CONNECTICUT GREEN BANK SM

Board of Directors

Meeting Date

June 23, 2023

Board of Directors

Lonnie Reed Chair	**Hank Webster** Vice Chair Connecticut Department of Energy and Environmental Protection (DEEP)
Matthew Ranelli Secretary Partner Shipman & Goodwin	**Bettina Bronisz** State Treasurers Office State of Connecticut
Thomas Flynn Managing Member Coral Drive Partners	**Robert Hotaling** Deputy Director DECD
Adrienne Farrar Houel President and CEO Greater Bridgeport Community Enterprises, Inc.	**Dominick Grant** Director of Investments Dirt Capital Partners
John Harrity Chair CT Roundtable on Climate and Jobs	**Brenda Watson** CEO Operation Fuel
Joanne Wozniak-Brown Office of Policy and Management (OPM)	**TBD**

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ctgreenbank.com

CONNECTICUT
GREEN BANK

June 16, 2023

Dear Connecticut Green Bank Board of Directors:

We have a regular meeting of the Board of Directors scheduled for **Friday, June 16, from 9:00-11:00 a.m.**

Please take note that this will be an online meeting.

Like our meeting in April, we have a pretty extensive agenda to work through including our FY24 budget and targets, several C-PACE transactions, a number of investment renewals, modifications, and extensions, some updates, and an executive session.

For the agenda, we have the following:

- **Consent Agenda** – we have several items on the consent agenda, including a unique set of items (i.e., plethora of C-PACE transactions), including:

    - Meeting Minutes for April 21, 2023
    - Under $500,000 and No More in Aggregate than $1,000,000 – there are two (2) C-PACE transactions receiving staff approval for projects in Hamden and Groton totaling about $540,000
    - Under $100,000 and No More in Aggregate than $500,000 – there is one (1) project receiving a staff-approved write-off totaling about $6,000
    - Energy Storage Solutions – there is one (1) project seeking upfront incentives, including (a) combined Residential (i.e., affordable housing with 161 units) and Non-Residential (i.e., charter school) project totaling 979 kW of installed capacity and $1.0 MM of upfront incentives.

    In addition to the items requiring resolution, there are also the following documents, including:

    - Commissioner Dykes designation of Jank Webster, Deputy Commissioner of Energy at DEEP to the Board of Directors replacing Vicki Hackett
    - Commissioner Daum designation of Rob Hotaling, Deputy Commissioner and Chief Investment Office at DECD to the Board of Directors replacing Binu Chandy
    - IPC Quarterly Report through Q3 of FY23

- **Financing Program Updates and Recommendations** – several transaction recommendations, including:

    - Three (3) C-PACE transactions for projects greater than $500,000, including the following projects:

- **Bridgeport** – two (2) projects, including a 563 kW and 398 kW solar PV projects, including roof replacements, totaling $1.1 MM and $1.3 MM, respectively
- **Danbury** – 730 kW solar PV project, including roof replacement, totaling $1.7 MM

- **Investment Updates and Recommendations** – several transaction recommendations, including:

  - **SHREC Warehouse Line of Credit Renewal** – continuation of our Webster Bank and Liberty Bank line of credit backed by SHREC revenues
  - **Total Energies Distributed Generation USA** – funding for state projects
  - **PosiGen Second Lien Credit Facility Modification** – maturity extension to align with new investors
  - **Green Liberty Notes** – program investment and expansion request
  - **Historic Cargill Falls** – extension of forbearance

- **Environmental Infrastructure Updates** – report-out on completion of environmental markets guide and water primers.

- **Other Business** – if there is time, before we go into executive session, then:

  - ***Greenhouse Gas Reduction Fund Update*** – update from EPA, recent filings, and anticipated schedule
  - **Residential Solar Investment Program** – closeout with the Energy & Technology Committee
  - **Other Business** – if there is time

- **Executive Session** – personnel related matters

Please note, those items *underlined, italicized, and highlighted* above, are materials coming by the close of business on Tuesday, June 20, 2023.

Have a great weekend.

Sincerely,

Bryan Garcia
President and CEO

AGENDA

Board of Directors of the
Connecticut Green Bank
75 Charter Oak Avenue
Hartford, CT 06106

Friday, June 23, 2023
9:00 a.m.– 11:00 a.m.

Dial (646) 749-3122
Access Code: 877-653-173

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

1. Call to Order

2. Public Comments – 5 minutes

3. Consent Agenda – 5 minutes

    a. Meeting Minutes of April 21, 2023
    b. Under $500,000 and No More in Aggregate than $1,000,000 Staff Transaction Approvals
    c. Energy Storage Solutions – Non-Residential Projects

4. Committee Recommendations and Updates – 40 minutes

    a. Budget, Operations, and Compensation Committee – 30 minutes

        i. Proposed FY 2024 Targets, Budget, and Investments

    b. Audit, Compliance, and Governance Committee – 10 minutes

        i. Quarterly Financial Package (Abridged)
        ii. Legislative Session – 2023 in Review

5. Financing Programs Updates and Recommendations – 15 minutes

    a. C-PACE Transaction – Bridgeport
    b. C-PACE Transaction – Bridgeport
    c. C-PACE Transaction – Danbury

6. Investment Updates and Recommendations – 30 minutes

a. SHREC Warehouse Line of Credit Renewal (5 min)
b. Total Energies Distributed Generation USA (Funding for State Projects) (5-10 min)
c. PosiGen Second Lien Credit Facility Modification Request (Maturity Extension) (5 min)
d. Green Liberty Notes – Program Expansion Request (5-10 min)
e. Historic Cargill Falls – Extension of Forbearance (5-10 min)

7. Environmental Infrastructure Updates – 5 minutes

    a. Environmental Markets Guide
    b. Water Primer

8. Other Business – 5 minutes

    a. Greenhouse Gas Reduction Fund – Federal Engagement
    b. Residential Solar Investment Program – Policy Closeout
    c. Other Business

9. Executive Session – Personnel Related Matters – 15 minutes

10. Adjourn

Join the meeting online at
https://meet.goto.com/877653173
Or call in using your telephone:
Dial (646) 749-3122
Access Code: 877-653-173

Next Regular Meeting: Friday, July 21, 2023 from 9:00-11:00 a.m.
Colonel Albert Pope Room at the
Connecticut Green Bank, 75 Charter Oak Avenue, Hartford

RESOLUTIONS

Board of Directors of the
Connecticut Green Bank
75 Charter Oak Avenue
Hartford, CT 06106

Friday, June 23, 2023
9:00 a.m.– 11:00 a.m.

Dial (646) 749-3122
Access Code: 877-653-173

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

1. Call to Order

2. Public Comments – 5 minutes

3. Consent Agenda – 5 minutes

    a. Meeting Minutes of April 21, 2023

Resolution #1

Motion to approve the meeting minutes of the Board of Directors for April 21, 2023

    b. Under $500,000 and No More in Aggregate than $1,000,000 Staff Transaction Approvals

Resolution #2

WHEREAS, on 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 June 23, 2023 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 June 23, 2023 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.

c. Energy Storage Solutions – Non-Residential Projects

Resolution #3

WHEREAS, in its June 24, 2022 meeting the Connecticut Green Bank Board of Directors (Board) approved the implementation of an Upfront Incentive Project Approval procedures ("Procedures") for non-residential projects under the Energy Storage Solutions Program (Program) with an estimated upfront incentive payment greater than $500,000 and procedures for less than $500,000;

WHEREAS, as part of the Procedures, Green Bank staff shall present Program projects via the consent agenda utilizing a standard form Tear Sheet process described in the memorandum to the Board dated June 24, 2022;

WHEREAS, in its December 9, 2022 meeting the Board approved updated Procedures to better align with the Program process;

NOW, therefore be it:

RESOLVED, that the Board hereby approves the estimated upfront incentives for one Program project above $500,000, totaling $1,020,770.60 consistent with the approved Procedures and this memorandum dated June 16, 2023;

RESOLVED, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver any and all documents and regulatory filings as they shall deem necessary and desirable to affect the above-mentioned incentives consistent with the Procedures

4. Committee Recommendations and Updates – 40 minutes

a. Budget, Operations, and Compensation Committee – 30 minutes

i. Proposed FY 2024 Targets, Budget, and Investments

Resolution #4

WHEREAS, Section 5.2.2 of the Bylaws of the Connecticut Green Bank's requires the recommendation of the Budget, Operations, and Compensation Committee (Committee) of the annual budget to the Connecticut Green Bank Board of Directors;

WHEREAS, on June 7, 2023, the Committee recommended the adoption of these targets and budget for FY2024 and the professional services agreements (PSAs) listed below;

NOW, therefore be it:

RESOLVED, the Board of Directors authorizes Green Bank staff to enter into new or extend existing PSAs with the following, contingent upon a competitive bid process having occurred in the last three years (except Inclusive Prosperity Capital):

I. New Charter Technologies (Adnet Technologies, LLC parent company)
II. Alter Domus (formerly Cortland)
III. Clean Power Research, LLC
IV. Craftsman Technologies
V. C-TEC Solar, LLC
VI. DNV (includes what was formerly ERS)
VII. Go, LLC
VIII. Guidehouse (formerly Navigant)
IX. Inclusive Prosperity Capital
X. PKF O'Connor Davies
XI. Strategic Environmental Associates

