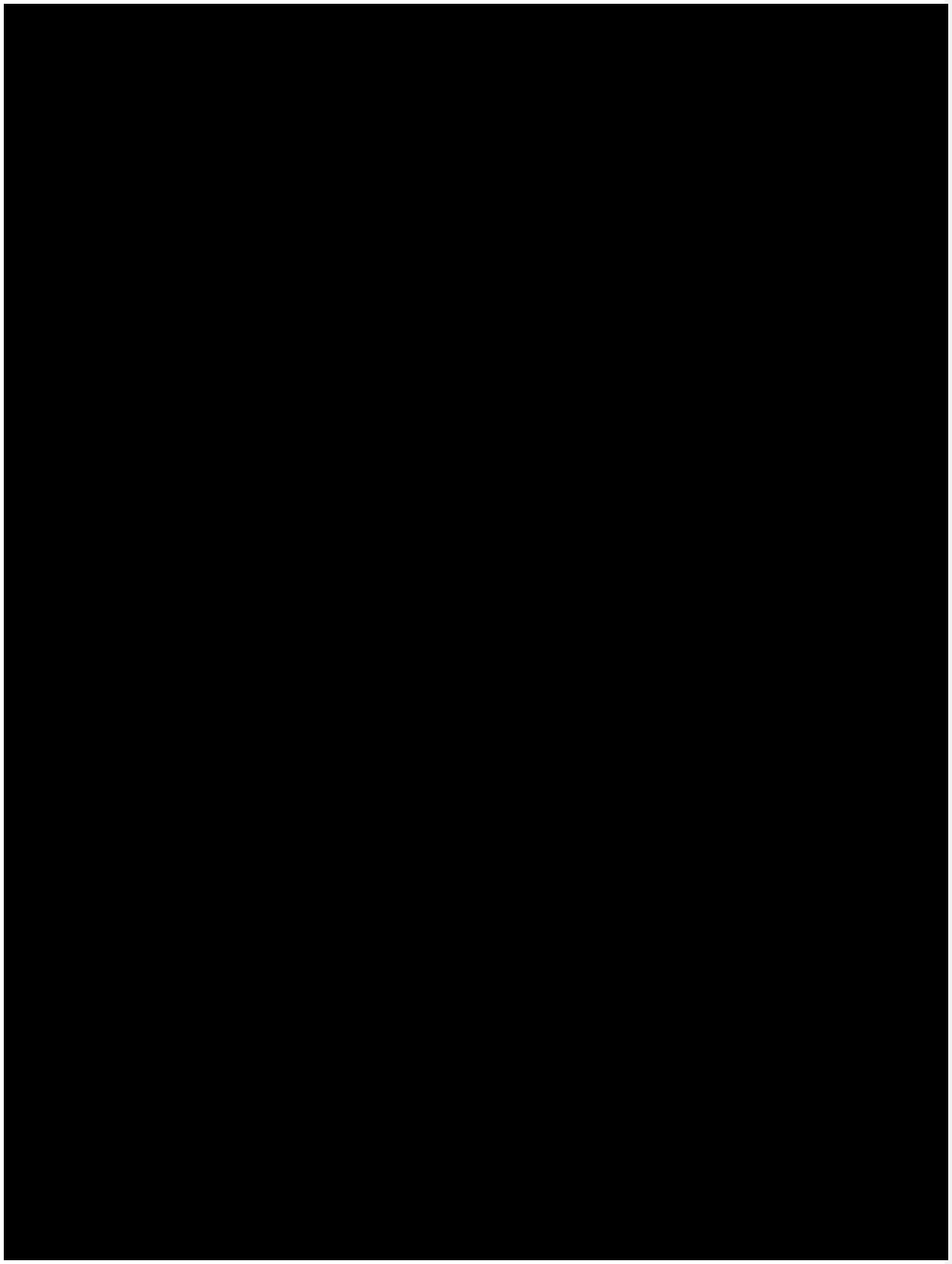


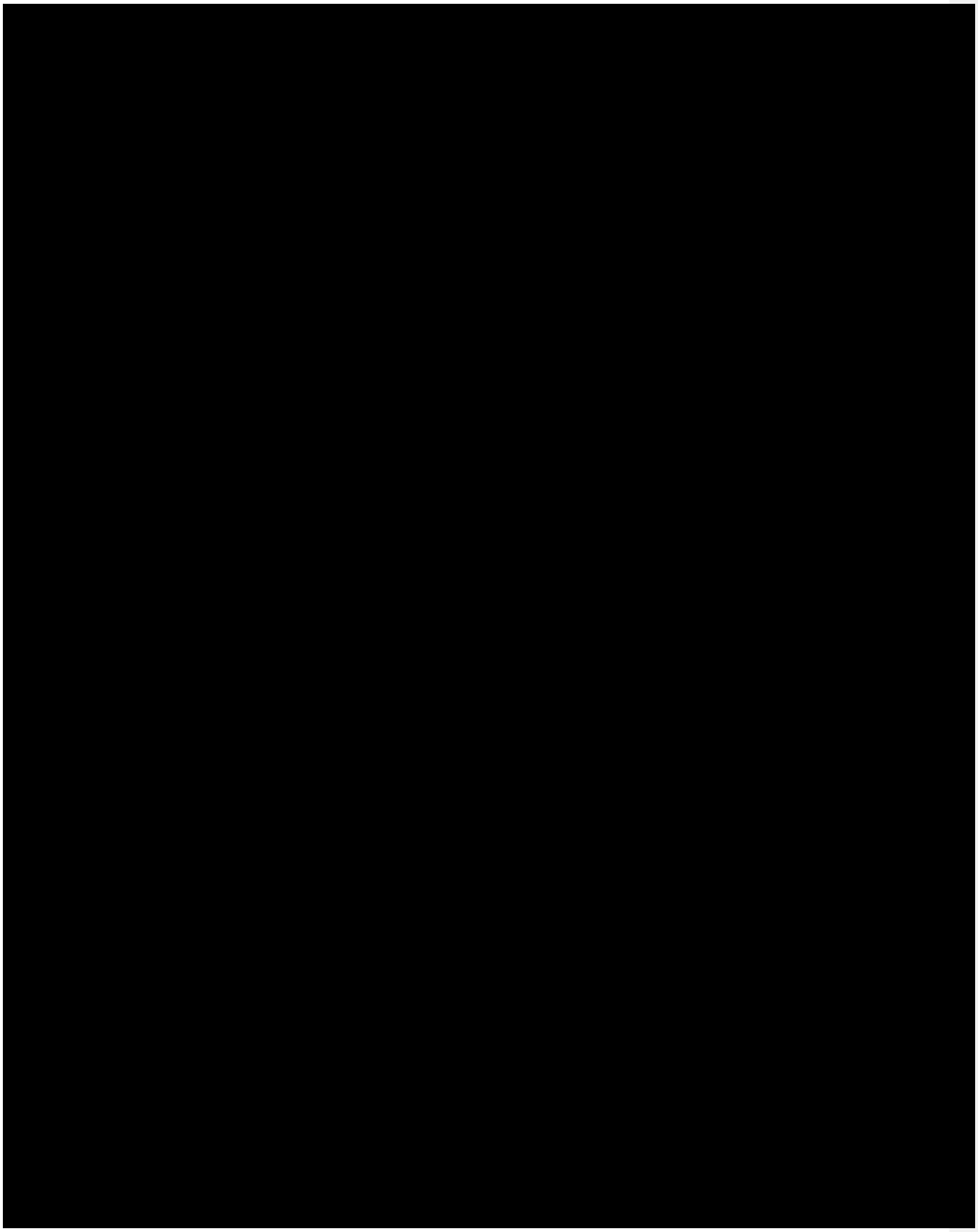
Risks & Mitigants











Resolutions

WHEREAS, in early 2008, the Connecticut Clean Energy Fund ("CCEF") released a Request for Proposals in the third round of solicitations for renewable energy projects to participate in statutorily mandated Project 150, an initiative aimed at increasing clean energy supply in Connecticut by at least 150MW of installed capacity and the program is designed to encourage financing of renewable energy projects through the stability of long-term energy purchase agreements for grid-tied projects;

WHEREAS, FuelCell Energy, Inc. ("FCE") submitted a proposal for the 14.9 MW fuel cell project located in Bridgeport, CT (the "Project") in response which, after thorough review, was ultimately selected and ranked by CCEF as the number one project out of the nine projects submitted in the third round;

WHEREAS, CCEF, by Board resolution dated October 27, 2008, approved grant funding for the Project in an amount of $1,550,000 subject to conditions set forth in the Project 150 Program;

WHEREAS, the Connecticut Green Bank ("Green Bank"), by Board of Directors ("Board") resolution dated November 30, 2012, approved loan financing for the Project in an amount not to exceed $5.8 million for the purposes of funding Project development costs and an operational and performance reserve account;

WHEREAS, the Green Bank has maintained its commitment to the growth, development, and commercialization of renewable energy sources and related enterprises, and to stimulate demand for renewable energy and the deployment of renewable energy sources that serve end use customers in Connecticut, including projects that utilize fuel cell technology;

WHEREAS, the in December 2018, the Board approved a repurposing of the original $5.8 million loan approved for the Project (the "Original Use Loan"), which has since increased in principal to $6,026,165 due to capitalized interest, as a subordinate loan secured by all Project assets and cashflows for the purpose of participation in a financing facility that facilities FCE's acquisition of the Project from its current owner (the "Refinanced Loan"); and

WHEREAS, the Green Bank Deployment Committee (the "Deployment Committee") recommends to the Board the approval of a Performance Assurance Finance Facility (the "PAFF") in an amount not to exceed $1.8 million to FuelCell Energy, Inc. on a full recourse basis and secured by all Project assets and cashflows, subordinated to the Senior Lenders and pari passu with the Refinanced Loan for the purpose of participation in a financing facility that facilitates FCE's acquisition of the Project from its current owner.

NOW, therefore be it:

RESOLVED, that the Board hereby approves the PAFF substantively in the form described in the Project Qualification Memo submitted by the staff to the Board and dated March 27, 2019 (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 Bridgeport Fuel Cell Project.

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 effect this Resolution.

Submitted by: Bryan Garcia, President and CEO and Bert Hunter, EVP and CIO.

EXHIBIT A

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of report (Date of earliest event reported): November 28, 2018

FUELCELL ENERGY, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**1-14204**	**06-0853042**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**
	3 Great Pasture Road **Danbury, Connecticut**	**06810**
	(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's telephone number, including area code: (203) 825-6000

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 3.01. Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing.

On November 28, 2018, FuelCell Energy, Inc. (the "Company") received a letter from The Nasdaq Stock Market ("Nasdaq") stating that the Company is not in compliance with Nasdaq Listing Rule 5450(a)(1) because the closing bid price of the Company's common stock was below the required minimum of $1.00 per share for the previous 30 consecutive business days.

This notification has no immediate effect on the listing of the Company's common stock.

In accordance with Nasdaq Listing Rules, the Company has a period of 180 calendar days, or until May 28, 2019, to regain compliance with the minimum bid price requirement. If at any time before May 28, 2019 the closing bid price of the Company's common stock is at least $1.00 per share for a minimum of 10 consecutive business days, Nasdaq will provide the Company with written confirmation that it has regained compliance with the minimum bid price requirement and this matter will be closed.

The Company has notified Nasdaq of its intention to regain compliance with the Nasdaq minimum bid price requirement. The Company is currently in compliance with all other Nasdaq quantitative continued listing standards.

If the Company is unable to demonstrate compliance with Rule 5450(a)(1) by May 28, 2019, the Company can submit an application to transfer its securities to The Nasdaq Capital Market and request an additional 180 day period to regain compliance with the minimum bid price requirement.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

FUELCELL ENERGY, INC.

Date: December 4, 2018

By: /s/ Michael S. Bishop
Michael S. Bishop
Senior Vice President, Chief Financial Officer and Treasurer

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

CONNECTICUT GREEN BANK

Memo

To: Connecticut Green Bank ("Green Bank") Board of Directors (the "Board")

From: Bert Hunter, EVP & Chief Investment Officer

CC: Bryan Garcia, President and CEO; Brian Farnen, General Counsel and CLO; Jane Murphy, VP of Admin and Finance

Date: October 21st, 2019

Re: Modification of Capital Commitment for the LIME Program with Capital for Change

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Background & Summary of Request for Approval

Capital for Change is the largest "full-service" CDFI in Connecticut, the result of a 2016 merger of three long-running CDFIs – the Community Capital Fund, the Greater New Haven Community Loan Fund, and the Connecticut Housing Investment Fund (or CHIF). This merger created an entity with long-standing relationships in several of Connecticut's urban areas – particularly Bridgeport and New Haven – and with a large portfolio of operating loans. Prior to the merger, C4C (then, still the Connecticut Housing Investment Fund) began issuing LIME loans[1] as the result of a 2013 oil-fired boiler replacement project for an affordable housing development. The general purpose of the LIME Program is to finance renewable energy and energy efficiency measures installed on multifamily affordable housing through C4C's partnership with Green Bank. The project was extremely successful, yielding $75,000 in first year energy savings after a $250,000 loan, and planting the seed for C4C to launch the LIME program.

Green Bank partnered with C4C soon after the launch of the LIME program. In April 2014, in coordination with seed capital funding from the Opportunity Finance Network, the Green Bank Board approved $1,000,000 in additional loan funding and $300,000 in loan loss reserve credit enhancement for LIME loans. In June 2016, the Board reauthorized the Program under amended guidelines and authorized the Green Bank's provision of $1,000,000 in capital financing[2] and $625,000 of repurposed ARRA-SEP funds for a loan loss reserve to support an initial capital pool

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[1] Originally, the LIME stood for "Low Income Multifamily Efficiency" but has recently been rebranded as "Loans Improving Multifamily Efficiency".

[2] This allocation was budgeted from the $5,000,000 multifamily sector allocation approved by the Board of Directors for Fiscal Year 2014. This $1,000,000 would remain on Green Bank's books but be available to C4C as C4C approved and closed on loans with qualified borrowers, in accordance with approved underwriting standards under the LIME Loan program.

of $3,000,000[3]. In February 2017, the Green Bank Board approved a further deployment of an additional $2.5M from Green Bank balance sheet capital to C4C to finance additional properties in the LIME pipeline. Approximately $3.3 million of the $3.5M Green Bank facility is outstanding. All of C4C's funded LIME loans are fully performing.

Due to C4C's growth relative to legacy financing facilities across multiple financing products and programs, C4C and the Green Bank have worked together to structure new financing facilities better equipped to scale alongside C4C's projected origination pipeline. In the current quarter alone, Green Bank worked with Amalgamated Bank to arrange term sheets for a $27 million credit facility for its CEEFCo subsidiary (to which Green Bank has already advanced a $1.5 million bridge loan for C4C and in which Green Bank will participate in a subordinated role) for C4C's single-family residential energy loan financing programs, which includes the Smart-E Loan. This loan is expected to close in November.

Similarly, the C4C LIME pipeline has been outgrowing its funding sources, resulting in a liquidity constraint as C4C seeks to execute on its pipeline. C4C is seeking to raise additional capital from Bank of America and the Opportunity Finance Network for the LIME Program and Green Bank staff received FY 2020 budget approval from the Board for an additional investment of $2M at the same 3% original interest rate on the existing $3.5 million facility for the LIME portfolio. In addition, due to the success of the LIME Program and adequate Green Bank resources, staff is proposing an additional $1 million above the $2 million budget for the LIME Program (sourced from budgeted $7.5 MM of new product development funds), but this incremental $1 million would be at a rate of 5% in line with our benchmark. Altogether, upon approval, Green Bank's capital commitment to the LIME Program with C4C will rise from $3.5 million to $6.5 million. Furthermore, given the unexpended loan resources available to Inclusive Prosperity Capital ("IPC"), Green Bank and IPC proposed to C4C a "Master LIME Funding Facility" (the "Master Facility") which would be structured as a loan facility secured by each loan advanced to a LIME Program borrower. Altogether, with IPC's $1.2 million proposed participation in the Master Facility, C4C would have available to it $4.2 million in additional capital funds for LIME. Moreover, OFN and Bank of America are making progress on committing to additional facilities for the LIME Program given its success.

Based on communications between Green Bank and IPC, IPC will (in advance of the Master Facility) document, close, and advance an initial capital deployment (equal to its $1.2 million participation in the "Master Facility") that would then be rolled up (together with any collateral IPC would have with its initial capital deployment) into the larger Green Bank Master Facility on a pari passu basis.

LIME Program Success to Date

The Program has been successful in its target market – financing mid-cycle improvements for properties serving low and moderate income households. To date, the Program has closed 29 loans and deployed $10.1 million in capital toward project costs of $13.5 million (less $1.2 million in utility incentives) improving nearly 2,000 housing units.

[3] Additional funding sources included: $1,000,000 intercompany loan from the CT Energy Efficiency Finance Company ("CEEFCo") at 1.00%; $1,000,000 from the Opportunity Finance Network ("OFN") at 3.00%.

LIME Program Highlights

Program Start Date:	December 5, 2013
Number of Loans Closed:	29
Smallest Loan Amount:	$25,000
Largest Loan Amount:	$2,600,000
Average Loan Amount:	$348,042
Total Originations:	$10,093,223
Total Cost of Funded Projects:	$13,481,528
Total Utility Incentives:	$1,155,197

Utility Incentive Leverage Ratio (Loans):	9:1
Utility Incentive Leverage Ratio (Total):	12:1
Total Units Improved:	1,973
Average Project Cost per Unit:	$6,833
Average Utility Incentive per Unit:	$586
Total Projected NOI Increase:	$1,245,941

Eligible Upgrades

- Heating and cooling systems
- Hot water systems
- Building envelope
- Lighting
- Appliances
- Water efficiency
- Alternative energy systems (solar PV, fuel cells, etc.)
- Conversion from oil or electric to gas
- Qualified health and safety measures

Program Hallmarks

- Loan terms dictated by savings projections
- Incorporation of utility and O/M savings
- Conservative, verifiable projections
  - Heavy reliance on utility rebate contracts
  - Independent third-party audit/review process
- Big cushion for shortfalls in performance
  - 1.30X minimum DSCR for EE savings
  - 1.10X minimum for solar PV
- Term length based on useful life of measures to be installed
- Mandatory utility cost monitoring/verification, with lender portal to data
- 25% allowance for health/safety measures
- Most loans require no equity contribution from borrower
- Included costs:
  - Lender legal fees
  - Origination fee @ 2.00%
  - M/V contract - $5.80 per unit per year
  - Third-party audit/review fees
  - Take-out of existing pre-development financing
- Security: 1% second mortgages; 73% guarantees; 25% income assignments; 1% UCC-1 (unsecured)

Transaction Summary & Requested Approval

The Facility would be advanced in one or more draws, with an initial draw expected to occur concurrently with the close of the transaction. As the Facility would be held on C4C's balance sheet and collateralized by project-level loans, closing will be conditioned upon satisfactory due diligence of 1) the financial strength and obligations of the parent entity, Capital for Change, Inc., 2) the ability of Green Bank to adequately structure the Master Facility and take security against underlying loans in the manner proposed herein and, for the avoidance of doubt, in a manner that facilitates repayment from the secured collateral even during a C4C default and/or bankruptcy event, and 3) the performance of both LIME loans used as collateral (i.e. repayment performance) and the underlying renewable energy/energy efficiency projects themselves (i.e. technical performance).

The Facility would be fully amortizing across the repayment term, aligning the repayment term with the blended cash flow profile of the underlying LIME loans. The repayment term of the Facility would have a 3 year availability period and would be repayable via the underlying LIME loan collateral pool, up to 20 years from the final draw during the availability period.

Note that while C4C's maximum term for the LIME loan program is 20 years following the availability period, Green Bank would provide C4C with the ability to replace a delinquent loan with another eligible LIME loan, and, depending on the age of the replacement loan, would restrict the overall term of the Facility to the 20 years from the final draw during the 3 year availability period.

Capital would be advanced at the lesser of 90% of total outstanding principal of the collateral pool or such lesser amount to conform the principal amount that would result in a debt service coverage ratio from the cash flows from the collaterally assigned LIME loans of 1.25x.

The Green Bank loans in the Master Facility would carry an interest rate of:

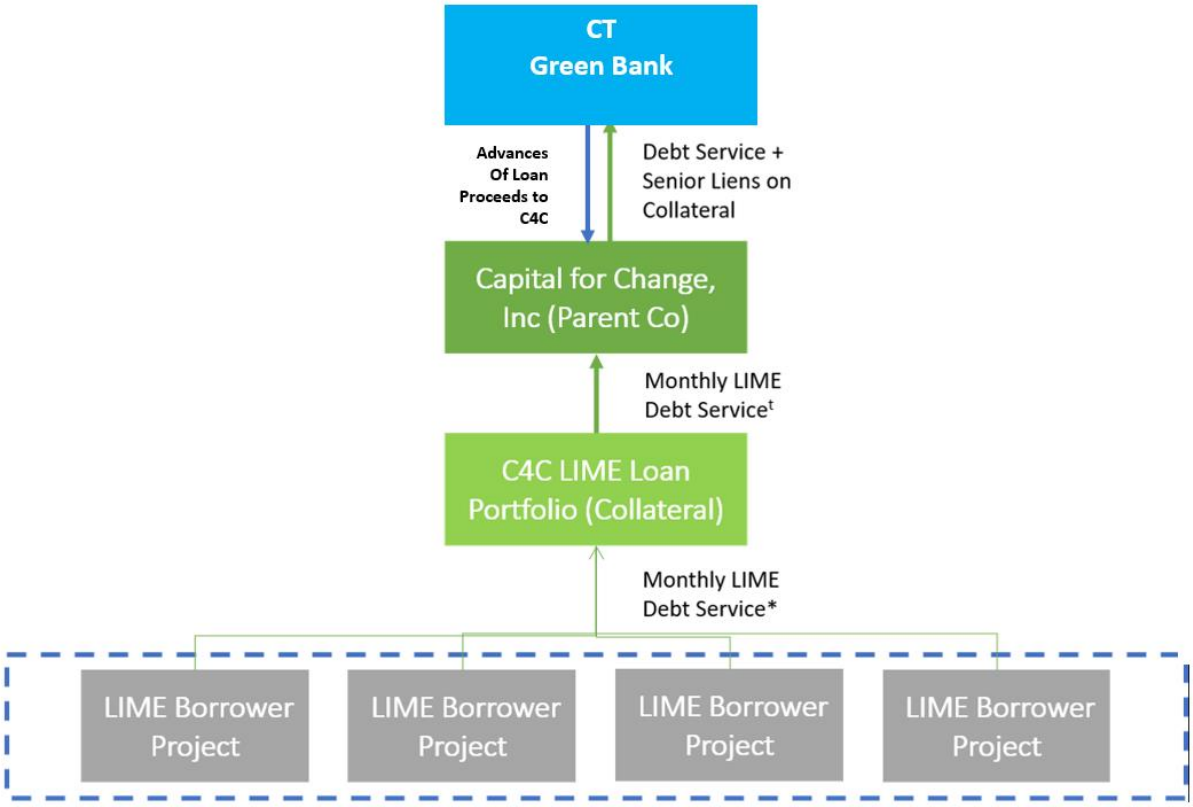
Green Bank A Loan	$5,500,000:	3%
Green Bank B Loan	$1,000,000:	5%

Term Sheet agreed between C4C, IPC and Green Bank is attached (see Exhibit A).

Capital Flow Diagrams

The following diagram illustrates the flow of capital and responsibilities of and between Green Bank, C4C, and the underlying collateral. The LIME loan contracts will be collaterally assigned to Green Bank at transaction close. Other than collateral assignment of the LIME loan documents, project borrowers will be unaffected.

The structure illustrates the Facility for which Green Bank is requesting approval: a direct balance sheet loan of $6.5 million (an increase from the existing $3.0 million facility) from Green Bank to C4C.



Green Bank Risk Exposure and Mitigants

The C4C LIME loan Facility faces off-taker risk and C4C balance sheet risk.

The off-taker risk manifests simply as the possibility that C4C's LIME loan borrowers default under their respective loans. This risk is inherent in any project financing, however, and, as such, is mitigated in a number of ways. First, C4C has underwritten its LIME Loans in a manner co-developed with Green Bank and consistent with Green Bank's approach to underwriting renewable energy and energy efficiency projects. Metrics include customer leverage ratio, liquidity analysis, and energy savings coverage ratio. Additionally, Green Bank would structure the proposed facility with a mandatory prepayment or loan replacement in the event of delinquency.

As Green Bank would be investing directly onto C4C's balance sheet, Green Bank is mindful of both the sponsor risks associated with the facility and the structuring risks associated with adequately collateralizing and protecting a corporate credit facility relative to other potential creditors. Green Bank's cashflows would be protected relative to other creditors and in the event of a C4C bankruptcy by:

1) perfected, first priority liens on all of the loans used as collateral under the facility,
2) collateral assignment all applicable asset cash flows and contracts, and
3) collateral assignment of any step-in rights and guarantees associated with equipment.

C4C Financial Condition

C4C is in good financial health. Represented below is the parent-level company which is the entity to which the Green Bank loan would be made. Unrestricted cash decreased from 2017 to 2018 due to advances to CEEFCo (where Smart-E and other utility loan program advances are made) and about $1 million in building and equipment acquisition related to new office space. Restricted cash declined and liabilities increased tracing to loan growth. The proposed $6.5 million loan would represent approximately 12.6% of loans C4C at the parent level would have available from third parties.[4]

Capital for Change, Inc. and Affiliated Organizations
Consolidated Statement of Financial Position
March 31, 2019

Assets	3/31/2017	3/31/2018	3/31/2019
Current assets			
Cash	$4,566,382	$1,244,026	$1,235,106
Restricted cash	11,151,667	7,536,837	6,545,928
Accounts receivable, net	822,759	2,389,403	1,235,135
Interest receivable	182,363	222,195	390,234
Prepaid expenses	85,914	176,340	122,259
Property and equipment, net	333,885	1,305,207	2,286,575
Investments	296,713	334,029	352,485
Loans receivable	53,780,427	69,611,610	81,091,556
Loan loss reserves	(3,779,033)	(3,489,093)	(5,570,180)
Loans receivable - agency assets	2,642,704	6,834,387	18,326,441
Other assets	426,280	27,446	27,447
Total assets	$70,510,061	$86,192,387	$106,042,986
Liabilities and Net Assets			
Accounts payable and accrued expenses	$777,589	$556,355	$402,994
Accounts payable construction			295,788
Accrued interest payable	52,585	83,590	68,660
Escrows	3,501,949	4,206,817	3,726,115
Refundable advances	4,268,843	4,432,343	4,475,343
Deferred revenue		1,244,161	1,718,373
Notes payable	24,704,495	33,929,027	42,975,606
Notes payable - EQ2	4,700,000	4,950,000	5,625,000
Agency liabilities	3,127,046	7,903,213	18,827,120
Total liabilities	$41,132,507	$57,305,506	$78,114,999
Net assets			
Without donor restrictions	7,940,355	9,245,686	9,511,768
With donor restrictions	21,437,199	19,641,195	18,416,219
Total net assets	29,377,554	28,886,881	27,927,987
Total liabilities and net assets	$70,510,061	$86,192,387	$106,042,986

[4] 12.6% = $6.5m / ($48.6m + $3.0m) … Green Bank's existing $3.5m facility is included in the $41.1m amount. Total outstanding loans to C4C at 3/31/19: $41.1M; total undrawn availability: $11.9M

Capital for Change, Inc. and Affiliated Organizations
Consolidated Statement of Activities and Changes in Net Assets
Year Ended March 31, 2019

	FYE 3/31/17	FYE 3/31/18	FYE 3/31/19
Revenue and support			
Loan interest activity	$2,067,361	$2,751,900	$3,548,160
Loan servicing revenue	1,037,739	1,412,180	1,550,782
Loan fees	156,809	144,818	430,936
Grants and contributions	3,848,994	1,042,663	1,605,045
Other income	263,600	333,719	1,116,603
Total revenue and support	$7,374,503	$5,685,280	$8,251,526
Expenses			
Program (incl G&A & Fundraising)	$5,290,790	$6,175,953	$9,210,420
Changes in net assets	2,083,713	(490,673)	(958,894)
Net assets, beginning	27,293,841	29,377,554	28,886,881
Net assets, end	$29,377,554	$28,886,881	$27,927,987

Stable Financial Performance Trends

Request

Green Bank staff requests:

Deployment of up to $6.5M from Green Bank balance sheet capital to C4C on a secured basis to finance LIME Program loan growth. This represents an increase of $3.0 million in addition to existing authority of $3.5 million. Given the success of the LIME Program, consistent LIME Loan performance, and solid health of Green Bank's program partner – Capital for Change, the largest CDFI in the state, approval is recommended.