For fiscal year 2024 with the amounts of each PSA not to exceed the applicable approved budget line item;

RESOLVED, that the Green Bank Board hereby approves: (1) the FY2024 Targets and Budget.

b. Audit, Compliance, and Governance Committee – 10 minutes

i. Quarterly Financial Package (Abridged)
ii. Legislative Session – 2023 in Review

5. Financing Programs Updates and Recommendations – 15 minutes

a. C-PACE Transaction – Bridgeport

Resolution #5

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the “Statute”), 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 **$1,135,245** construction and (potentially) term loan under the C-PACE program to WR CT Avenue, LLC, the building owner of 1069 Connecticut Avenue, Bridgeport, 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

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 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 June 16, 2023, 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 Statute, 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.

b. C-PACE Transaction – Bridgeport

Resolution #6

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$1,285,211** construction and (potentially) term loan under the C-PACE program to WR CT Avenue, LLC, the building owner of 1085 Connecticut Avenue, Bridgeport, 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

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 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 June 16, 2023, 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 Statute, 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.

c. C-PACE Transaction – Danbury

Resolution #7

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$1,715,213.00** construction and (potentially) term loan under the C-PACE program to 36 Kenosia Avenue Realty LLC, the building owner of 36 Kenosia Avenue, Danbury, 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

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 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 June 16, 2023, 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 Statute, 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.

6. Investment Updates and Recommendations – 30 minutes

a. SHREC Warehouse Line of Credit Renewal (5 min)

Resolution #8

WHEREAS, the Company intends to enter into a Fourth Amendment to Credit Agreement (the "**Fourth Amendment**"), which amends the Credit Agreement dated as of July 31, 2019, as amended by that certain First Amendment to Credit Agreement and Other Loan Documents dated July 28, 2020, and by that certain Second Amendment to the Credit Agreement and Other Loan Documents dated July 30, 2021, and by that certain Third Amendment to the

Credit Agreement and Other Loan Documents dated August 24, 2022 (collectively, 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 Five Million and 00/100 Dollar ($5,000,000) secured revolving line of credit, with a Five Million and 00/100 Dollar ($5,000,000) uncommitted accordion feature ("**Loan**") for the purpose of financing the Tranche 5-2021 and Tranche 6-2022 (as defined in the Credit Agreement) Solar Home Renewable Energy Credit program ("**Tranche 5-2021 SHRECs**" and "**Tranche 6-2022 SHRECs**" respectively); and

WHEREAS, the Company and Green Bank have requested that Webster-Liberty and Agent modify the Loan and the terms of the Credit Agreement pursuant to the Fourth Amendment, in order to, among other things, extend the term of the Loan; and

WHEREAS, to induce Webster-Liberty to continue to extend the Loan to the Company, Green Bank shall continue to guarantee the Loan pursuant to the Guaranty Agreement dated as of July 31, 2019 made by Green Bank in favor of Agent (the "**Guaranty**"); 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 5-2021 SHRECs and Tranche 6-2022 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 further amended by those certain Second Amendments, dated April 1, 2020, (as further amended from time to time, the "**MPAs**"), which collateral assignment and security interest shall include any and all rights to payment of money under the MPAs with respect to Tranche 5-2021 and Tranche 6-2022 SHRECs and those other attributes and rights associated with the Tranche 5-2021 and Tranche 6-2022 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 of the closing of the Loan, including without limitation, any security interest created under 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 (the security interests listed in (i)-(iv) hereof, together, the "**SHREC Collateral**"); and

WHEREAS, Webster-Liberty has requested and the staff of Green Bank has recommended that the Board provide these resolutions approving the renewal and extension of the Loan and the Green Bank's guarantee thereof in accordance with the terms of the Fourth Amendment.

NOW, therefore be it:

RESOLVED, that the Board of the Green Bank hereby authorizes, ratifies and approves the Loan, as modified, from Webster-Liberty to the Company pursuant to the terms of the Fourth Amendment and any ancillary documentation and authorizes, ratifies, directs and approves the Company's and the Green Bank's entering into the Fourth Amendment and any ancillary

documentation to which it is a party and of each other contract or instrument to be executed and delivered by the Company and the Green Bank in connection with the transactions contemplated by the Fourth Amendment; and be it further

RESOLVED, that the Board of the Green Bank hereby reauthorizes, ratifies and reaffirms the Green Bank's obligations under the Guaranty; and be it further

RESOLVED, that each of the Company and the Green Bank be and it hereby is, authorized to continue 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 the Company's property, including, without limitation the SHREC Collateral; and be it further

RESOLVED, that the Board hereby authorizes, directs, ratifies and approves Green Bank's and the Company's execution, delivery and performance of the Fourth Amendment and any ancillary documentation and all of the Green Bank's and the Company's obligations under the Fourth Amendment and any ancillary documentation; 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 Fourth Amendment and any ancillary documentation 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, acting singly, 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 Fourth Amendment and the other Modification 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.

b. Total Energies Distributed Generation USA (Funding for State Projects) (5-10 min)

Resolution #9

WHEREAS, Connecticut Green Bank ("Green Bank") staff has been working with State of Connecticut ("State") agencies to develop certain pilot solar projects ("Projects") identified in the Memorandums June 16, 2023 (the "Memo") and submitted to the Green Bank Board of Directors (the "Board");

WHEREAS, Green Bank has developed the State Pilot Projects to the point of construction mobilization and of awarding the long term ownership of the State Pilot Projects via a

competitive process to Total Energies or a subsidiary thereof ("PPA Owner"), and

WHEREAS, Green Bank desires to sell and assign the State Pilot Projects and enter into a binding term sheet and subsequent long term debt financing with PPA Owner, as described in the Memo.

NOW, therefore be it:

RESOLVED, that the Board of Directors approves (1) long term debt funding to the PPA Owner for the State Pilot Projects, in a total not-to-exceed amount of $12,000,000, and (2) the sale and assignment of the Projects to the PPA Owner.

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 Projects materially consistent with the Memo; and

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

c. PosiGen Second Lien Credit Facility Modification Request (Maturity Extension) (5 min)

Resolution #10

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

WHEREAS, the Green Bank Board of Directors (the "Board") previously authorized and later amended (in March 2023) approval for Green Bank's participation in a new back leverage credit facility (the "New BL Facility") collateralized by all of PosiGen's solar PV system and energy efficiency leases in the United States as part of PosiGen's strategic growth plan, as well as a facility to finance performance based incentives earned by PosiGen on its solar PV portfolio in Connecticut;

WHEREAS, PosiGen has now successfully closed on the New BL Facility;

WHEREAS, PosiGen has requested an extension of the maturity date associated with the Green Bank's participation as 2nd lien lender in the New BL Facility, as explained in the memo submitted to the Board on June 16, 2023 (the "Board Memo");

NOW, therefore be it:

RESOLVED, that the Board authorizes the Green Bank to amend its existing 2nd lien commitment as part of the New BL Facility to extend the maturity date of its position to April 21,

2027, to align with the new first lien lender, Brookfield Asset Management, as set forth in the Board Memo;

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.

d. Green Liberty Notes – Program Expansion Request (5-10 min)

Resolution #11

Whereas, at the July 2021 meeting of the Connecticut Green Bank ("Green Bank") Board of Directors ("Board"), the Board authorized staff to enter into an agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the Securities and Exchange Commission (the "SEC") as a crowdfunding funding portal, to issue bonds in an amount not to exceed $2,000,000 under the SEC's Regulation Crowdfunding.

Whereas, subsequently, the Green Bank launched and closed 6 Crowdfunding issuances named "Green Liberty Notes".

Whereas, staff has cultivated investor demand and managed investor relations, principal and interest repayment and reinvestment, capitalization table management, accounting, and all other operational and legal requirements of the program.

Whereas, staff wishes to build on the successes of the program, which include four consecutive oversubscribed issuances, and ensure that new investors have the opportunity to invest in the Green Bank's efforts to fight climate change in Connecticut.

NOW, therefore be it:

BE IT RESOLVED, that the Green Bank is authorized to modify its existing agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the SEC as a crowdfunding funding portal, to issue bonds in an amount not to exceed $2,705,000, in quarterly issuances not to exceed $250,000 for the first six issuances and $350,000 for the subsequent four issuances (the "Bonds") under the SEC's Regulation Crowdfunding regulations. The Bonds shall be issued by a subsidiary of CEFIA Holdings and shall be issued by and for the sole purposes of the subsidiary, and shall not be issued by or on behalf of the Green Bank. The proceeds of the Bonds shall be used by the subsidiary to acquire certain loans under the Small Business Energy Advantage program (the "Loans"), and to pay the costs of issuance on the Bonds; and

RESOLVED, that the payment of debt service on the Bonds shall be made solely from the revenues from the Loans and other revenues available to the subsidiary. CEFIA Holdings and/the Green Bank are authorized to assign and transfer all or any portion of their rights in the Loans to the subsidiary as security for the payment of the Bonds and the interest thereon. The Green Bank shall not guarantee or pledge any other revenues for the payment of debt service on the Bonds; and

RESOLVED, that in connection with the Bonds, the President and any Officer of Green Bank (each, an "Authorized Representative") be, and each of them acting individually hereby is, authorized and directed in the name and on behalf of the Green Bank, to prepare and deliver, or

cause to be prepared and delivered, the Issuer Agreement with Raise Green and any other documents required under the SEC's Regulation Crowdfunding, including a Form C, a Subscription Agreement, a Note and any other documents or instruments necessary to complete the Bond issuance, in such form and with such changes, insertions and omissions as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds (collectively, the "Financing Documents") and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Resolution; and

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

e. Historic Cargill Falls – Extension of Forbearance (5-10 min)

Resolution #12

WHEREAS, pursuant to Conn. Gen. Stat. 16a-40g, the Connecticut Green Bank ("Green Bank") has established a commercial sustainable energy program for Connecticut, known as Commercial Property Assessed Clean Energy ("C-PACE");

WHEREAS, the Board of Directors ("Board") of the Green Bank previously approved a construction and term financing, secured by a C-PACE benefit assessment lien, not-to-exceed amount of $8,100,000 (the "Current Lien") to Historic Cargill Falls Mill, LLC ("HCFM"), the property owner of 52 and 58 Pomfret Street, Putnam, Connecticut, to finance the construction of specified clean energy measures (the "Project") in line with the State's Comprehensive Energy Strategy and the Green Bank's Strategic Plan;

WHEREAS, the Project includes numerous energy conservation measures that align with the goals and priorities of the Green Bank's multifamily housing program;

WHEREAS, Green Bank staff now seeks approval to defer C-PACE loan payments from HCFM ("Loan Deferral") until December 31, 2023 as explained in the memorandum in respect of this matter submitted to the Board on June 16, 2023 (the "Board Memo").

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 Deferral consistent with the Board Memo; 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 legal instrument.

7. Environmental Infrastructure Updates – 5 minutes

   a. Environmental Markets Guide
   b. Water Primer

8. Other Business – 5 minutes

    a. Greenhouse Gas Reduction Fund – Federal Engagement
    b. Residential Solar Investment Program – Policy Closeout
    c. Other Business

9. Executive Session – Personnel Related Matters – 15 minutes

Resolution #13

WHEREAS, Section 5.3.2 of the Bylaws of the Connecticut Green Bank's (Green Bank) charges the Budget, Operations, and Compensation Committee with the oversight of human resources policies and practices and on Jun 7th the committee recommended to the Board the approval of the discussed severance agreement;

NOW, therefore be it:

RESOLVED, that the Green Bank Board hereby approves of the discussed severance agreement.

10. Adjourn

Join the meeting online at
https://meet.goto.com/877653173
Or call in using your telephone:
Dial (646) 749-3122
Access Code: 877-653-173

Next Regular Meeting: Friday, July 21, 2023 from 9:00-11:00 a.m.
Colonel Albert Pope Room at the
Connecticut Green Bank, 75 Charter Oak Avenue, Hartford

ANNOUNCEMENTS

- **Mute Microphone** – in order to prevent background noise that disturbs the meeting, if you aren't talking, please mute your microphone or phone.

- **Chat Box** – if you aren't being heard, please use the chat box to raise your hand and ask a question.

- **Recording Meeting** – we continue to record and post the board meetings.

- **State Your Name** – for those talking, please state your name for the record.

CONNECTICUT GREEN BANK SM

Board of Directors Meeting

June 23, 2023

Online Meeting

Board of Directors

Agenda Item #1

Call to Order

Board of Directors

Agenda Item #2

Public Comments

Farewell
Board of Directors

Binu Chandy
Director at DECD
Designated by
Commissioner Lehman

Vicki Hackett
Bureau Chief at DEEP
Designated by
Commissioner Dykes

Welcome
Board of Directors

Rob Hotaling
Deputy Commissioner and CIO
DECD
Designated by
Commissioner Daum

Hank Webster
Deputy Commissioner of Energy
DEEP
Designated by
Commissioner Dykes

Board of Directors

Agenda Item #3

Consent Agenda

Consent Agenda

Resolutions #1 through #3

1. **Meeting Minutes** – approve meeting minutes of April 21, 2023
2. **Under $500,000 and No More than $1,000,000** – two (2) staff approved C-PACE transactions totaling about $540,000 consistent with Comprehensive Plan and Budget
3. **Energy Storage Solutions** – one (1) staff approved upfront incentive for combination residential (i.e., affordable housing – 161 units) and non-residential (i.e., community room and charter school) totaling $1.0 MM

- **Under $100,000 and No More than $500,000** – report out of one (1) staff approved write-off totaling $6,000
- **Board Designations** – Deputy Commissioner Hotaling (for Binu Chandy) and Deputy Commissioner Webster (for Vicki Hackett)
- **IPC Quarterly Report** – for Q3 of FY23

Board of Directors

Agenda Item #4ai

Committee Recommendations and Updates

Budget, Operations, and Compensation Committee

Proposed FY 2024 Targets, Budget, and Investments

Proposed FY24 Goals

Incentive Business[1]

Segment	Program		Targets			
			Number of Projects	Total Capital Deployed		Capacity Installed/ Nameplate Capacity
Incentive Programs	ESS (Residential)	*Residential Storage Incentives Total*	250	8,000,000	0	2
	ESS (C&I)	*C&I Storage Incentives Total*	29	73,529,412		50.0
	ESS	**Total Battery Storage**	**279**	**$81,529,412**		**52.1**
	Smart-E	**Total Smart-E**	**944**	**$17,852,737**		**0.3**
	Incentive Programs Total		**1,211**	**$98,998,148**		**52.3**

- ESS targets are based on CT Green Bank approval
- ESS Residential is representative of the slower rate of deployment we have seen thus far.
- Smart-E based on just clean energy measures with a 20% increase in volume due to IRA incentives.

REFERENCES

1. CGB KPIs in Data Warehouse FY 2023 YTD – through May 9, 2023

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Proposed FY24 Goals

Financing Programs[1]

Segment	Product	Channel	Targets			
			Number of Projects	Total Capital Deployed	CGB Capital Deployed	Capacity Installed
Financing Programs	CPACE	Total CPACE	19	$21,170,000	$7,700,000	0.0
	PPA/Roof Leases	Total PPA	16	$16,081,668	$11,049,001	8.2
	SBEA		480	$11,728,000	$2,345,600	
	Multi-Family Pre-Dev		0	$0		0.0
	Multi-Family Term	Total Multi-Family Term	3	$300,000	$300,000	0.3
	Transportation	Total Transportation	0	0		0
	Strategic Investments	Total Strategic Investments	0	$0		0.0
	Financing Programs Total		515	$ 48,979,668	$ 21,094,601	8.2

- CPACE targets represent pipeline and conversations with 3rd party developers
- No CPACE Capacity Target
- SBEA decreased due to economic forecast
- Multifamily will primarily be addressed through PPA

REFERENCES

1. CGB KPIs in Data Warehouse FY 2023 YTD – through May 9, 2023

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Connecticut Green Bank
FY 2024 Budget

- **Revenues – Net YOY Decrease of $1.0 Million**
  - Decreased RGGI proceeds due to $5.2M cap for ESB support offset by increase in Earned Revenues (the highest ever amount of earned revenue forecast for the organization).
- **Operating Expenses – Net YOY Increase of $2.8 Million**
  - Increase in personnel opex of $3.6M (5 new positions in FY24 plus 5 positions added as part of dream big scenario + Merit & COLA increases).
  - Incentive Programs non-personnel opex decrease driven RSIP winddown and progress made on meter replacements in FY23;
  - Financing Programs non-personnel opex slight increase for Consulting for MAP and EV Carbon Credit Programs
  - Environmental Infrastructure steady due to staffing up and program launch costs.
- **Program Incentives and Grants – Net YOY decrease of $6.7 Million**
  - The decrease is driven by a contingent $5 million dollar incentive to attract Federal Funding in the prior year that was not used, as well as lower RSIP incentives.
- **Non-Operating Expenses – Net YOY decrease of $1.6 Million**
  - Decrease is due to lower interest expense related to debt prepayment in FY23.