Green Bank Financial Statements

How is the project investment accounted for on the balance sheet and profit and loss statements?

Upon advancing loans to C4C, Green Bank would have a reduction in cash and cash equivalents on the asset side of the Green Bank's balance sheet and a concomitant increase in short-term loans.

Resolutions

WHEREAS, the Connecticut Green Bank ("Green Bank") has an existing Low Income Multifamily Efficiency ("LIME") loan Program with Capital for Change ("C4C");

WHEREAS, C4C has been successful in deploying more than $10 million in LIME Program loans, for 29 projects representing 1,973 housing units improved by the program;

WHEREAS, in order to continue the successful deployment of capital into the LIME Program C4C needs additional funding which it is sourcing from Green Bank and other capital sources;

WHEREAS, Green Bank staff recommends an increase in the LIME funding facility (the "LIME Loan Facility") to $6.5 million from the existing $3.0 million substantially conforming to the terms and conditions explained in staff's memorandum to the Green Bank Board of Directors (the "Board") dated October 21, 2019, and inclusive of the term sheet for the proposed facility attached to said memorandum as Exhibit A;

NOW, therefore be it:

RESOLVED, that the Board approves the LIME Loan Facility to C4C in an amount of up to $6.5 million in capital from the Green Bank balance sheet in support of the LIME Program;

RESOLVED, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the LIME Loan Facility on such terms and conditions as are materially consistent with the memorandum submitted to the Board on October 21, 2019; 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 effect the above-mentioned legal instrument.

Submitted by: Bryan Garcia, President and CEO and Bert Hunter, EVP and CIO

Exhibit A

Preliminary Summary of Non-Binding Terms and Conditions

Capital for Change LIME Loan Master Credit Facility

October [ ], 2019

This Preliminary Summary of Non-Binding Terms and Conditions ("Term Sheet") is intended for discussion purposes only and does not constitute a legally binding obligation of any party, nor does it represent or constitute any commitment to underwrite, arrange, place, or provide any financing, or to otherwise extend credit, make loans, make investments, or enter into negotiations of any kind with respect to any of the information herein.

This Term Sheet does not include descriptions of all of the terms, conditions, and other provisions that would be contained in any definitive documentation derived from the information herein, which is subject to governance approvals, satisfactory completion of due diligence, financial modeling, review of documentation, and other such terms and conditions as CONNECTICUT GREEN BANK ("CGB") may determine in its sole discretion. In the event of any discrepancy between this Term Sheet and any such mutually executed and legally binding definitive documentation that is contemplated herein by the parties, the definitive documentation will govern.

No agreement, oral or otherwise, that may be understood or implied by any party during negotiations shall be binding unless such agreement is explicit in writing in mutually executed and legally binding definitive documentation. Additionally, changes may be made to the preliminary terms and conditions summarized herein based on negotiation, advice of advisors and/or legal counsel, due diligence, internal approval requirements, or any other consideration deemed necessary, prudent, or desirable.

This Term Sheet is delivered on the understanding that it is confidential, and any of the terms of substance hereunder shall not be disclosed, directly or indirectly, to any other person except to your directors, officers, employees, agents, and advisors who are directly involved in the consideration of this matter unless prior written consent has been given by CGB. The transaction contemplated by this Term Sheet is subject to all necessary CGB approvals, including, but not limited to, its Board of Directors or relevant committees thereof.

Lender	CONNECTICUT GREEN BANK ("CGB"), or a wholly owned subsidiary thereof and jointly participating lenders including, but not necessarily limited to, Inclusive Prosperity Capital, Inc. (“IPC”). an independent third party partner of CGB.
Borrower and Ultimate Parent	Capital for Change, Inc.
Facility Type	Multiple draw credit facility, with a senior secured promissory note drawn during the Availability Period that fully amortizes according to the blended repayment profile of the underlying loans
Facility Amount	Up to $7,700,000 comprised of: **CGB A Loan** $5,500,000 **CBG B Loan** $1,000,000 **IPC Loan** $1,200,000 Note: (1) CGB’s existing $1.0m LIME funding and $2.5m LIME funding to be combined into the CGB A Loan (2) IPC’s existing $1.2m LIME funding to be combined into the IPC Loan under this Facility
Closing Date	The date upon which definitive documentation is mutually executed and legally binding by and between Lender and Borrower, expected to occur on or before November 30, 2019
Facility Use of Proceeds	To support the continued capitalization of LIME loans in Connecticut as originated by Borrower
Lender Collateral / Security	At all times the Lender will be secured by: (A) Perfected first-priority security interests in existing Eligible LIME Loans as identified/originated by Borrower and approved by Lender's Underwriting Guidelines (the facility shall be senior to all debt and equity interests in said Eligible LIME Loans); (B) (B)Collateral Assignment of all Eligible LIME Loan cash flows and contracts;

	(C) Collateral assignment of UCC-1 filings on equipment financed by Eligible LIME Loans As for (A) and (B), Lender will be satisfied with security in a subset of existing LIME Loans so as to remain within the Advance Rate constraints explained below.
Facility Availability Period	Three (3) years
Advance Rate	**For the IPC Portion**: the minimum of (A.) 70% of total loan value ("LTV"), defined as the total principal outstanding at the time of Advance and (B.) a senior secured promissory note amount that would result in a minimum annual Debt Service Coverage Ratio ("DSCR") of 1.25x given the Repayment Profile and cash flows from the assigned LIME loans, and subject to acceptable borrowing request memos, loan documentation, and loan/portfolio borrowing financial models, the forms of which shall be attached to the definitive documentation. **For the CGB Portion**: the minimum of (A.) 90% of total loan value ("LTV"), defined as the total principal outstanding at the time of Advance and (B.) a senior secured promissory note amount that would result in a minimum annual Debt Service Coverage Ratio ("DSCR") of 1.25x given the Repayment Profile and cash flows from the assigned LIME loans, and subject to acceptable borrowing request memos, loan documentation, and loan/portfolio borrowing financial models, the forms of which shall be attached to the definitive documentation.
Eligible LIME Loans	The LIME Loans set forth in a schedule attached to the definitive documentation and in compliance with Underwriting Guidelines. Eligible LIME Loans will be owned by the Borrower and will have customer contracts with fixed payment terms and which are secured by second mortgages, collateral assignments of income, or guarantees for the full loan amount. Contracts and all other income and guarantees associated with and/or collaterally assigned to C4C as part of

	the Eligible LIME Loans will be assigned to Lender prior to advance of funds. Eligible LIME Loans will also have been used to finance projects with insurance and warranty coverage in amounts and coverages acceptable to Lender in its sole discretion and with Borrower named as additional insured / loss payee, as appropriate
Advance Milestone	The Advance will be made upon Lender receiving, for each Eligible LIME Loan, a Borrowing Packet consisting of 1) underwriting package developed by Borrower, inclusive of any relevant loan approval memorandums, pro forma models, and customer contracts and information, 2) proof the project is in repayment and is current, as deemed adequate by Lender, 3) a production report showing the renewable energy and/or energy efficiency measures are performing as expected, within reason, and 4) all technology performance related documents including any warranties, insurance, and O&M agreements.
Repayment Term	In accordance with the remaining life of the underlying collateral, not to exceed 20 years.
Repayment Profile	Monthly payments of principal and interest in a sculpted payment structure and in amounts sufficient to fully amortize the promissory note over the Repayment Term.
Interest Rate:	**CGB A Loan** Fixed at 3.00% P.A. for the Repayment Term. **CBG B Loan** Fixed at 5.0% P.A. for the Repayment Term. **IPC Loan** [redacted]
Calculation of Interest and Fees	All calculations of interest and fees shall be made on the basis of actual number of days elapsed in a 360-day year.
Closing Fee:	**CGB A Loan** None **CBG B Loan** None **IPC Loan** [redacted]
Good Faith Deposit	$10,000 to be deposited with Lender upon acceptance and execution of this Term Sheet

	and to be used toward any third-party expenses associated with the facility. The Good Faith Deposit, net of any third-party expenses incurred by Lender, will either be returned to Borrower at the Closing Date, applied towards any fees associated with the facility (at the Borrower's election), or returned to the Borrower if Lender withdraws from the contemplated facility before the Closing Date. If the Borrower withdraws from the contemplated facility before the Closing Date, the Good Faith Deposit shall be deemed to have been paid to and fully earned by Lender.
Lender Third Party Fees	Borrower shall reimburse Lender for all incurred out-of-pocket and third-party fees and expenses associated with the facility (''Reimbursable Expenses''), inclusive of closing and, and including (but not limited to) legal fees, filing fees, and searches. In the event Borrower withdraws from the contemplated facility before the Closing Date, Borrower will still be responsible for Reimbursable Expenses.
Mandatory Prepayment	• Sale or disposition of any Eligible LIME Loan by any means, including customer refinancing of LIME Loan or sale of underlying property so long as no other Eligible LIME Loan has taken its place in the portfolio within the earlier of a) 60 days from such sale or disposition or b) the end of the Availability Period, provided further that 100% of the proceeds from any such sale or disposition of any Eligible LIME Loan shall remain in cash deposits or other highly liquid short term investments and not used for any other purpose whatsoever pending redeployment in such other Eligible LIME Loan. • If an Eligible LIME Loan is delayed in making payments owed to Borrower under any relevant customer contract for 60 days past the relevant payment date, any Facility Amount associated with that project must be repaid so long as no other

	Eligible LIME Loan has taken its place in the portfolio • Usual and customary, including change in ownership of the Borrower and other Borrower capital events.
Deposit Account	Borrower shall establish a primary operating account for Eligible LIME Loan cash flows with adequate account control provisions/ agreements, acceptable to Lender in its sole discretion. Any fees incurred by Borrower's in establishing the account and reasonably expected to be incurred for maintaining the account will be deducted from the Closing Fee.
Priority of Payments / Waterfall	Subject to the Borrower and any requirements imposed by Lender to include payment priority provisions in the Borrower's Operating Agreement, funds in the Deposit Account shall be applied in the following order: i. Accrued but unpaid fees to the Lender; ii. Undrawn Commitment Fees; iii. Accrued but unpaid interest to the Lender; iv. Principal payments to the Lender; v. Deposits into the DSRA to the extent needed to replenish previously drawn funds.
Servicer/Servicing	Borrower will have in place customer payment servicing processes acceptable to Lender in its sole discretion.
Default Provisions	Usual and customary, including • Repayment default • Failure to pay/cure Mandatory pre-payment • Bankruptcy • Ineligible Disbursement
Default Interest Rate	The Interest Rate plus 300 bps, and in all cases subject to compliance with applicable laws and regulations.
Conditions Precedent to Closing	• Definitive documentation

	• Collateral and Security Documentation • Fees and Expenses • No Borrower EOD
Conditions Precedent to Draw	• Delivery of a Draw Request • Borrower Certification of an Eligible LIME Loan • Borrower Certification of No Defaults • Form of Draw Request Certificate to be attached to definitive documentation
Financial Covenants	• No liens or any other security interests in Eligible LIME loans senior to the CGB credit facility • Maintain required collateral, resulting in mandatory prepayment upon sale or disposition without replacement of Eligible Projects
Financial Statements	2 years financials (third party certified public accountant prepared financials or tax returns) for Borrower
Legal Requirements	Usual and customary
Monitoring Requirements	• DSCR reporting • Aging reporting • LMI allocation reporting • Customer Invoices • Expense Documentation • Renewable Energy / Energy Efficiency performance Reporting
Other Covenants, Representations, and Warranties	Usual and customary
Indemnities	Borrower will indemnify and hold harmless the Lender and its affiliates, partners, directors, officers, employees, agents, and advisors from and against all incurred losses, claims, damages, liabilities, and expenses arising from this Term Sheet, the facility anticipated herein, any definitive documentation that arises from this Term Sheet, and any actual or perceived impact to the Ultimate Parent's, and affiliated entities' and investors, business operations.
Eligible Project Underwriting Guidelines	Consistent with Capital for Change Lending Policy as of October 2018
Assignment	Lender may assign all or a portion of the Facility Amount, under the terms and

	conditions set forth herein and as finalized in the definitive documentation, to one or more assignees.
Governing Law	Connecticut.
Expiration	This Term Sheet shall expire if not duly executed by November 1, 2019.