FY24 Budget
Investments

Program Name	Description		Interest Rate	Term in Years	Q1	Q2	Q3	Q4	FY24 Total	FY23 Budget	FY23 YTD Actuals
Program Type - CGB portfolio loan (Asset) advances											
Multifamily Programs	C4C Lime facility draws		4.0%	15	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,000,000	$ 200,000	$ 5,264,000
Multifamily Programs	PPA Multifamily		4.25%	20	75,000	75,000	75,000	75,000	300,000	1,380,000	-
		Total MultiFamily Program Loans:			***$ 325,000***	***$ 325,000***	***$ 325,000***	***$ 325,000***	***$ 1,300,000***	***$ 1,580,000***	***$ 5,264,000***
LMI Programs	[redacted]			6	$ 825,000	$ 825,000	$ 825,000	$ 825,000	$ 3,300,000	$ 2,100,000	$ 4,296,475
LMI Programs				10	-	-	-	-	-	2,000,000	1,995,160
LMI Programs				10	-	-	-	-	-	500,000	6,000,000
		Total Resi 1-4 Program Loans:			***$ 825,000***	***$ 825,000***	***$ 825,000***	***$ 825,000***	***$ 3,300,000***	***$ 4,600,000***	***$ 12,291,635***
CPACE	CGB Portfolio	Current/Future Pipeline	[redacted]	17.5	$ 1,700,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 7,700,000	$ 7,000,000	$ 1,573,676
Solar PPA Development	PPA State			20	800,000	800,000	800,000	810,000	3,210,000	8,330,000	1,561,483
Solar PPA Development	PPA Municipality			20	1,000,000	1,000,000	1,000,000	1,031,201	4,031,201	-	1,693,936
Solar PPA Development	Commercial Projects			20	-	-	-	-	-	-	776,211
Solar PPA Development	PPA Developers			20	75,000	75,000	75,000	82,800	307,800	1,300,000	-
Solar PPA Development	PPA Debt to 3rd parties			15	800,000	800,000	800,000	800,000	3,200,000	2,700,000	3,199,730
SBEA	Regular Loan Purchases			4	586,400	586,400	586,400	586,400	2,345,600	3,720,000	2,233,649
		Total CI&I Program Loans:			***$ 4,961,400***	***$ 5,261,400***	***$ 5,261,400***	***$ 5,310,401***	***$ 20,794,601***	***$ 23,050,000***	***$ 11,038,685***
CE Finance Prg	Strategic Investments	[redacted]		10	-	-	-	-	-	3,200,000	5,176,659
CE Finance Prg	Strategic Investments			10	-	-	2,500,000	2,500,000	5,000,000	5,000,000	-
		Total CE Finance Program Loans:			***$ -***	***$ -***	***$ 2,500,000***	***$ 2,500,000***	***$ 5,000,000***	***$ 8,200,000***	***$ 5,176,659***
		Total of all Program Loans:			***$ 6,111,400***	***$ 6,411,400***	***$ 8,911,400***	***$ 8,960,401***	***$ 30,394,601***	***$ 37,430,000***	***$ 33,770,978***

	Prob.	Ratio	Q1	Q2	Q3	Q4	FY24 Total	FY23 Budget	FY23 YTD Actuals
Total MultiFamily Program Loans	85%	10%	$ 21,250	$ 21,250	$ 21,250	$ 21,250	$ 85,000	$ 17,000	$ 8,500
Total Resi 1-4 Program Loans	85%	10%	$ 70,125	$ 70,125	$ 70,125	$ 70,125	$ 280,500	$ 391,000	286,875
Total CI&I Program Loans-CPACE	85%	10%	144,500	170,000	170,000	170,000	654,500	595,000	425,000
Total CI&I Program Loans-PPA Developers/Debt to 3rd Parties	85%	10%	74,375	74,375	74,375	75,038	298,163	340,000	255,000
Total CE Finance Program Loans	85%	10%	-	-	212,500	212,500	425,000	990,000	688,171
Total Provision for Loan Losses:			***$ 310,250***	***$ 335,750***	***$ 548,250***	***$ 548,913***	***$ 1,743,163***	***$ 2,333,000***	***$ 1,663,546***

Prg Name	Description	Interest	Term	Q1	Q2	Q3	Q4	FY24 Total	FY23 Budget	FY23 YTD Actuals
Multifamily	HDF/MacArthur Interest Expense - $5.0m draw	1.0%	15	$ 12,500	$ 12,500	$ 12,500	12,500	$ 50,000	$ 50,000	$ 50,000
RSIP	Interest Expense-SHREC ABS-Class A/Class B	5.09%/7.0%	15	257,918	256,662	244,967	235,307	994,854	1,594,955	936,489
RSIP	Interest Expense-Green Liberty Bond 2020	0.95%-2.90%	15	81,964	80,172	78,380	78,380	318,897	332,510	250,543
RSIP	Interest Expense-Green Liberty Bond 2021	0.23%-2.95%	15	113,812	112,668	111,525	111,525	449,530	457,444	343,632
CREBs	New England Hydro CREBs net of Treasury Subsidy	4.09%	20	2,532	2,274	1,994	1,994	8,794	10,785	7,433
CREBs	CSCU CREBs net of Treasury Subsidy	4.9%	20	26,290	24,691	22,841	22,841	96,663	108,947	80,200
				$ 495,016	$ 488,967	$ 472,207	$ 462,547	$ 1,918,737	$ 2,554,641	$ 1,668,297

Resolution #4

NOW, therefore be it:

RESOLVED, the Board of Directors authorizes Green Bank staff to enter into new or extend existing PSAs with the following, contingent upon a competitive bid process having occurred in the last three years (except Inclusive Prosperity Capital):

I. New Charter Technologies (Adnet Technologies, LLC parent company)
II. Alter Domus (formerly Cortland)
III. Clean Power Research, LLC
IV. Craftsman Technologies
V. C-TEC Solar, LLC
VI. DNV (includes what was formerly ERS)
VII. Go, LLC
VIII. Guidehouse (formerly Navigant)
IX. Inclusive Prosperity Capital
X. PKF O'Connor Davies
XI. Strategic Environmental Associates

For fiscal year 2024 with the amounts of each PSA not to exceed the applicable approved budget line item;

RESOLVED, that the Green Bank Board hereby approves: (1) the FY2024 Targets and Budget.

Board of Directors

Agenda Item #4bi

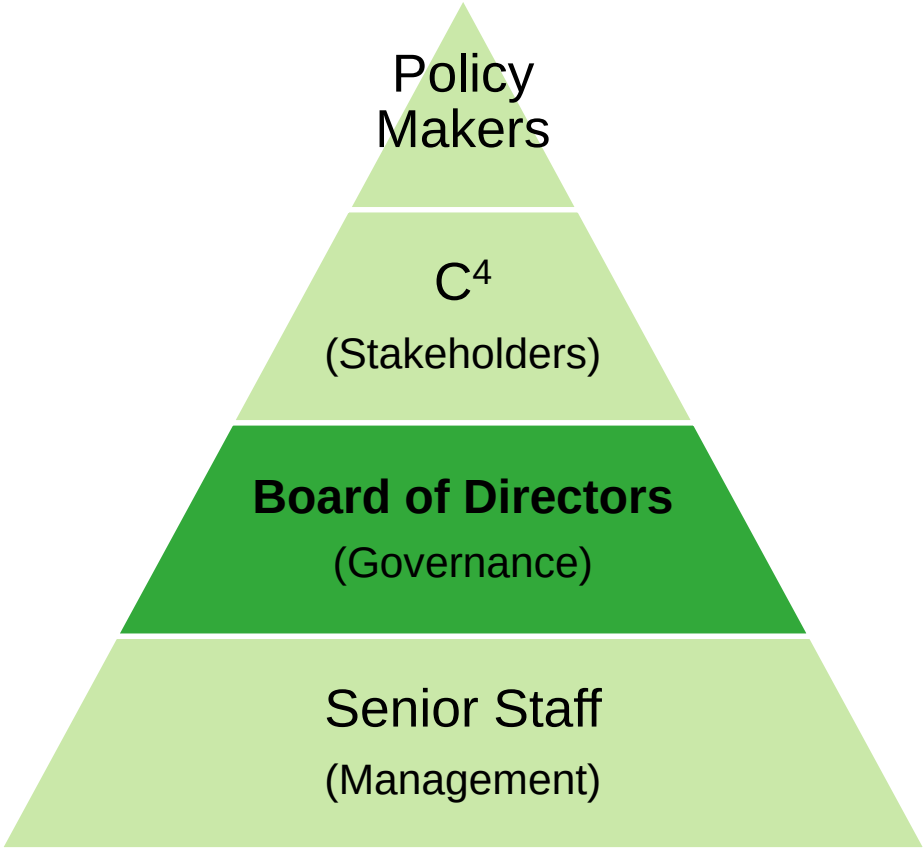
Committee Recommendations and Updates

Audit, Compliance, and Governance Committee

Quarterly Financial Package

Reporting Pyramid

Board of Directors (ACG Committee)



Providing Board of Directors with **abridged version** (i.e., support communications) and **detailed version** (i.e., full disclosure of information) of financial statements on a **quarterly basis**.

Key Messages
Board of Directors

1. **Making an Impact** – causing measurable statewide benefits (e.g., investment, jobs, energy savings) in communities across the state
2. **Mobilizing Private Investment** – building a strong financial position to increase private investment in the green economy of the state
3. **Achieving Sustainability** – making sound investments from public revenues (e.g., CEF, RGGI) together with efficient operations that support the organization's sustainability and continuous pursuit of mission
4. **Monitor State Benefit Allocation** – tracking operating expenses that are uncontrollable by the organization (i.e., state retirement plan contributions, medical and dental Rx premiums) and adversely impact the sustainability of the organization

Board of Directors

Agenda Item #4bii

Committee Recommendations and Updates

Audit, Compliance, and Governance Committee

Legislative Session – 2023 In Review

Legislative & Policy Update
Passed

The 2023 Legislative Session Ended on June 7th, 2023 at midnight.