ACCEPTED AND AGREED:

CAPITAL FOR CHANGE, INC. Date:

By: _____

Name:

Title:

CONNECTICUT GREEN BANK Date:

By: _____

Name:

Title:

INCLUSIVE PROSPERITY CAPITAL, INC. Date:

By: _____

Name:

Title:

CAPITAL FOR CHANGE

October 23, 2019

Bryan Garcia, President & CEO
Connecticut Green Bank
845 Brook Street, Rocky Hill, CT 06067

Bryan –

First, thank you for your continued partnership support of Capital for Change's ("C4C") efforts with energy financing in CT. As a CDFI, having supportive, creative and cost-effective funding partners like the CT Green Bank ("CGB") is incredibly important to C4C's success.

As a quick history, since 1979 C4C's predecessor organization, CT Housing Investment Fund (CHIF), provided more than $100MM of energy efficiency and solar financing for income-eligible 1-4 unit owner-occupied and 5-to-30-unit multifamily properties using CT state Energy Conservation Loan bonding capital and utility interest-buydown support.

In 2011, C4C took on administration of Eversource's and UI's Home Energy Solutions (HES) products and instituted on-bill repayment for Eversource. In 2013, C4C launched its Low-Income Multifamily Energy (LIME) loan product (now called Loans to Improve Multifamily Efficiency) using its equity and $1MM of Bank of America funding provided through Opportunity Finance Network (OFN), for which the CGB provided a no-cost, loan loss credit enhancement. Shortly after, the CGB provided C4C lower-cost $1MM in loan capital, and then later an additional $2.5MM of low-cost funding to finance Plaza the Green, along with increasing the loan loss credit enhancement to $625M.

In early 2018, C4C rebranded nearly all its HES loan products to CGB's Smart E product set and since has benefitted from CGB's interest rate buydowns and loan loss coverage under this program. CGB also manages the Smart E contractor relations and project eligibility approvals, a time/cost savings for C4C. Partnering with Smart E similarly allows C4C to contribute to CGB's success in its efforts to expand consumer energy financing in CT.

CGB's providing C4C off-balance sheet loss protection, lower-cost funding sources, credit enhancement leverage and attracting other funders is significantly beneficial to C4C and have been critical in helping C4C grow its lending capacity and attract other capital.

On the consumer front, CGB provided C4C technical assistance in obtaining and structuring its first private source of capital for its Smart E lending. This funding was cost-effective and secured solely by C4Cs unsecured portfolio loans held by its subsidiary and allowed C4C to grow that loan book. As that portfolio grew and its financing needs changed, CGB introduced C4C to another funder who is considering providing a different funding structure of roughly $22MM that meets the portfolio's current needs. To help make this financing work, CGB is taking up to $4.5MM of subordinate debt to offload some of the risk. This, combined with the available equity, will allow the portfolio to grow another $8-10MM.

As for LIME, CGB has recognized C4C's leadership role in the multifamily space and is helping to position C4C as a key statewide resource. C4C has used CGB's funding with OFN's capital, blended with a significant amount of C4C's equity and supported by CGB's credit enhancements, to grow the program and show proof of concept. C4C also has obtained two CDFI Fund Financial Assistance (FA) grant awards for its LIME lending capital and loan loss provisioning and is waiting on word of a third. Given the level of equity C4C has committed to LIME, CGB has agreed to provide C4C an additional $3MM in capital to replace some of C4C's equity and to fund new loans, and CGB's spinoff, Inclusive Prosperity Capital ("IPC"), is also providing $1.2MM in loan capital.

C4C is using its experience and leveraging its CGB support to raise additional capital from other sources. C4C is working with Bank of America to raise unsecured loan capital, was just approved by OFN for $500M of new capital and is discussing with Amalgamated Bank capital funding for LIME. In 2019, C4C launched a renewed aggressive Social Impact Investment ("SII") campaign where energy efficiency/clean energy and related health/safety improvements are key impact metrics to support attracting investment from private individuals, investment institutions, foundations, corporations and other nonprofits.

C4C's growth in the commercial energy space has been limited in large part by its needing three years of audited financials, which has been inhibited by its two mergers in 2016. It also is limited in capital sourcing because LIME loans often cannot be subordinate debt because of governmental first mortgage financing restrictions (e.g. HUD, FHA, USDA, CHFA), so frequently only have guaranties or UCC-1 filings. In other cases, Given the constraints C4C has faced, CGB's willingness to support C4C with lower-cost and flexible, creative financing has been especially crucial to C4C's evolving the LIME program to its current stage of development.

Next on the horizon is C4C working with its bank partners to mine their portfolios for multifamily properties that exhibit relatively high energy costs and provide C4C pass-through financing for their borrowers to conduct energy improvements. After that, C4C looks to expand that model to working on general commercial properties located in low- and moderate-income geographies.

Thanks for your support.

Cal Vinal
President and CEO

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

CONNECTICUT
GREEN BANK

Report Out Memo

To: Connecticut Green Bank Board of Directors

CC: Bryan Garcia, President & CEO; Brian Farnen, General Counsel & CLO; Selya Price, Director, Statutory & Infrastructure Programs; Jane Murphy, Finance and Administration

From: Bert Hunter, EVP and CIO[1]

Date: October 21, 2019

Re: Momentum Solar Low- and Moderate-Income ("LMI") Residential Solar Financing Product

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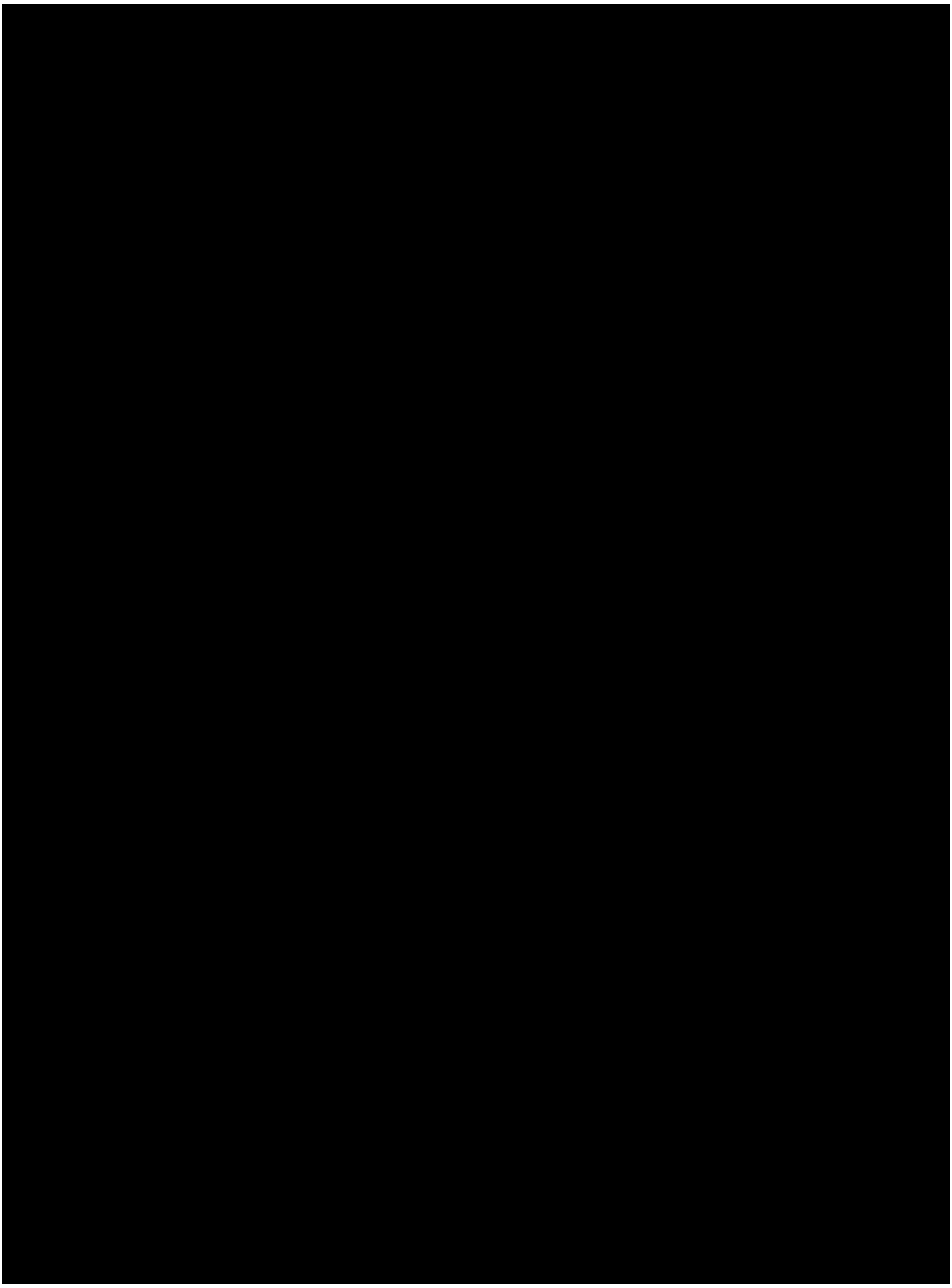
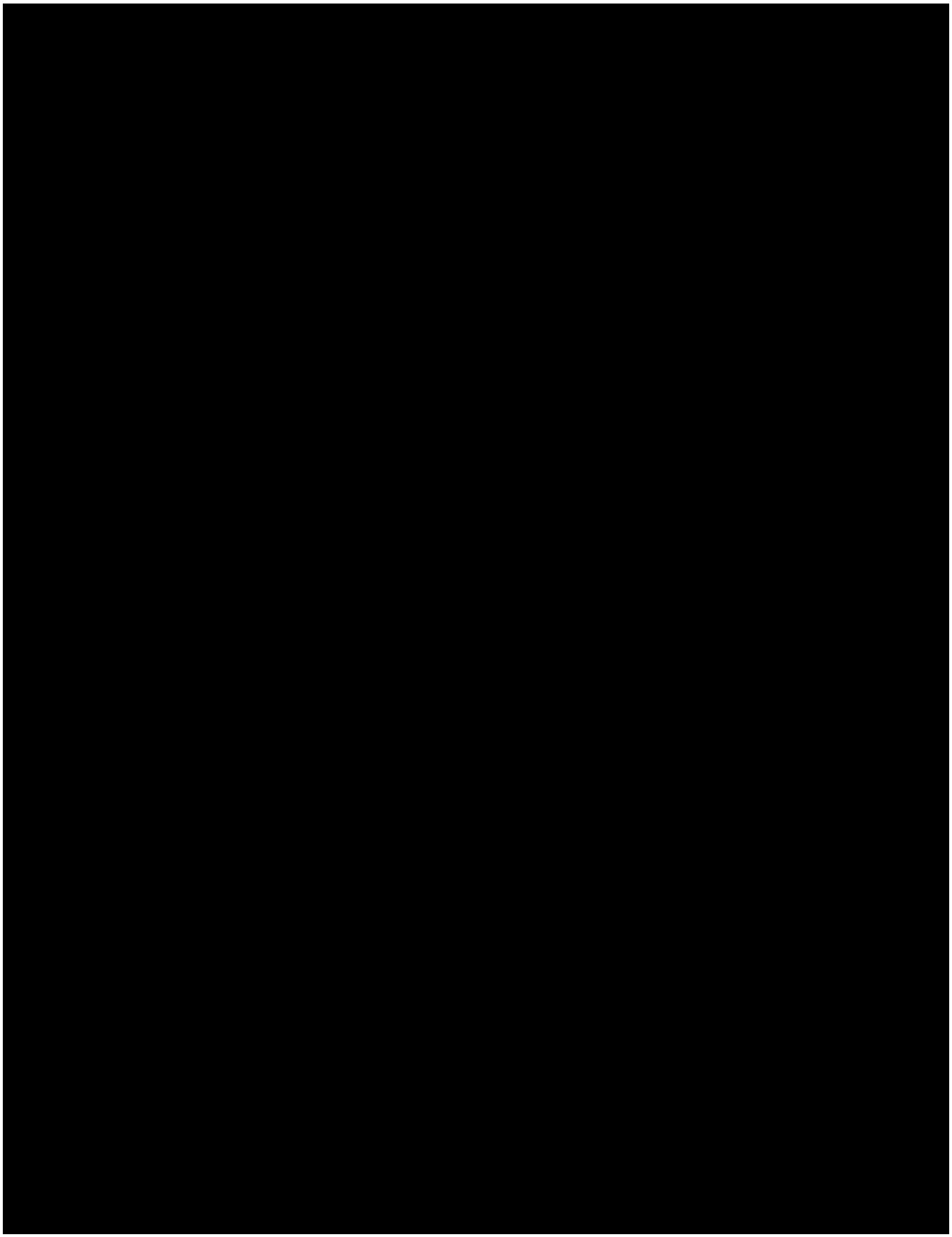
Purpose

[redacted]





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

CONNECTICUT GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank

From: Bryan Garcia, President and CEO, and Selya Price, Director of Infrastructure Programs

Date: October 25, 2019

Re: Residential Solar Investment Program – Step 15 Recommendation

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Background

The Connecticut Green Bank (Green Bank) Residential Solar Investment Program (RSIP) was legislatively enabled through Section 106 of Public Act (PA) 11-80[1] and most recently updated by PA 15-194[2], PA 16-212[3] and PA 19-35[4], amending Connecticut General Statute (CGS) at Section 16-245ff[5]. PA 19-35 updated CGS Section 16-245ff to require that not more than 350 MW (updated from 300 MW) of new residential solar PV be deployed in Connecticut on or before December 31, 2022:

- The Connecticut Green Bank, established pursuant to section 16-245n, shall structure and implement **a residential solar investment program established pursuant to this section that shall support the deployment of not more than [three hundred] three hundred fifty megawatts of new residential solar photovoltaic installations located in this state on or before (1) December 31, 2022, or (2) the deployment of [three hundred] three hundred fifty megawatts of residential solar photovoltaic installation, in the aggregate, whichever occurs sooner…** The procurement and cost of such program shall be determined by the bank in accordance with this section.