The Green Bank Tracked and/or Negotiated on over 80 individual pieces of legislation this session

- **HB 6851: AN ACT IMPLEMENTING RECOMMENDATIONS OF THE HYDROGEN TASK FORCE**
  - Directs DEEP to develop a hydrogen strategic plan by December 31, 2024 – renewable energy/prioritize applications
  - Expands Community Benefit Agreements to hydrogen projects – Regional Hydrogen Hub Application
  - State directed to seek out, secure and identify match for Federal Funding

- **HB 6664: AN ACT CONCERNING MANAGING WASTE AND CREATING A WASTE AUTHORITY**
  - Dissolves MIRA and creates the "MIRA Dissolution Authority." DEEP to conduct RFP for Waste Management Projects
  - Increases from $250 million to $500 million, total amount of SCRF bonds that Green Bank can issue for proposed projects
  - Removes "municipal solid waste" from Green Bank enabling legislation to finance projects utilizing various technologies

- **SB 7: AN ACT STRENGTHENING PROTECTIONS FOR CONNECTICUT'S CONSUMERS OF ENERGY**
  - Omnibus Energy Bill of 2023. Elements of bill revised in HB 6941/Budget Bill - "Take Back the Grid II"
  - Various NRES/SCEF modifications, prohibition of EDCs to recover lobbying, advertising and membership dues from rates
  - Permit 2.5% of a Class I RPS requirement to be met by hydropower if permitted after January 1, 2018

Legislative & Policy Update
Did Not Pass

- **SB 961: AN ACT CONCERNING CARBON-FREE SCHOOL REQUIREMENTS FOR NEW SCHOOL CONSTRUCTION AND ESTABLISHING OTHER SCHOOL CONSTRUCTION AND PUBLIC HEALTH REQUIREMENTS FOR SCHOOL DISTRICTS.**
  - Legislation introduced by the Connecticut Roundtable on Climate & Jobs – would have created new program at Green Bank
  - Legislation directed $25 million in GO bonds from the state for the development of the "Public Schools Solar Power Systems and Energy Efficiency Projects Loan Program, to hire staff and to finance energy and solar audits at all of CT's schools.
  - Program aligns with the mission of the Green Bank, so we moderated and facilitated in the development of language that would be workable, in the event that this legislation gained passage.
- **HB 6764: AN ACT CONCERNING A SOLAR UNIFORM CAPACITY TAX AND MODIFICATIONS TO THE STATE'S RENEWABLE ENERGY PROGRAMS**
  - Would have eliminated Property Tax on Solar Systems and created a uniform tax rate at $8,000/MW AC.
  - Would have removed solar canopies/rooftop solar permitting from CT Siting Council (CSC) Jurisdiction
  - Bound CSC to the decision of a municipalities chief executive on whether to approve or deny a facility that utilizes renewable energy within a 5-mile radius of another facility that utilizes renewable energy sources with a capacity over 100 MW.

CONNECTICUT GREEN BANK

Board of Directors

Agenda Item #5a

C-PACE Transaction – Bridgeport

DEFERRED

CONNECTICUT GREEN BANK

Board of Directors

Agenda Item #5b

C-PACE Transaction – Bridgeport

DEFERRED

CONNECTICUT GREEN BANK

Board of Directors

Agenda Item #5c

C-PACE Transaction – Bridgeport

DEFERRED

Board of Directors

Agenda Item #6a

Investment Updates and Recommendations

SHREC Warehouse Line of Credit

SHREC Warehouse

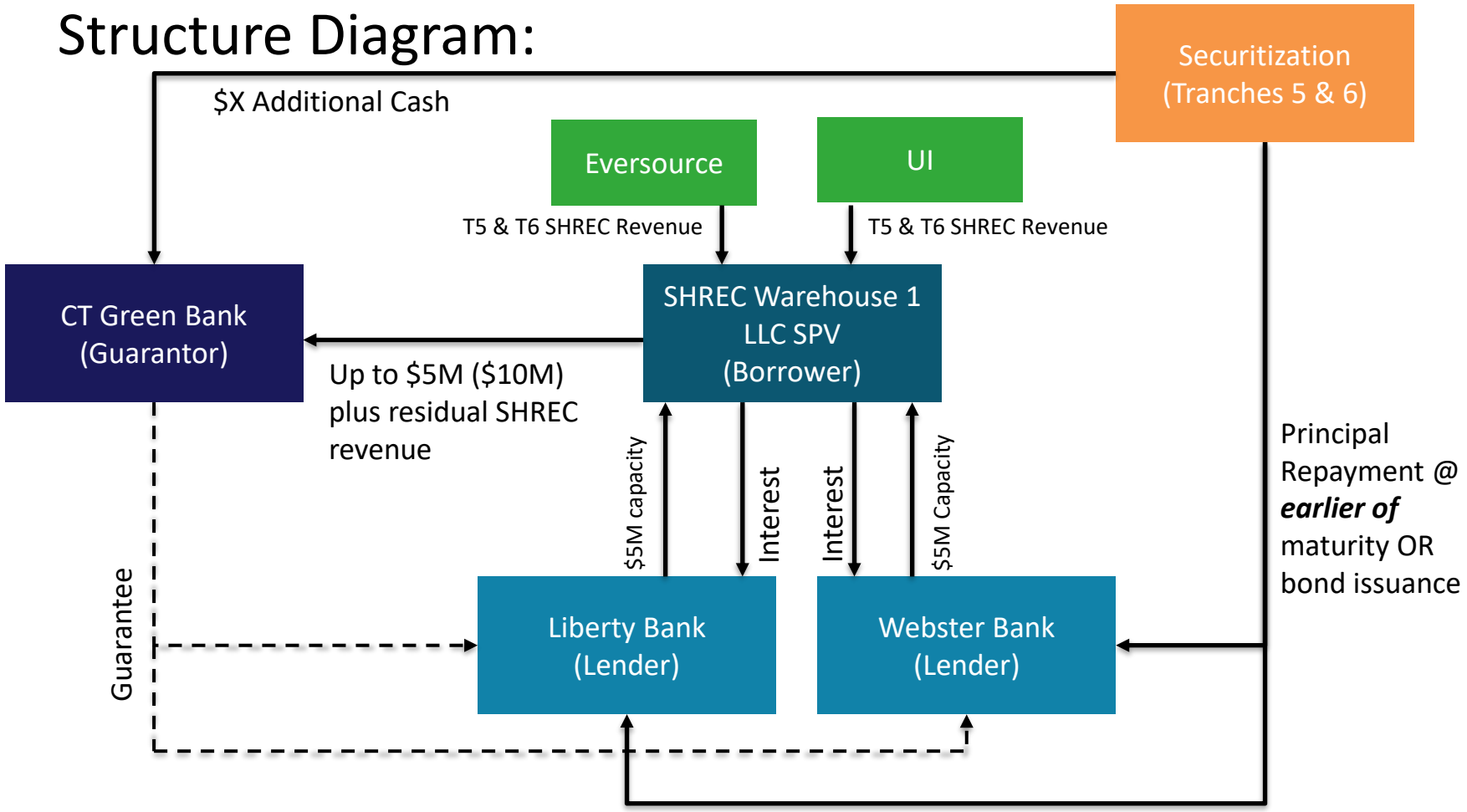
Review and Approval

- Renewal of Revolving Credit Facility established with Liberty Bank and Webster Bank:
  - Previously Approved at the June 24, 2022 Board Meeting (Original facility: June 2018)
  - Secured by SHREC revenues & CGB Guaranty of SPV's obligations
  - $5 million initial sizing plus an additional $5 million upsizing if needed
  - Interest only
  - Maturity – 12 months
  - Interest rate – [to be discussed]
  - Upfront fee – [to be discussed]
  - Unused fee – [to be discussed]
- Strategic benefits:
  - Solidify banking relationships within the State
  - Improves Green Bank leverage vis-à-vis securitizations (T5, T6)
  - Improved liquidity

SHREC Warehouse

Review and Approval

Structure Diagram:



Resolution #8

NOW, therefore be it:

RESOLVED, that the Board of the Green Bank hereby authorizes, ratifies and approves the Loan, as modified, from Webster-Liberty to the Company pursuant to the terms of the Fourth Amendment and any ancillary documentation and authorizes, ratifies, directs and approves the Company's and the Green Bank's entering into the Fourth Amendment and any ancillary documentation to which it is a party and of each other contract or instrument to be executed and delivered by the Company and the Green Bank in connection with the transactions contemplated by the Fourth Amendment; and be it further

RESOLVED, that the Board of the Green Bank hereby reauthorizes, ratifies and reaffirms the Green Bank's obligations under the Guaranty; and be it further

RESOLVED, that each of the Company and the Green Bank be and it hereby is, authorized to continue 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 the Company's property, including, without limitation the SHREC Collateral; and be it further

RESOLVED, that the Board hereby authorizes, directs, ratifies and approves Green Bank's and the Company's execution, delivery and performance of the Fourth Amendment and any ancillary documentation and all of the Green Bank's and the Company's obligations under the Fourth Amendment and any ancillary documentation; 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 Fourth Amendment and any ancillary documentation 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, acting singly, 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 Fourth Amendment and the other Modification 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.