As of October 14, 2019, approximately 293 MW or 36,919 projects have been approved through RSIP, with 252 MW or 32,112 projects having completed.

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[1] PA 11-80: https://www.cga.ct.gov/2011/ACT/Pa/pdf/2011PA-00080-R00SB-01243-PA.pdf, "An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future."
[2] PA 15-194: https://www.cga.ct.gov/2015/act/pa/pdf/2015PA-00194-R00HB-06838-PA.pdf, "An Act Concerning the Encouragement of Local Economic Development and Access to Residential Renewable Energy."
[3] PA 16-212: https://www.cga.ct.gov/2016/act/pa/pdf/2016PA-00212-R00SB-00366-PA.pdf, "An Act Concerning Administration of the Connecticut Green Bank, the Priority of the Benefit Assessments Lien under the Green Bank's Commercial Sustainable Energy Program and the Green Bank's Solar Home Renewable Energy Credit Program."
[4] PA 19-35: https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf, "An Act Concerning a Green Economy and Environmental Protection."
[5] https://www.cga.ct.gov/current/pub/chap_283.htm#sec_16-245ff (Residential solar investment program)

Other key provisions of PA 19-35 that impact the Connecticut residential solar PV market, and RSIP specifically, include:

- Amendments to CGS Section 16-245gg[6] that increase deployment from 300 MW to 350 MW of solar home renewable energy credits (SHRECs) generated by RSIP projects approved on or after January 1, 2015
- Net metering extended through December 31, 2021, and in effect through December 31, 2041 for grandfathered systems through the RSIP
- Monthly netting option added to residential tariff provided in PA 18-50, Section 7
- Value of Distributed Generation Study to be conducted by DEEP and PURA by July 2020

Key RSIP implementation requirements as stipulated in CGS Section 16-245ff include:

- Offer direct financial incentives, in the form of a performance-based incentive (PBI) or expected performance-based buydown (EPBB)[7], for the purchase or lease of qualifying residential solar photovoltaic systems or power purchase agreement from such systems
- The bank shall consider willingness to pay studies and verified solar photovoltaic system characteristics, such as operational efficiency, size, location, shading and orientation, when determining the type and amount of incentive
- Any such direct financial incentives shall only apply to the first twenty kilowatts of direct current of the qualifying residential solar photovoltaic system
- Provide for a series of solar capacity blocks the combined total of which shall be a maximum of three hundred fifty megawatts and projected incentive levels for each such block
- Provide incentives that are sufficient to meet reasonable payback expectations of the residential consumer and provide such consumer with a competitive electricity price, taking into consideration the estimated cost of residential solar installations, the value of the energy offset by the system, the cost of financing the system, and the availability and estimated value of other incentives, including, but not limited to, federal and state tax incentives and revenues from the sale of solar home renewable energy credits
- Provide incentives that decline over time and will foster the sustained, orderly development of a state-based solar industry
- Provide comparable economic incentives for the purchase or lease of qualifying residential solar photovoltaic systems or power purchase agreements from such systems
- Nothing in this subsection shall restrict the Green Bank from modifying the approved incentive schedule to account for changes in federal or state law or regulation or developments in the solar market when such changes would affect the expected return on investment for a typical residential solar photovoltaic system by ten per cent or more. Any such modification shall be subject to review and approval by the Department (i.e., DEEP)
- The Green Bank shall establish and periodically update program guidelines, including, but not limited to, requirements for systems and program participants related to: (1) Eligibility criteria; (2) standards for deployment of energy efficient equipment or building practices as a condition for receiving incentive funding; (3) procedures to provide reasonable

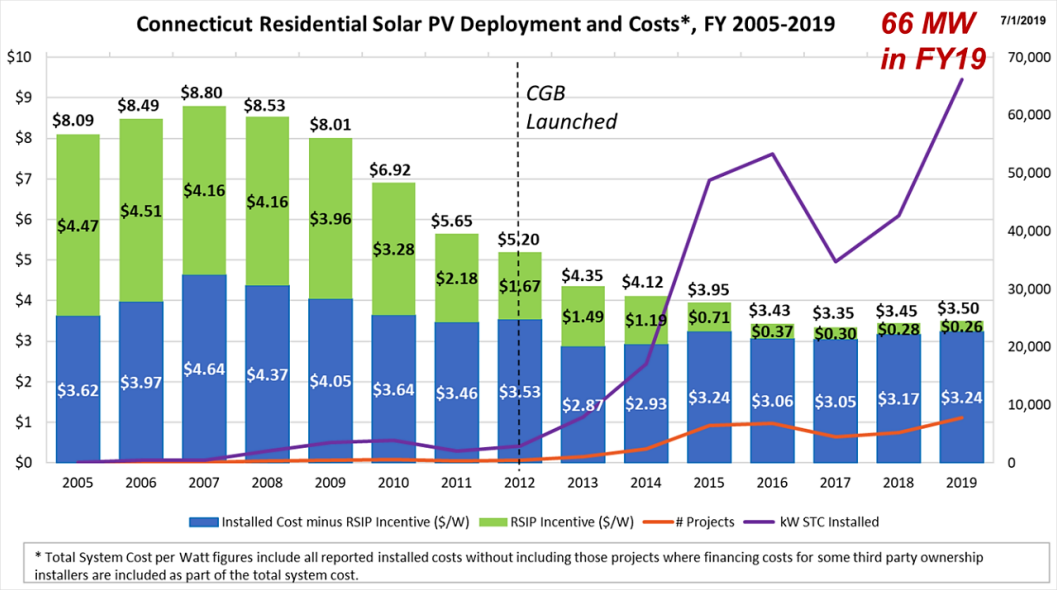
[6] https://www.cga.ct.gov/current/pub/chap_283.htm#sec_16-245gg (Master purchase agreement for solar home renewable energy credits)

[7] Expected Performance Based Buydowns (EPBBs) are one-time, upfront rebates provided for homeowner-owned projects and Performance Based Incentives (PBIs) are incentives provided on a per kWh basis, quarterly over six years for electricity produced through leases and power purchase agreements (i.e., third party owned projects). While the EPBB and PBI are paid over different time periods, they are, as required by statute, designed to be economically comparable on a net present value basis.

assurance that such reservations are made and incentives are paid out only to qualifying residential solar photovoltaic systems demonstrating a high likelihood of being installed and operated as indicated in application materials; and (4) reasonable protocols for the measurement and verification of energy production.

Figure 1 provides historical perspective on Connecticut's residential solar PV market from fiscal year (FY) 2005 through FY 2019, based on projects incentivized through RSIP from FY 2012 through FY 2019 and before that through the Connecticut Clean Energy Fund (CCEF), the Green Bank's predecessor organization. The average RSIP incentive[8] has been reduced steeply over time as shown by the upper/green portion of the bars in the chart, while the average installed cost minus the RSIP incentive shown in the lower/blue portion of the bars has stayed roughly stable, between $3.00-3.25/W in recent years. Comparing FY 2005 to FY 2019, the average installed cost decreased 57% from $8.09/W to $3.50/W and the average RSIP incentive decreased 94% from $4.47/W to $0.26/W, while deployment increased over 50,000% from 122 kW in FY 2005 to 66 MW in FY 2019. Incentives were reduced most steeply with the inception of the Green Bank in FY 2012, 84% from $1.67/W in FY 2012 to $0.26/W in FY 2019 (as compared to 51% from FY 2005 to FY 2011). Additionally, since FY 2012, installed costs decreased 33% from $5.20/W to $3.50/W and deployment grew over 2200% from 2.8 MW in FY 2012 to 66 MW in FY 2019.

Figure 1. RSIP Historical Installed Costs, Incentives, Net Customer Cost, Installed Capacity, FY 2005-2019



RSIP Step 15 is intended to be the final incentive step for RSIP, up to the 350 MW target, barring unforeseen events that could arise and necessitate returning to the Board.

In developing a recommendation for the RSIP Step 15 incentive, the Green Bank observed that while installed costs increased slightly between FY17 and FY19 from $3.35/W to $3.50/W, incentives decreased slightly from $0.30/W to $0.26/W, net customer costs increased slightly from $3.05/W to $3.24/W (represented by the lower/blue bars in Figure 1), and deployment levels remained strong and increased since FY17, reaching the highest annual deployment level to date of 66 MW in FY19. A modest reduction in the incentive level

[8] The incentive levels shown in Figure 1 are averages based on incentives calculated for RSIP projects in PowerClerk that reflect system and design characteristics (e.g., equipment specifics, tilt, azimuth, shading).

for Step 15 as compared to Step 14 results in a post-RSIP, net customer cost in the range of $2.90-$3.45/W, a post-RSIP and ITC, net customer cost in the range of $2.00-$2.55/W, reflecting 1.1 to 2% increases in net cost relative to Step 14 and anticipated deployment of 50-60 MW in FY20.

Objectives

The broad objectives of RSIP Step 15 are:

1. Ensure the **sustained orderly development** of the local solar PV industry by:

- Achieving the 350 MW public policy target
- Reducing market reliance on RSIP by continuing to decrease incentives, supporting "soft cost" reduction strategies, and supporting consumer protection strategies.
- Supporting the public policy transition from RSIP plus net metering (through Q2 or Q3 of CY 2020) to net metering only (Q3 or Q4 of CY 2020 through CY 2021) to a tariff-based compensation structure (Q1 of 2022 and beyond).

2. Enable continued affordability and accessibility of solar PV by LMI households

3. Through participation in policy development (e.g., value of distributed generation studies, grid modernization proceedings), financing and incentives, and other strategies, in collaboration with the utilities, DEEP/PURA, the Energy Efficiency Board and the clean energy industry, support cost-effective integration of solar PV into the grid and deployment of solar PV in combination with complementary technologies such as battery storage, energy efficiency, renewable heating and cooling technologies, and electric vehicles that increase the benefits of solar PV and clean energy (to the grid, customer participants and society) and support decarbonization of the electric, building and transportation sectors in support of the state's greenhouse gas reduction goals.

Historical RSIP Steps 1-14 Incentives and Overview of Proposed Step 15 Incentive

Table 1 below documents historical RSIP incentive levels from Step 1 in 2012 through Step 14 in 2019, as well as the proposed Step 15 incentive level which would reduce Step 14 incentive levels as follows:

- 10% for EPBB overall (consisting of an 8% reduction for capacity ≤10 kW and an 18% reduction for capacity >10 kW)
- 15% for PBI
- 10% for LMI PBI

In addition, given that the proposed LMI-PBI incentive levels are still approximately 2.7 times higher than the non-LMI PBI, the LMI market faces a steeper incentive drop-off from an RSIP to net metering only market. To help support a sustained orderly transition to a post-RSIP market for LMI, Green Bank staff are developing a financing RFP to attract additional low-cost capital providers to the LMI market and are currently supporting development of the new Shared Clean Energy Facility (SCEF) program that requires participation by LMI customers.

Table 1. RSIP Historical Incentive and Deployment Levels by Step and Incentive Type (EPBB, PBI, LMI PBI, and EPBB ESS), and Proposed Step 15 Incentive

RSIP Incentive Step	Start Date	EPBB ($/W)			PBI ($/kWh)			LMI PBI ($/kWh)		Approved Projects	
	Start Date	≤5 kW	5 to 10 kW	>10kW	Start Date	≤10 kW	>10 kW	≤10 kW	>10 kW	Capacity (kW)	# Projects
1	3/2/2012	$2.450	$1.250	$0.000	3/2/2012	$0.300	$0.000	-	-	1,381	206
2	5/18/2012	$2.275	$1.075	$0.000	5/18/2012	$0.300	$0.000	-	-	5,992	842
3	1/4/2013	$1.750	$0.550	$0.000	4/1/2013	$0.225	$0.000	-	-	13,100	1,838
4	1/6/2014	$1.250	$0.750	$0.000	1/6/2014	$0.180	$0.000	-	-	19,282	2,591
5	9/1/2014	$0.800		$0.400	9/1/2014	$0.125	$0.060	-	-	13,382	1,745
6	1/1/2015	$0.675		$0.400	1/1/2015	$0.080	$0.060	-	-	12,229	1,574
7	3/11/2015	$0.540		$0.400	3/11/2015	$0.064	$0.060	-	-	19,077	2,559
8	8/8/2015	$0.540		$0.400	8/8/2015	$0.054		$0.110	$0.055	27,129	3,425
9	2/1/2016	$0.513		$0.400	2/1/2016	$0.046		$0.110	$0.055	26,130	3,278
10	9/1/2016	$0.487		$0.400	9/1/2016	$0.039		$0.110	$0.055	30,044	3,899
11	8/15/2017	$0.487		$0.400	8/15/2017	$0.039		$0.110	$0.055	18,186	2,212
12	1/15/2018	$0.463		$0.400	1/15/2018	$0.035		$0.100	$0.050	16,341	2,021
13	6/1/2018	$0.463		$0.400	6/1/2018	$0.035		$0.090	$0.045	19,310	2,310
14	9/24/2018	$0.463		$0.400	9/24/2018	$0.035		$0.090	$0.045	71,670	8,419
Proposed Step 15	1/15/2019	$0.426		$0.328	1/15/2019	$0.030		$0.081	$0.041	n/a	n/a
Total										**293,254**	**36,919**

As shown in Table 2, a modest reduction in the incentive level for Step 15 as compared to Step 14 results in a post-RSIP, net customer cost in the range of $2.90-$3.45/W and a post-RSIP and ITC, net customer cost in the range of $2.00-$2.55/W. The net costs after the incentive reduction from Step 14 to Step 15 result in a 1.1% increase in the net customer cost for EPBB and LMI PBI projects and a 2% increase in the net customer cost for LMI PBI projects (for which the incentive would still be 2.7 times higher than a non-LMI PBI). Given only slight increases in the net costs to customers, the reduced incentive level is still anticipated to support deployment levels in the residential solar PV market in the range of 50-60 MW, with the public policy objective of "sustained orderly development" to maintain current deployment levels after RSIP is phased out.

Table 2. RSIP Incentive Steps 14 and 15 - Project Averages and Net Customer Costs by Incentive Type[9]

RSIP Incentive Type	Incentive Step	% Incentive Reduction (compared to Step 14)	Average Cost ($/W)	Average Incentive based on data ($/W)	Average System Size (kW)	Average Incentive ($)	Incentive % of Cost	Net Customer Cost after RSIP ($/W)	% change in net cost	Federal ITC at 26%	Net Customer Cost after RSIP and 26% ITC ($/W)	% change in net cost
EPBB	Step 14	0%	$3.76	$0.37	9.55	$3,534	9.8%	$3.39	0.0%	$0.88	$2.51	0.0%
PBI	Step 14	0%	$3.42	$0.23	8.31	$1,911	6.7%	$3.19	0.0%	$0.83	$2.36	0.0%
LMI PBI	Step 14	0%	$3.42	$0.58	6.69	$3,880	17.0%	$2.84	0.0%	$0.74	$2.10	0.0%
EPBB	Step 15	10%	$3.76	$0.33	9.55	$3,180	8.9%	$3.43	1.1%	$0.89	$2.54	1.1%
PBI	Step 15	15%	$3.42	$0.20	8.31	$1,625	5.7%	$3.22	1.1%	$0.84	$2.39	1.1%
LMI PBI	Step 15	10%	$3.42	$0.52	6.69	$3,492	15.3%	$2.90	2.0%	$0.75	$2.14	2.0%

[9] The installed cost for LMI PBI projects was assumed to be comparable to that for PBI projects, though this number may be refined based on further analysis.

RSIP is estimated to reach 350 MW in the summer or fall of 2020, after which time only net metering (and the federal ITC) would be available to support the solar PV market through December 31, 2021. Beginning January 1, 2022 (or potentially earlier if there is an overlap period with net metering and an interim tariff), production based (per kWh) tariff compensation is to be offered to solar PV customers, based on the requirements stipulated by Section 7 in PA 18-50, amended by PA 19-35, and as developed and determined by PURA and stakeholders through PURA docket processes[10]. The proposed Step 15 incentive levels are anticipated to allow for a sustained transition from RSIP to a net metering plus ITC supported market to a market compensated via a tariff (that could be structured to factor in ITC reductions).[11]

RSIP Incentive as Compared to Class I REC Prices and ZREC Incentives

Step 14 and proposed Step 15 incentive levels, converted to estimated 15-year equivalents, are generally lower than Class I REC market spot prices and recent ZREC prices.

Table 3. Equivalent 15-Year Price ($/REC) for RSIP Step 14 and 15 Incentive Levels

Incentive Step	RSIP Incentive Type	Average System Size (kW)	Average Incentive based on data ($/W)	ZREC Equivalent Prices ($/MWh)
Step 14	EPBB	9.55	$0.37	$28.10
Step 14	PBI	8.31	$0.23	$17.40
Step 14	LMI PBI	6.69	$0.58	$44.10
Step 15	EPBB	9.55	$0.33	$25.10
Step 15	PBI	8.31	$0.20	$15.20
Step 15	LMI PBI	6.69	$0.52	$39.50

RSIP incentives at equivalent 15-year prices for Steps 14 and 15 are between $15-44/MWh as shown in Table 3, in comparison to the spot market REC price for CT Class I resources ranging from $25-38/REC between August-October 2019 and to ZREC prices for commercial projects ranging from $98-101/REC for small (i.e., less than 100 kW), $89-92/REC for medium (i.e., 100-250 kW), and $61-86/REC for large ZRECs (i.e., 250-1,000 kW)[12], demonstrating that the Green Bank is successfully transitioning the residential solar PV market to lower incentives and reliance away from the RSIP incentive.

[10] Green Bank participated in multiple dockets in FY19 to provide input into the development of the Section 7 tariff compensation structure put forth in PA 18-50.

[11] The federal ITC is scheduled to step down from 30% through calendar year 2019 to 26% in 2020, 22% in 2021, and starting in 2022, 10% for third party owned projects and 0% for homeowner-owned projects. Tariff based compensation (in lieu of net metering) could factor in the ITC reduction by calculating a tariff rate that factors in higher net customer costs as the ITC steps down.

[12] https://www.eversource.com/content/ct-c/residential/save-money-energy/explore-alternatives/renewable-energy-credits/small-zrecs, https://www.eversource.com/content/ct-c/residential/save-money-energy/explore-alternatives/renewable-energy-credits/lrecs-large-medium-zrecs, and https://www.uinet.com/wps/wcm/connect/11f7591b-735f-460e-8306-b1df6a1406d6/LREC_ZREC+Webinar+Year+8.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-11f7591b-735f-460e-8306-b1df6a1406d6-mHmStxX

Deployment Progress by Area Median Income

The RSIP continues to be successful in reaching low-and-moderate income (LMI) households. Adoption has largely been driven by the Green Bank's Solar for All partnership with PosiGen and complemented by efforts supported by a Department of Energy grant, "State Strategies for Solar Adoption in Low-and-Moderate Income Communities." Of the 34,500 projects approved under RSIP through FY19, the Green Bank has in recent years made progress with respect to increased distribution of RSIP projects in LMI census tracks. Figure 2 shows approved RSIP projects by FY and Metropolitan Statistical Area (MSA) Area Median Income (AMI) Band. Nearly 50% of RSIP projects in FY17-19 were deployed in low-to-moderate income (LMI) census tracts (AMI<100%), having increased from just over 20% in FY12.

Figure 2. Distribution of Approved RSIP Projects by FY and by Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands

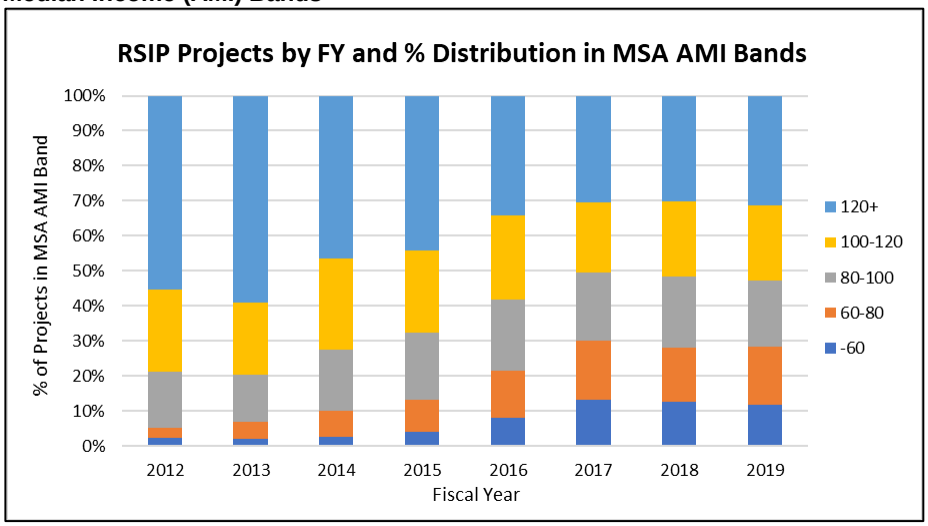


Table 4 illustrates that RSIP has reached and slightly exceeded parity with respect to deployment among LMI census tracts. For example, while the <60% AMI Band represents only 7% of 1-4 unit owner-occupied households (OOH), the <60% AMI Band represents 9% of approved RSIP projects. Similarly, 13% of RSIP projects are deployed in the 60-80% AMI Band while only 12% of OOH are in the 60-80% band. The 80-100% AMI Band has about 18% of projects, slightly less than the % of OOH. The 100-120% AMI Band has slightly more representation in RSIP versus OOH, while the highest income band, 120%+, has proportionately lower RSIP deployment levels relative to their representation among OOH.

Table 4. Distribution of Approved RSIP Projects among MSA AMI Bands and 1-4 Unit OOH

MSA AMI Band	Owner Occupied 1-4 Unit Households	% of Total HHs	# Project Units for FY 2019	% Project Units for FY 2019	# of Cumulative Project Units	% of Cumulative Projects	Cumulative Project Units / 1,000 HHs
<60%	60,769	7%	967	12%	3,154	9%	51.9
60%-80%	99,220	12%	1,300	17%	4,565	13%	46.0
80%-100%	165,331	19%	1,462	19%	6,360	18%	38.5
100%-120%	187,463	22%	1,661	21%	7,913	23%	42.2
>120%	345,311	40%	2,415	31%	12,506	36%	36.2
Total	858,094	100%	7,805	100%	34,498	100%	40.2

While the RSIP has been effective in reaching LMI households, in FY19 Green Bank also investigated whether the RSIP has been successful in reaching communities of color (i.e., Black and Hispanic households). When examining solar deployment by the racial and ethnic makeup of the census tract, the analysis demonstrated that RSIP has been very successful in reaching communities of color. To date, on a per OOH basis, there are 86% more RSIP installations in majority Black neighborhoods, 18% more in majority Hispanic neighborhoods, and 20% more in No Majority race neighborhoods as compared to majority White neighborhoods – see Table 5 to compare % OOH vs % of RSIP for AMI Bands of <100%. A report on this analysis titled "Sharing Solar Benefits" was published in May 2019.[13]

Table 5. Owner-Occupied Housing and RSIP Distribution by Race/Ethnicity and Income

Census Tract Income Level (AMI Band)	Majority Hispanic		Majority Black		Majority White		No Majority Race	
	% of OO Homes	% of RSIP	% of OO Homes	% of RSIP	% of OO Homes	% of RSIP	% of OO Homes	% of RSIP
<60%	30.3%	24.91%	12.8%	22.41%	18.8%	14.58%	38.0%	38.09%
60%-80%	10.8%	13.04%	5.7%	7.68%	62.7%	56.04%	20.7%	23.24%
80%-100%	1.2%	1.57%	2.9%	4.48%	89.7%	87.94%	6.3%	6.01%
100%-120%	--	--	--	--	95.0%	95.04%	5.0%	4.96%
>120%	--	--	--	--	96.1%	95.14%	3.9%	4.86%
Grand Total	3.6%	4.11%	2.1%	3.77%	85.3%	81.81%	9.0%	10.31%

Proposed RSIP Step 15 Incentive – Details and Rationale

Step 15 is scheduled to begin on January 15, 2020, with notice given to RSIP eligible contractors and system owners by the end of October 2019 (more than 30 days notice).

- Green Bank staff propose an incentive level for Step 15 reduced from the Step 14 incentive as follows:
  - 10% for EPBB overall (consisting of an 8% reduction for capacity ≤10 kW and an 18% reduction for capacity >10 kW)
  - 15% for PBI
  - 10% for LMI PBI

Table 6 shows RSIP incentive levels from Steps 8-14 and the proposed Step 15 incentive level including EPBB, PBI and LMI PBI.

[13] ctgreenbank.com/wp-content/uploads/2019/05/Sharing-Solar-Benefits-May2019.pdf

Table 6. RSIP Incentive Levels by Step, Incentive Type for Steps 8-14 and proposed Step 15

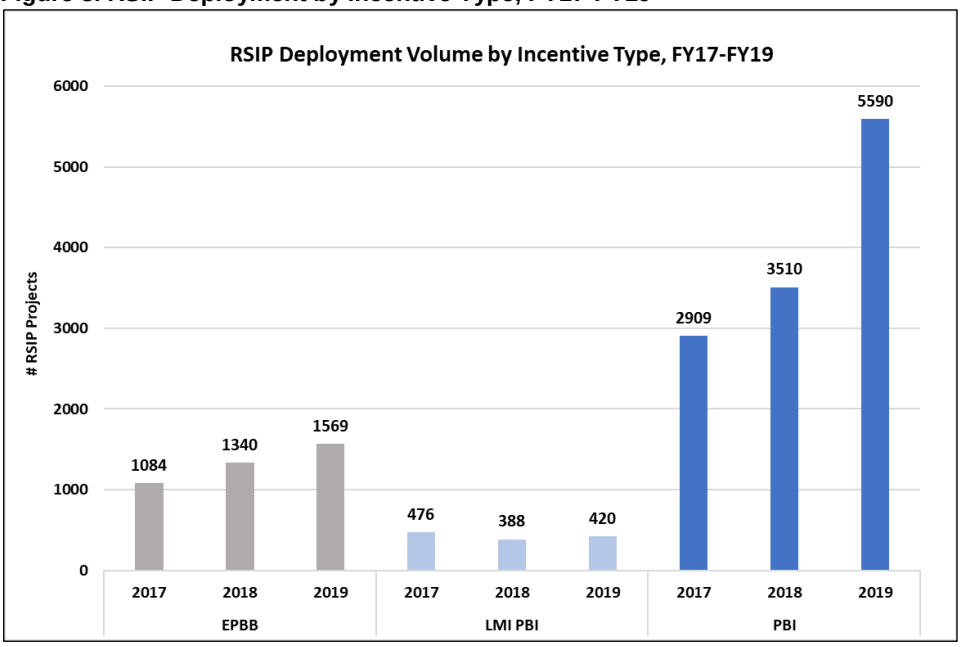
RSIP Incentive Step	Start Date	EPBB ($/W)			PBI ($/kWh)			LMI PBI ($/kWh)		Approved Projects	
	Start Date	≤5 kW	5 to 10 kW	>10kW	Start Date	≤10 kW	>10 kW	≤10 kW	>10 kW	Capacity (kW)	# Projects
8	8/8/2015	$0.540		$0.400	8/8/2015	$0.054		$0.110	$0.055	27,129	3,425
9	2/1/2016	$0.513		$0.400	2/1/2016	$0.046		$0.110	$0.055	26,130	3,278
10	9/1/2016	$0.487		$0.400	9/1/2016	$0.039		$0.110	$0.055	30,044	3,899
11	8/15/2017	$0.487		$0.400	8/15/2017	$0.039		$0.110	$0.055	18,186	2,212
12	1/15/2018	$0.463		$0.400	1/15/2018	$0.035		$0.100	$0.050	16,341	2,021
13	6/1/2018	$0.463		$0.400	6/1/2018	$0.035		$0.090	$0.045	19,310	2,310
14	9/24/2018	$0.463		$0.400	9/24/2018	$0.035		$0.090	$0.045	71,670	8,419
Proposed Step 15	1/15/2019	$0.426		$0.328	1/15/2019	$0.030		$0.081	$0.041	n/a	n/a
Total										**293,254**	**36,919**

The Step 15 proposal reduces the EPBB incentive less than the PBI, percentage-wise, following the legislative guidance of providing comparable economic incentives as well as research and best practices documented by LBNL that reflect the richer federal tax incentives available to third party owned projects.[14] In addition, RSIP deployment trends shown in Figure 3 reflect higher growth in deployment of PBI projects, 92% growth from FY17 to FY19 as compared to 45% for EPBB projects over the same period.