Board of Directors

Agenda Item #6b

Investment Updates and Recommendations

Total Energies Distributed Generation USA

Solar MAP – State Round 1

Total Energies Term sheet

Project Name	Size (kWac)	Project Status
DOC Willard	691	Incentive Application Resubmitted; Redesign
DOC Cybulski	795	Contract pending
DOC Enfield	369	Permits Received; Redesign
DOC Manson Youth	2,000	Construction commenced 6.19.2023
DOC Osborn	2,000	Construction commenced 6.12.2023
DOC Robinson B	249	Permits Received; Redesign
DOC Robinson A	226	Permits Received; Redesign
DOC Maloney & Webster	1,999	Construction commenced 6.12.2023

Solar MAP – State Round 1

Project Update

- Long term ownership of SAP Round 1 Projects awarded to Total Energies Renewables (Total) through a competitive RFP
- Total to use CGB debt:
  - 20 year, 3.5% interest rate
  - Amount based on 1.25x DSCR
- Staff requesting authority to:
  - Enter into binding term sheet to offer debt
  - Enter into contracts associated with sale and assignment of Projects

Resolution #9

NOW, therefore be it:

RESOLVED, that the Board of Directors approves (1) long term debt funding to the PPA Owner for the State Pilot Projects, in a total not-to-exceed amount of $12,000,000, and (2) the sale and assignment of the Projects to the PPA Owner.

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 Projects materially consistent with the Memo; and

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

Board of Directors

Agenda Item #6c

Investment Updates and Recommendations

PosiGen Second Lien Credit Facility Modification Request

PosiGen Senior Facility
New First Lien Lender *(CLOSED April 2023)*

CONNECTICUT GREEN BANK

- **1st Lien Facility – EXIT: Forbright Bank <> ENTER: Brookfield**
  - Purpose: refinance & increase 1st Lien Facility
  - Forbright $140M Commitment *replaced with* Brookfield $250M facility
  - Lower / fixed interest rate being made available
  - 2nd Lien (Green Bank) and *Participants* (approved by Board in December) NO MATERIAL CHANGES (but will require amended documentation)
  - Schedule below summarizes the facility

Timing	Post-Accordion Approved
Borrowing Base	$240,009,600
First Lien Advance	83.33%
Second Lien Advance	6.67%
First Lien Amount	$200,000,000
Second Lien Amount	$16,008,640
Green Bank Max Exposure	**$9,302,592**

  - **Note**: participants have funded $6.75M within the Green Bank's 2nd lien facility

PosiGen Senior Facility
Modification Request

- **Brookfield 1st Lien Facility –**
  - Maturity April 21, 2027
- **Green Bank 2nd Lien Facility –**
  - Existing Maturity September 28, 2024
  - Amended Maturity (proposed) April 21, 2027 (i.e., same as Brookfield)

Resolution #10

NOW, therefore be it:

RESOLVED, that the Board authorizes the Green Bank to amend its existing 2nd lien commitment as part of the New BL Facility to extend the maturity date of its position to April 21, 2027, to align with the new first lien lender, Brookfield Asset Management, as set forth in the Board Memo;

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.

CONNECTICUT GREEN BANK

Board of Directors

Agenda Item #6d

Investment Updates and Recommendations

Green Liberty Notes

Program Expansion Request

Green Liberty Note Expansion
Original Approval

- Response to an open RFP for Capital Solutions established June 27, 2020:
  - Democratization of investing - use of Regulation Crowdfunding[(1)] ("RegCF") to leverage capital from retail investors
  - Up to **$2 million** of "mini-bond" instrument with bond offering prices below $1,000 (min $100)
    - Up to **$250,000** quarterly for up to 2 years
    - Backed by Green Bank's Small Business Energy Advantage ("SBEA") loan revenues
    - Issued through subsidiary
- Strategic benefits:
  - Build upon success of Green Liberty Bonds
  - Improve access to green investment opportunities for retail investors
  - Enhance Green Bank brand by being one of the few issuers of short-term, green-certified bonds
  - Establish access to an untapped source of liquidity

Green Liberty Notes

Six Successful Issuances

CONNECTICUT GREEN BANK
INVESTMENT SOLUTIONS

Announcement!

Issuance	Date of Launch	Amount Raised	GLNs Interest Rate	SBEA Tranche Interest Rate
1	December 14th, 2021	$190,400	1%	3.26%[1]
2	April 13th, 2022	$114,335	1.5%	2.36% (3/17/22)
3	July 7th, 2022	$250,000 (**SOLD OUT**)	2.5%	4.88% (6/14/22)
4	September 29th, 2022	$250,000 (**SOLD OUT**)	3.5%	4.88% (6/14/22)
5	January 9th, 2023	$250,000 (**SOLD OUT**)	4.75%	6.39% (12/22/22)
6	April 17th, 2023	$250,000 (**SOLD OUT**)	4.5%	6.03% (3/20/32)

(1) Average Interest rate of the portfolio at the time of issuance

Green Liberty Notes

Total Investments

Total Investment $1,304,735	
Total Investors	>350
Total Investments	>500
CT Investments	>300
Investments ≤$1,000	>300

Four consecutive SOLD OUT issuances

- The latest issuance reached $250,000 despite a smaller investment limit.
- Over halfway to the $2,000,000 total approved by the board

Repayment/Reinvestment

- The first sold out issuance is available for reinvestment in July 2023.

Green Liberty Notes

Expansion Request

- Proposed Expansion:
  - Up to **$2.71M** of "mini-bond" instrument with bond offering prices below $1,000 (min $100)
    - Up to ***$350,000*** quarterly for ***1*** additional year
    - Backed by Green Bank's Small Business Energy Advantage ("SBEA") loan revenues
    - Issued through subsidiary
- Strategic benefits:
  - Build upon established success of the program
  - Improve access to green investment opportunities for new investors
  - Enhance Green Bank brand by being one of the few issuers of short-term, green-certified bonds
  - Improve the investor experience alongside Raise Green a Connecticut based impact investing leader*

Resolution #11

NOW, therefore be it:

BE IT RESOLVED, that the Green Bank is authorized to modify its existing agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the SEC as a crowdfunding funding portal, to issue bonds in an amount not to exceed $2,705,000, in quarterly issuances not to exceed $250,000 for the first six issuances and $350,000 for the subsequent four issuances (the "Bonds") under the SEC's Regulation Crowdfunding regulations. The Bonds shall be issued by a subsidiary of CEFIA Holdings and shall be issued by and for the sole purposes of the subsidiary, and shall not be issued by or on behalf of the Green Bank. The proceeds of the Bonds shall be used by the subsidiary to acquire certain loans under the Small Business Energy Advantage program (the "Loans"), and to pay the costs of issuance on the Bonds; and

RESOLVED, that the payment of debt service on the Bonds shall be made solely from the revenues from the Loans and other revenues available to the subsidiary. CEFIA Holdings and/the Green Bank are authorized to assign and transfer all or any portion of their rights in the Loans to the subsidiary as security for the payment of the Bonds and the interest thereon. The Green Bank shall not guarantee or pledge any other revenues for the payment of debt service on the Bonds; and

RESOLVED, that in connection with the Bonds, the President and any Officer of Green Bank (each, an "Authorized Representative") be, and each of them acting individually hereby is, authorized and directed in the name and on behalf of the Green Bank, to prepare and deliver, or cause to be prepared and delivered, the Issuer Agreement with Raise Green and any other documents required under the SEC's Regulation Crowdfunding, including a Form C, a Subscription Agreement, a Note and any other documents or instruments necessary to complete the Bond issuance, in such form and with such changes, insertions and omissions as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds (collectively, the "Financing Documents") and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Resolution; and

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

Board of Directors

Agenda Item #6e

Investment Updates and Recommendations

Historic Cargill Falls

Extension of Forbearance

Historic Cargill Falls Mill Project Update

- **Project Background:** Putnam CT mill redevelopment to mixed-use residential (82 units – incl 34 DOH low income / restricted) and commercial space, 2 hydro electric turbines (~900 kW total capacity fed by the Quinebaug River) and energy conservation measures
- **Real Estate Update**:
  - 12/14/22 - Lead concern in a unit. NDDH required the inspection, testing and abatement of 8 additional units.
  - Complaints about mold in 15 units. Remediation + masonry + gutters
  - 19 units remediated using property cash flow: (5 units lead + mold abatement, 4 units lead only and 10 units mold only)
  - [redacted]
  - 16 vacant units; 4 of the vacant units have been remediated (3 will be leased in next month)
  - Property in compliance with all NDDH abatement requirements
  - [redacted]

Historic Cargill Falls Mill Payment Deferral

- **Hydro Update:**
  - Delays after work was completed requiring cleaning of bearings, gate functioning, sensors, controls. Trial and error to get refurbished equipment to work.
  - Larger Turbine running continuously since end of May, 2023.
  - Impact to cash flow (savings and ZREC revenue still pending)
- **Recommendation**:
  - Hydro delays + environmental abatement + rent to escrow + vacancies have affected the property's cash flow and reserves
  - Provide a deferral of upcoming CPACE payments until December 2023 (same as Haynes Construction, other lender to Project)

Resolution #12

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 Deferral consistent with the Board Memo; 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 legal instrument.