LMI PBI project volume decreased in FY18 and then grew moderately by 8% in FY19, with deployment growth currently limited to predominantly one company, PosiGen. Marketing campaigns are anticipated for multiple municipalities in FY20 to support continued growth and a new contractor has proposed to offer the LMI PBI through the RFP that has remained open for the duration of the LMI PBI. In the anticipated last year of RSIP, the LMI PBI will continue to provide increased accessibility to residential solar for LMI customers while enabling these customers to achieve deeper savings. In addition, RSIP market penetration in LMI census tracts has remained close to 50% of project volume in FY17 through FY19, reflecting strong uptake of solar PV among customers in LMI neighborhoods with or without the higher LMI incentive level.

[14] "A Survey of State and Local PV Program Response to Financial Innovation and Disparate Federal Tax Treatment in the Residential PV Sector" by Mark Bolinger and Edward Holt in LBNL-181290 (June 2015). https://emp.lbl.gov/publications/survey-state-and-local-pv-program.

Figure 3. RSIP Deployment by Incentive Type, FY17-FY19



RSIP LMI Incentives

Given the continuing priority of expanding solar PV in Connecticut into LMI market segments, and to attempt to ensure that the 350 MW policy target provides an opportunity to reach all household income levels in the state, we propose continuing the LMI PBI incentive in Step 15 reduced by 10% relative to the Step 14 LMI PBI incentive level. As shown in Table 7, the LMI PBI has previously been reduced twice, both times in 2018 by 10%. The Green Bank did not reduce incentives since Step 14 was launched in September 2018 to give the market continuity while winding RSIP down to the 300 MW RSIP target, before the expansion to 350 MW in FY19 by PA 19-35.

Green Bank staff recommend lowering LMI PBI incentive levels for Step 15 to support sustained orderly transition to a post-RSIP, net metering market through 2021, and a tariff-based compensation policy from 2022 onward. Given that the proposed LMI-PBI incentive levels are still approximately 2.7 times higher than the non-LMI PBI, the LMI market faces a steeper incentive drop-off from an RSIP to net metering only market. To help support a sustained orderly transition to a post-RSIP market for LMI, Green Bank staff are developing a financing RFP to attract additional low-cost capital providers to the LMI market and are currently supporting development of the new Shared Clean Energy Facility (SCEF) program that requires participation by LMI customers.

Table 7. Schedule of Incentives for Steps 8-14 and Proposed Step 15 for LMI Households

RSIP Incentive Step	LMI PBI ($/kWh)			
	Start Date	≤10 kW	>10 kW	% decrease
8	8/8/2015	$0.110	$0.055	0%
9	2/1/2016	$0.110	$0.055	0%
10	9/1/2016	$0.110	$0.055	0%
11	8/15/2017	$0.110	$0.055	0%
12	1/15/2018	$0.100	$0.050	10%
13	6/1/2018	$0.090	$0.045	10%
14	9/24/2018	$0.090	$0.045	0%
Proposed Step 15	1/15/2019	$0.081	$0.041	10%

Green Bank Support of Solar PV plus Battery Storage Deployment

As of October 14, 2019, approximately 215 battery storage systems are being deployed in combination with RSIP-incentivized solar PV, without an additional incentive for battery storage. While the Green Bank is not proposing a state-wide incentive for battery storage at this time, the Green Bank will continue to work with partners at DEEP, PURA, the utilities, the Energy Efficiency Board, and the solar industry to support and enable future incentive and financing programs to deploy battery storage, in particular in combination with solar PV, supported by solar contractors who are already deploying solar PV plus battery storage systems. The Green Bank is also participating in the value of distributed energy resources study led by PURA/DEEP and upcoming grid modernization proceedings that are anticipated to address considerations around deployment of solar PV and battery storage.

An upfront RSIP battery storage incentive was approved on a pilot basis for storage to be deployed with solar PV within a United Illuminating pilot project, Localized Targeting of DERs demonstration project[15] ("ConnectSun"), supported by the Green Bank as a collaborator. The approved incentive design was based on a battery storage incentive originally proposed and approved for Steps 11 through 13 that had not yet been implemented. Updates were made to the original incentive design, to be implemented within Steps 13 and 14 based on the following reasoning:

- Battery storage deployment is in its early stages, similar to where residential solar PV deployment was in the first steps of RSIP and perhaps pre-RSIP (i.e., during the CT Clean Energy Fund years before the Green Bank was formed). In supporting adoption of solar PV technology among the earliest adopters in Connecticut, it was helpful to offer relatively large incentives such as those covering 30% or more of installed cost. Over time, solar PV costs decreased and allowed incentives to be reduced over time.

[15] UI seeks to reduce the peak load on two distribution circuits served by the Ash Creek Substation in Fairfield, CT by 1 MWh, which may enable UI to defer or avoid a significant infrastructure capacity investment. The RSIP battery storage incentive for this pilot was approved at the Deployment Committee meeting on September 18, 2018.

- Early adopters of battery storage technology are primarily interested in storage for backup power during outages. However, storage can also be used to reduce/shift peak load on the grid and thereby provide benefits to the grid and ultimately all ratepayers. Higher incentive levels can be justified to encourage customer adoption and allow realization of these additional benefits. Programs in neighboring New England states such as Vermont and Massachusetts have been or are in the process of implementing performance-based incentives for battery storage that compensate customers who allow their battery capacity to be utilized to meet demand during peak events. Cost effectiveness analysis shown below demonstrates the benefit/cost ratios associated with solar PV, battery storage, and solar PV plus battery storage projects.

The benefit of battery storage to the grid is primarily to contribute to reduction of peak demand, in particular during ISO-New England summer peak hours which are June through August, non-holiday weekdays from 1-5 pm. While battery storage can provide "demand response" benefits when deployed by itself, the benefit/cost ratio of battery storage when deployed in combination with solar PV is higher. Reducing peak demand can help lower electricity prices along with providing other benefits.

Figures 4 and 5 help to illustrate the following points:

- Figure 4 shows solar generation and electricity consumption for a typical residential household, during an average summer weekday. In the course of a year, roughly 50% of residential solar PV output is simultaneously produced and consumed, meaning that 50% is exported to the grid at times when there is more PV production than can be used on-site (for example, in the middle of the day when solar production is high but energy use is low for residents that do not work at home).
- Figure 5 shows that charging a battery using solar PV and then discharging the battery later in the day to meet on-site load when demand is higher (such as when residents come home from work), can help reduce peak load during high demand time periods. More PV could be exported to the grid in the late afternoon and early evening, since the battery can help meet on-site load, helping to alleviate the need for other energy sources to meet that demand.

Figure 4. Eversource Average Summer Weekday Demand and Solar Generation (kW)

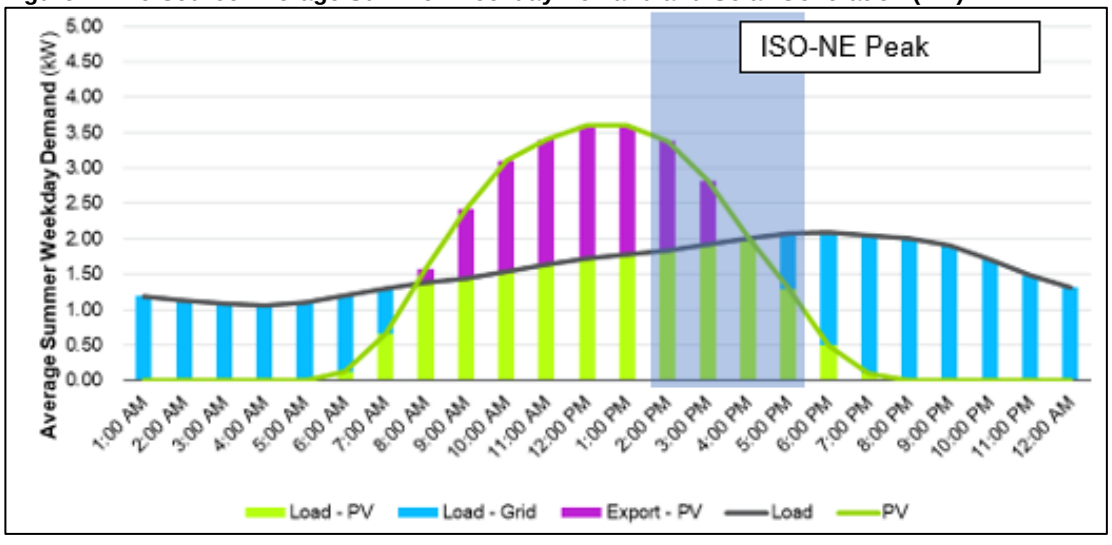
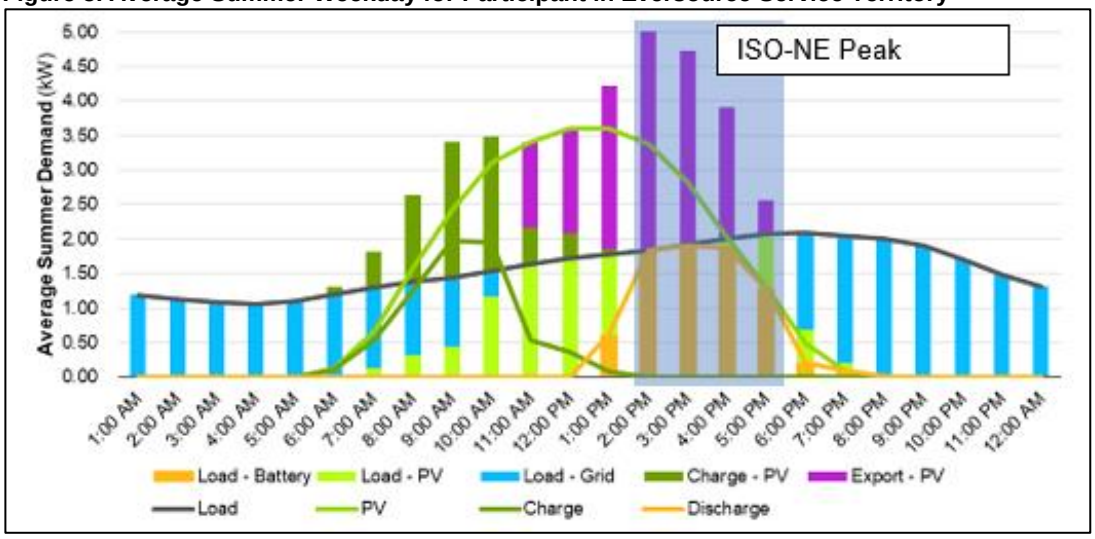


Figure 5. Average Summer Weekday for Participant in Eversource Service Territory



As solar PV penetration increases on the system, peaks shift to later in the day, potentially creating a "duck curve" scenario with sufficiently high solar PV deployment. The result is depressed demand in the middle of the day followed by a steep ramp up in demand in the afternoon and evening, which can be difficult for utilities to manage. Battery storage can help offset this effect by shifting when solar PV energy is utilized and/or exported to the grid, thereby supporting greater deployment of solar PV in the long term. Therefore, deployment of battery storage is a good strategy for supporting integration of solar PV and other renewable energy technologies on the grid by socializing the benefits of solar PV and ensuring that Connecticut's solar policies are aligned with the state's overall energy policies.

Battery storage systems are still expensive but are beginning to reach prices more accessible to early adopters who want to purchase system primarily for backup power. Providing incentives in the early stages of market growth can greatly support continued price declines that come with increased manufacturing volume. Providing an incentive while also requiring dispatch of the batteries for peak load reduction is a win-win for the customer (who can reduce their up-front cost), to the grid and all ratepayers for the benefits it provides, and to the sustained growth of the solar PV and battery storage industries.

Cost-effectiveness Analysis of Solar PV, Battery Storage, and Solar PV plus Battery Storage

The Connecticut Green Bank contracted with Cadmus Group, Inc., to conduct a cost-effectiveness analysis of its Residential Solar Investment Program (RSIP), completed in March 2016.[16] The findings of the study were: (1) RSIP is cost-effective from the perspective of program participants, the Connecticut Green Bank (as program administrator), from a total resource perspective, and for society as a whole. (2) RSIP has increasingly made efficient use of program funds by reducing incentives while supporting market growth through financing, marketing, outreach and education. (3) RSIP benefits sufficiently outweigh costs to allow for bundling of residential solar PV with energy efficiency and with emerging technologies such as energy storage, while maintaining cost-effectiveness. The study

[16] https://www.ctgreenbank.com/wp-content/uploads/2016/03/RSIP_Evaluation_II_Final_Report_and_cvr_ltr1.pdf

included data from RSIP steps 1 through 7, for which cost-effectiveness was found to increase with progressive steps as incentives were reduced. Cadmus noted that incentives represented the large majority of program costs. Therefore, the general pattern of increasing cost-effectiveness would be expected to continue as incentives were reduced further from steps 7-14.

In FY19, the Green Bank contracted with Navigant Consulting, Inc., to conduct cost-effectiveness analysis for Green Bank's application submission to PURA's Electric Efficiency Partners Program (EEPP)[17] in December 2018, proposing an incentive program for residential battery storage installed with solar PV. The program was originally designed so that a customer would be required to charge the battery with solar PV during the day and discharge the battery to meet on-site load during ISO New England summer peak hours using a "Set it and Forget it" strategy.[18] The Navigant analysis showed that battery storage utilized in this way provides peak reduction benefits to the grid as well as being available to the customer for backup power during outage events. The benefit/cost ratios[19] for the Utility Cost Test (UCT) calculated for battery storage within the proposed program are shown in Table 8 to be over 2:1 assuming a total program capacity of 30 MW deployed over 5 years. While the application was not approved (and is on indefinite hold) as policy priorities pertaining to battery storage are further examined by stakeholders (and will likely be addressed by DEEP and PURA through the value of distributed energy resources study and distributed system planning docket), the results show that residential battery storage provides peak demand reduction value to the grid, in addition to being attractive to customers with resiliency concerns.

Table 8. Benefit/Cost Ratios for Battery Storage as calculated for the EEPP[20]

ES Capacity Block	Utility Cost Test (UCT) Ratio (5.5% Discount Rate)	Utility Cost Test (UCT) Ratio (3.0% Discount Rate)
5 MW	1.96	2.42
10 MW	2.32	2.85
15 MW	2.70	3.32
20 MW	3.06	3.74
25 MW	3.40	4.12
30 MW	3.77	4.55
Program Total	***2.75***	***3.38***

[17] https://www.ct.gov/pura/cwp/view.asp?a=3355&q=417158

[18] The summer peak demand period used for peak reduction values is the ISO-NE peak, which is June through August, weekdays from 1pm to 5pm. In the "Set it and Forget it" strategy, the battery is programmed in advance to charge from solar PV during the day and discharge to meet on-site load during the ISO New England peak hours. This differs from an active dispatch strategy which typically produces greater benefit (see Table 9 for illustration of the difference in the benefit/cost ratios).

[19] The analysis relied primarily on the benefits outlined in the Avoided Energy Supply Components in New England: 2018 Report. Oct. 24, 2018, prepared by Synapse Energy Economics, et al., available at: http://www.synapse-energy.com/project/avoided-energy-supply-costs-new-england. During the PURA docket process, the Green Bank learned that some regional benefit categories and benefit levels are still being reviewed by DEEP and the CT utilities to determine whether they will be fully adopted by CT for application to the Conservation and Load Management Plan; these include Pooled Transmission Facilities (PTF) and Rest of Pool DRIPE.

[20] The UCT ratios were calculated by installed energy storage capacity block, proposed with incentives that decreased over each block (similar to the RSIP structure), modeled using discount rates of 5.5% and 3.0%, the latter based on the CT 2019-2021 C&LM Plan discount rate scheduled to go into effect March 1, 2019. The UCT ratios represent the incremental benefits and costs of battery storage installed with solar PV.

Navigant conducted further analysis for the Green Bank in the context of broader incentive design considerations, illustrates the benefit/cost ratios of deploying solar PV plus battery storage should a future incentive program support this technology combination. Table 9 shows the anticipated benefit/cost ratios of deploying solar PV plus battery storage, including the benefits and costs for both technologies (Table 8 results represented only the incremental benefits and costs for battery storage installed with solar PV). Table 9 assumes an incentive for battery storage similar to what had been proposed for the EEPP, an anticipated RSIP Step 15 incentive for solar PV about 13%[21] lower than the current Step 14 incentive level, deployment of 4 MW of battery storage in one year, and shows scenarios for "Set it and Forget it" vs "Utility Dispatch"[22], as well as scenarios assuming the same C&LM benefit categories as in Table 9 versus a scenario that excludes regional benefits.[23]

Table 9. Benefit/Cost Ratios for Solar PV, Battery Storage, and Solar PV plus Battery Storage

	Solar PV			Battery Storage			Solar PV + Battery Storage		
	UCT	**PCT**	**RIM**	**UCT**	**PCT**	**RIM**	**UCT**	**PCT**	**RIM**
Set it and Forget it									
C&LM benefits	13.16	4.91	0.82	1.83	0.81	1.00	6.04	2.11	0.88
C&LM benefits less PTF, ROP DRIPE	7.48	4.91	0.47	0.60	0.81	0.33	3.16	2.11	0.46
Utility Dispatch									
C&LM benefits	n/a	n/a	n/a	3.20	0.81	1.74	6.90	2.11	1.01
C&LM benefits less PTF, ROP DRIPE	n/a	n/a	n/a	1.07	0.81	0.58	3.45	2.11	0.50

Take-aways from Table 9 include:

- The UCT for solar PV is higher than the UCT for battery storage (i.e., incremental benefits and costs for battery storage installed with solar PV) so it makes sense to combine battery storage with solar PV from a cost-effectiveness perspective. Even with a "set it and forget it" strategy and exclusion of regional benefits, the UCT ratio for solar PV plus storage is 3.16.
- In the scenario in which regional benefits are included, the RIM for battery storage is higher than for solar PV and reflects the ability of battery storage to socialize these benefits to non-participants.
- Utility dispatch provides higher benefit/cost ratios than a "set it and forget it" strategy.

In summary, cost-effectiveness analyses show that deploying solar PV or solar PV plus battery storage provides benefits to the grid. Battery storage also provides resiliency benefits to customers and supports higher levels of solar PV deployment by supporting integration of solar PV with the grid.

[21] The RSIP Step 15 incentive is assumed to be 13% lower than the Step 14 incentive, calculated using a weighted average of the incentive reductions of 10% for EPBB, 15% for PBI and 10% for LMI PBI based on estimated 20%, 75% and 5% deployment percentages, respectively.

[22] The "Utility Dispatch" scenario assumes that the utility will anticipate peak hours or events (e.g., one day ahead) and will dispatch the battery to meet on-site load. For example, this scenario could apply if a customer agrees to participate in a utility demand response program for battery storage in exchange for a performance-based incentive.

[23] The regional benefits include Pooled Transmission Facilities (PTF) and Rest of Pool DRIPE.

For additional background information, Figure 6 shows a full range of benefits and costs that may be included in the utility cost test (UCT), participant cost test (PCT), societal cost test (SCT), total resource cost test (TRC) and ratepayer impact measure (RIM).[24] Not all these benefits and costs were used to derive the ratios shown in Tables 8 and 9. Figure 7 shows the benefits and costs Navigant included in the UCT calculations. Note that the RIM differs from the UCT in including participant bill savings as a cost. DRIPE refers to "Demand Reduction Induced Price Effects", i.e., the impact on market prices. Benefit/cost ratios are generally considered acceptable if greater than 1.0 but specific programs may have requirements for higher ratios. Additionally, the RIM is not considered to be useful in most cases at it is usually below 1.0 and provides limited information.

Figure 6. Cost-Effectiveness Tests

Benefit or Cost	UCT	PCT	SCT	TRC	RIM
Avoided Energy	Benefit		Benefit	Benefit	Benefit
Avoided Generation Capacity	Benefit		Benefit	Benefit	Benefit
Avoided Transmission Capacity	Benefit		Benefit	Benefit	Benefit
Avoided Distribution Capacity	Benefit		Benefit	Benefit	Benefit
DRIPE Impacts	Benefit		Benefit	Benefit	Benefit
Net Avoided Outage Benefits		Benefit	Benefit	Benefit	
Non-Embedded Emissions			Benefit	Benefit	
Market Revenue	Benefit		Benefit	Benefit	Benefit
Avoided Ancillary Services	Benefit		Benefit	Benefit	Benefit
Job Creation Benefits			Benefit		
Net Non-Energy Benefits	Benefit	Benefit	Benefit	Benefit	Benefit
Participant Bill Savings		Benefit			Cost
Program Incentives	Cost	Benefit			Cost
Non-Program Incentives (e.g., ITC)		Benefit		Benefit	
Program Administration Costs	Cost		Cost	Cost	Cost
Participant Incremental DER Costs		Cost	Cost	Cost	

Figure 7. Utility Cost Test

Utility Cost Test (UCT)	
Cost/Benefit Stream	
Benefits	Avoided Energy
	Avoided Generation Capacity
	Avoided T&D Capacity
	Reliability
	DRIPE Energy Impacts
	DRIPE Capacity Impacts
	Cross-DRIPE Impacts
Costs	Program Incentives
	Program Administration Costs

[24] These benefit/cost ratios are defined in the National Standard Practice Manual (NSPM) (https://nationalefficiencyscreening.org/national-standard-practice-manual/) and are referred to as the traditional cost-effectiveness tests: the Utility Cost Test (UCT), Total Resource Cost (TRC) Test, Societal Cost Test (SCT), Participant Cost Test (PCT), and Rate Impact Measure (RIM) test. In practice, these tests are applied differently in each study (i.e., the specific benefits and costs included in each study may differ though the fundamental benefit and cost categories used for these traditional tests are the same). The latest NSPM for Assessing Cost-Effectiveness of Energy Efficiency Resources (NSPM for EE) was published in 2017. This version provides a "Resource Value Framework" for jurisdictions to use to develop their primary cost-effectiveness test: the Resource Value Test (RVT), which addresses all of the traditional components of cost-effectiveness testing – but with explicit consideration of the specific policy framework for the particular jurisdiction. A forthcoming NSPM will be expanded to include other distributed energy resources (DERs).

Resolution

WHEREAS, Public Act 19-35, "An Act Concerning a Green Economy and Environmental Protection" (the "Act") updates Connecticut General Statutes 16-245ff and 16-245gg to require the Connecticut Green Bank ("Green Bank") to design and implement a Residential Solar Photovoltaic ("PV") Investment Program ("Program") that results in no more than three hundred and fifty (350) megawatts of new residential PV installation in Connecticut on or before December 31, 2022 and extends through December 31, 2022 or after deployment of 350 MW the ability to create Solar Home Renewable Energy Credits ("SHRECs") that the electric distribution companies are required to purchase through 15-year contracts;

WHEREAS, as of October 14, 2019, the Program has thus far resulted in nearly two-hundred and ninety three (293) megawatts of new residential PV installation application approvals and nearly two-hundred and fifty two (252) MW of completed projects in Connecticut;

WHEREAS, pursuant to Conn. Gen Stat. 16-245a, a renewable portfolio standard was established that requires that Connecticut Electric Suppliers and Electric Distribution Company Wholesale Suppliers obtain a minimum percentage of their retail load by using renewable energy;

WHEREAS, real-time revenue quality meters are included as part of solar PV systems being installed through the Program that determine the amount of clean energy production from such systems as well as the associated RECs which, in accordance with Connecticut General Statute 16-245gg will be sold to the Electric Distribution Companies through a master purchase agreement entered into between the Green Bank, Eversource Energy, and United Illuminating, and approved by the Public Utility Regulatory Authority;

WHEREAS, pursuant to the Act, the Green Bank has prepared a declining incentive block schedule ("Schedule") that offers direct financial incentives, in the form of the expected performance based buy down ("EPBB") and performance-based incentives ("PBI"), for the purchase or lease of qualifying residential solar photovoltaic systems, respectively, fosters the sustained orderly development of a state-based solar industry, and sets program requirements for participants, including standards for deployment of energy efficient equipment and building practices as a condition for receiving incentive funding;

WHEREAS, pursuant to the Act, to address willingness to pay discrepancies between communities, the Green Bank will continue to provide additional incentive dollars to improve the deployment of residential solar PV in low to moderate income communities ("LMI PBI");

WHEREAS, pursuant to Section 16-245(d)(2) of the Connecticut General Statutes, a Joint Committee of the Energy Conservation Management Board and the Connecticut Green Bank (the "Joint Committee") was established to "examine opportunities to coordinate the programs and activities" contained in their respective plans (i.e., Conservation and Load Management Plan and Comprehensive Plan);

WHEREAS, the Joint Committee has established a working group on battery storage deployment ("Working Group") that includes DEEP, the Green Bank, Eversource, UI (Avangrid), and EEB consultants; potential battery storage incentives will be reviewed with this working group; and

NOW, therefore be it:

RESOLVED, that the Board approves of the RSIP Schedule of Incentives set forth in Tables 1, 6 and 7 in the memo "Residential Solar Investment Program – Step 15 Recommendation" dated October 25, 2019, reflecting the following incentive reductions for RSIP Step 15 as compared to Step 14:

- 10% for EPBB overall (consisting of an 8% reduction for capacity ≤10 kW and an 18% reduction for capacity >10 kW)
- 15% for PBI
- 10% for LMI PBI

CONNECTICUT GREEN BANK SM

845 Brook Street
Rocky Hill, CT 06067

300 Main Street, 4th Floor
Stamford, CT 06901