Board of Directors

Agenda Item #7a and #7b

Environmental Infrastructure Updates

Environmental Markets Guide and Water Primer

Environmental Markets

Guide and Primers

Environmental Markets

Land Conservation

Parks and Recreation

Agriculture

Water
(Coming soon in 2023)

Waste and Recycling
(Coming in 2024)

Completed in FY23

Completed in FY23

Completed Environmental Markets Guide and Water Primer in FY23, in addition to Land Conservation, Parks and Recreation, and Agriculture Primers completed in FY22 – collectively “Nature Based Solutions”.
Working on Waste and Recycling Primer in 2024.

Board of Directors

Agenda Item #8a
Other Business
Greenhouse Gas Reduction Fund – Federal Engagement

Greenhouse Gas Reduction Fund
Overview

- **Inflation Reduction Act** – provides $27 billion to the U.S. Environmental Protection Agency (EPA) to administer the Greenhouse Gas Reduction Fund (GGRF)
- **Implementation Framework** – EPA recently released a three-part implementation framework for the GGRF, including:
  - **National Clean Investment Fund** (NCIF) – $14 billion competition that will fund 2-3 national nonprofits that will partner with private capital providers to deliver financing at scale to businesses, communities, community lenders, and others
  - **Clean Communities Investment Accelerator** (CCIA) – $6 billion competition that will fund 2-7 hub nonprofits with the plans and capabilities to rapidly build the clean financing capacity of specific networks of public, quasi-public, and nonprofit community lenders to ensure that households, small businesses, schools, and community institutions in low-income and disadvantaged communities have access to financing
  - **Solar for All** - $7 billion competition that will provide up to 60 grants to states, tribes, municipalities and nonprofits to expand the number of low-income and disadvantaged communities for investment in residential and community solar

Greenhouse Gas Reduction Fund
Recent Public Comments

May 12, 2023

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
ggrf@epa.gov

SUBJECT: **Public Comments from the Connecticut Green Bank – Written Comment: Greenhouse Gas Reduction Fund Implementation Framework Docket ID No. EPA-HQ-OA-2022-0859**

Dear Administrator Regan:

The Connecticut Green Bank ("Green Bank") values the U.S. Environmental Protection Agency's ("EPA") invitation to provide comments regarding the Implementation Framework ("Framework") for the Greenhouse Gas Reduction Fund ("GGRF"). The Framework invites written technical feedback and comments on the design and implementation of the GGRF.

As the nation's first state-level green bank, the Green Bank leverages the limited public resources it receives to attract multiples of private investment to scale up clean energy deployment. Since its inception, the Green Bank has mobilized $2.26 billion of investment into Connecticut's clean energy economy at a 7 to 1 leverage ratio of private to public funds. The Green Bank has supported the creation of 27,720 direct, indirect and induced jobs, reduced the energy burden on over 66,500 families and businesses, deployed nearly 510 MW of clean renewable energy, helped avoid 10.4 million tons of CO_2 emissions over the life of the projects, and generated $113.6 million in individual income, corporate, and sales tax revenues to the State of Connecticut.

For a more complete overview of the green bank model and the impact of the Green Bank – see Attachments A and B.

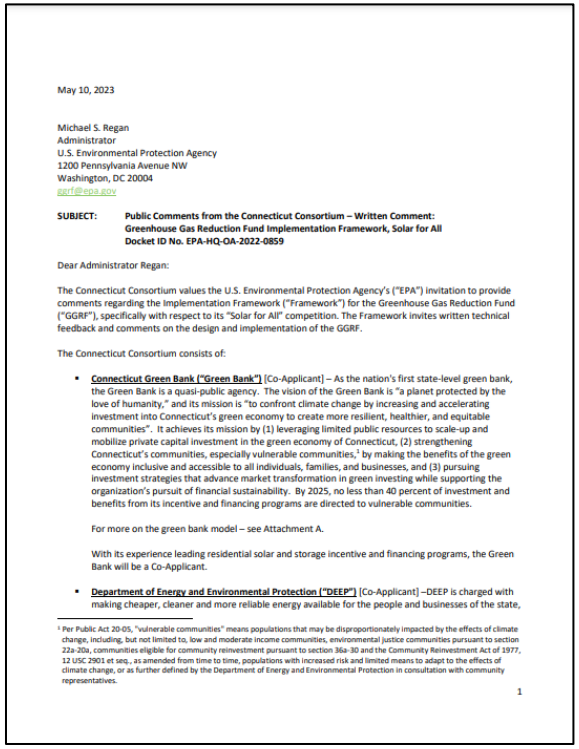
As a tool to support the increased and accelerated development of the state's green economy, the Green Bank's efforts assist the implementation of public policy for the State of Connecticut, including:

- **Reducing Greenhouse Gas Emissions** – no less than 45 percent reduction from 2001 levels by 2030,[1] 100% decarbonized electric sector by 2040, and no less than 80% reduction from 2001 levels by 2050;

[1] Consistent with the Nationally Determined Contribution of 50-52 percent reduction of 2005 levels by 2030

1

Implementation Framework
NCIF and CCIA
Connecticut Green Bank



May 10, 2023

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
ggrf@epa.gov

SUBJECT: **Public Comments from the Connecticut Consortium – Written Comment: Greenhouse Gas Reduction Fund Implementation Framework, Solar for All Docket ID No. EPA-HQ-OA-2022-0859**

Dear Administrator Regan:

The Connecticut Consortium values the U.S. Environmental Protection Agency's ("EPA") invitation to provide comments regarding the Implementation Framework ("Framework") for the Greenhouse Gas Reduction Fund ("GGRF"), specifically with respect to its "Solar for All" competition. The Framework invites written technical feedback and comments on the design and implementation of the GGRF.

The Connecticut Consortium consists of:

- **Connecticut Green Bank ("Green Bank")** [Co-Applicant] – As the nation's first state-level green bank, the Green Bank is a quasi-public agency. The vision of the Green Bank is "a planet protected by the love of humanity," and its mission is "to confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities". It achieves its mission by (1) leveraging limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut, (2) strengthening Connecticut's communities, especially vulnerable communities,[1] by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses, and (3) pursuing investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability. By 2025, no less than 40 percent of investment and benefits from its incentive and financing programs are directed to vulnerable communities.

  For more on the green bank model – see Attachment A.

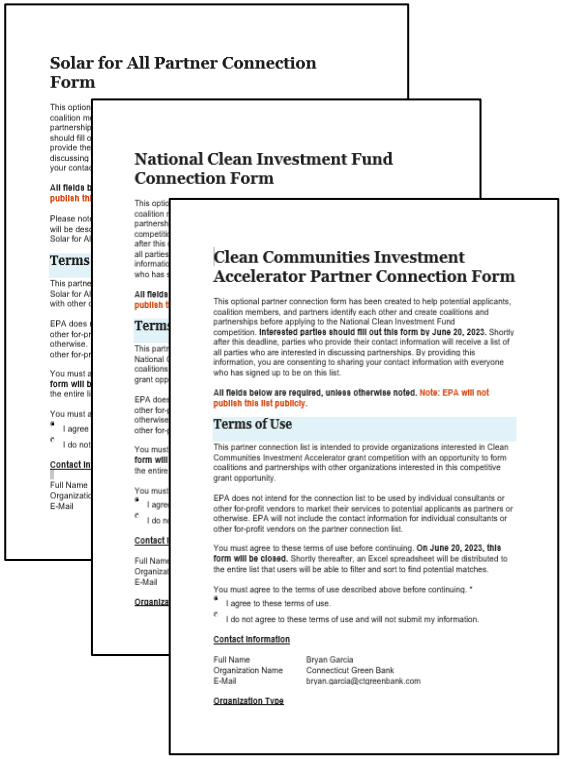
  With its experience leading residential solar and storage incentive and financing programs, the Green Bank will be a Co-Applicant.

- **Department of Energy and Environmental Protection ("DEEP")** [Co-Applicant] –DEEP is charged with making cheaper, cleaner and more reliable energy available for the people and businesses of the state,

[1] Per Public Act 20-05, "vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by the Department of Energy and Environmental Protection in consultation with community representatives.

1

Implementation Framework
Solar for All
Connecticut Consortium



Solar for All Partner Connection Form

National Clean Investment Fund Connection Form

Clean Communities Investment Accelerator Partner Connection Form

This optional partner connection form has been created to help potential applicants, coalition members, and partners identify each other and create coalitions and partnerships before applying to the National Clean Investment Fund competition. **Interested parties should fill out this form by June 20, 2023.** Shortly after this deadline, parties who provide their contact information will receive a list of all parties who are interested in discussing partnerships. By providing this information, you are consenting to sharing your contact information with everyone who has signed up to be on this list.

All fields below are required, unless otherwise noted. Note: EPA will not publish this list publicly.

Terms of Use

This partner connection list is intended to provide organizations interested in Clean Communities Investment Accelerator grant competition with an opportunity to form coalitions and partnerships with other organizations interested in this competitive grant opportunity.

EPA does not intend for the connection list to be used by individual consultants or other for-profit vendors to market their services to potential applicants as partners or otherwise. EPA will not include the contact information for individual consultants or other for-profit vendors on the partner connection list.

You must agree to these terms of use before continuing. **On June 20, 2023, this form will be closed.** Shortly thereafter, an Excel spreadsheet will be distributed to the entire list that users will be able to filter and sort to find potential matches.

You must agree to the terms of use described above before continuing. *

- I agree to these terms of use.
- I do not agree to these terms of use and will not submit my information.

Contact Information

Full Name	Bryan Garcia
Organization Name	Connecticut Green Bank
E-Mail	bryan.garcia@ctgreenbank.com

Organization Type

Connection Forms
Solar for All, NCIF, CCIA
CTGB, Connecticut Consortium

For all information, please visit www.ctgreenbank.com/ggrf

Sharing Lessons Learned

Spotlight on Residential Solar in Connecticut

Residential Solar Investment and Deployment in Connecticut

An In-Depth Review of an Incentive Program (2012-2022)

Connecticut Green Bank - May 5th, 2023

Financing Residential Solar in Connecticut #1

Insights into Loan Programs

Connecticut Green Bank - June 5th, 2023

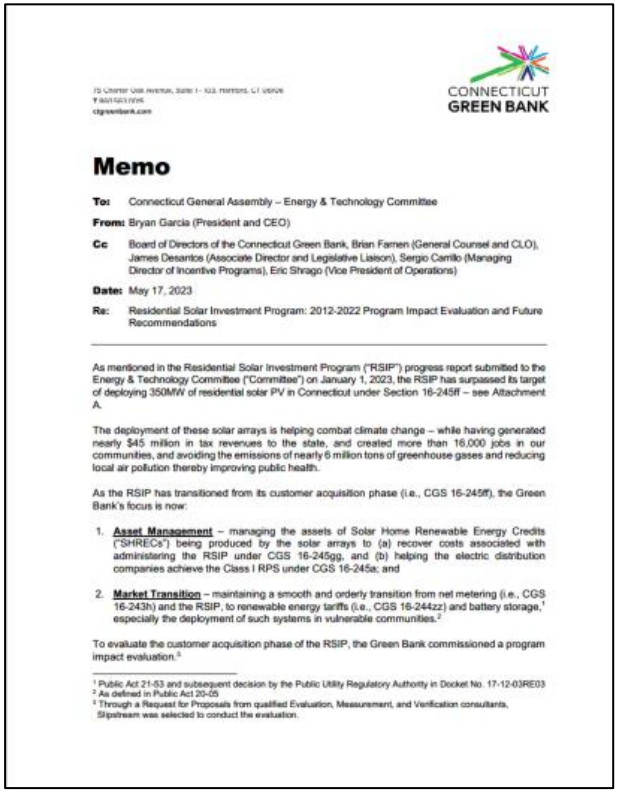
Four (4) part webinar series on incentives and financing residential solar. Webinar #3 (Leases and TPO) scheduled for Thursday, August 3rd at Noon.

Board of Directors

Agenda Item #8b
Other Business
Residential Solar Investment Program
Policy Closeout

Energy & Technology Committee

Residential Solar Investment Program (RSIP)



CONNECTICUT GREEN BANK

Memo

To: Connecticut General Assembly – Energy & Technology Committee

From: Bryan Garcia (President and CEO)

Cc Board of Directors of the Connecticut Green Bank, Brian Farnen (General Counsel and CLO), James Desantos (Associate Director and Legislative Liaison), Sergio Carrillo (Managing Director of Incentive Programs), Eric Shrago (Vice President of Operations)

Date: May 17, 2023

Re: Residential Solar Investment Program: 2012-2022 Program Impact Evaluation and Future Recommendations

As mentioned in the Residential Solar Investment Program ("RSIP") progress report submitted to the Energy & Technology Committee ("Committee") on January 1, 2023, the RSIP has surpassed its target of deploying 350MW of residential solar PV in Connecticut under Section 16-245ff – see Attachment A.

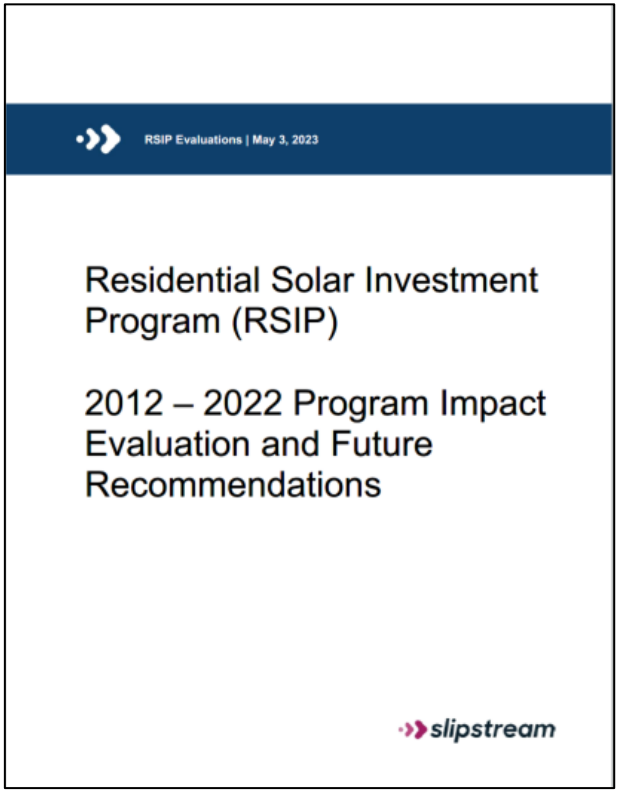
The deployment of these solar arrays is helping combat climate change – while having generated nearly $45 million in tax revenues to the state, and created more than 16,000 jobs in our communities, and avoiding the emissions of nearly 6 million tons of greenhouse gases and reducing local air pollution thereby improving public health.

As the RSIP has transitioned from its customer acquisition phase (i.e., CGS 16-245ff), the Green Bank's focus is now:

1. **Asset Management** – managing the assets of Solar Home Renewable Energy Credits ("SHRECs") being produced by the solar arrays to (a) recover costs associated with administering the RSIP under CGS 16-245gg, and (b) helping the electric distribution companies achieve the Class I RPS under CGS 16-245a; and
2. **Market Transition** – maintaining a smooth and orderly transition from net metering (i.e., CGS 16-243h) and the RSIP, to renewable energy tariffs (i.e., CGS 16-244zz) and battery storage,[1] especially the deployment of such systems in vulnerable communities.[2]

To evaluate the customer acquisition phase of the RSIP, the Green Bank commissioned a program impact evaluation.[3]

[1] Public Act 21-53 and subsequent decision by the Public Utility Regulatory Authority in Docket No. 17-12-03RE03
[2] As defined in Public Act 20-05
[3] Through a Request for Proposals from qualified Evaluation, Measurement, and Verification consultants, Slipstream was selected to conduct the evaluation.



RSIP Evaluations | May 3, 2023

Residential Solar Investment Program (RSIP)

2012 – 2022 Program Impact Evaluation and Future Recommendations

slipstream

Final report with E&T Committee on completion of CGS 16-245ff (350 MW target by 2022) and in process on 16-245gg (cost recovery). Most effective (i.e., W/capita), efficient (i.e. $/SREC), and equitable (i.e., <80% AMI) residential solar program in the entire Northeast.

Board of Directors

Agenda Item #8b

Other Business

Legislative Update

CONNECTICUT GREEN BANK

Board of Directors

Agenda Item #8c

Other Business

Board of Directors

Agenda Item #9

Executive Session – Personnel Related Matters

Resolution #13

NOW, therefore be it:

RESOLVED, that the Green Bank Board hereby approves of the discussed severance agreement

Board of Directors

Agenda Item #10

Adjourn

Subject to Changes and Deletions

BOARD OF DIRECTORS OF THE
CONNECTICUT GREEN BANK
Regular Meeting Minutes

Friday, April 21, 2023
9:00 a.m. – 11:00 a.m.

A regular meeting of the Board of Directors of the **Connecticut Green Bank** (the "Green Bank") was held on April 21, 2023.

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

Board Members Present: Bettina Bronisz, Binu Chandy, John Harrity, Adrienne Houël, Matthew Ranelli, Lonnie Reed, Victoria Hackett, Brenda Watson, Joanna Wozniak-Brown

Board Members Absent: Thomas Flynn, Dominick Grant

Staff Attending: David Beech, Joe Buonannata, Larry Campana, Sergio Carrillo, Shawne Cartelli, Louise Della Pesca, James Desantos, Catherine Duncan, Mackey Dykes, Brian Farnen, Bryan Garcia, Bert Hunter, Alysse Lembo-Buzzelli, Cheryl Lumpkin, Jane Murphy, Ariel Schneider, Dan Smith, Eric Shrago, Marianna Trief

Others present: Dan Streit and Lee Shaver from Slipstream, Stephen Pelton

1. Call to Order

- Lonnie Reed called the meeting to order at 9:02 am.

2. Public Comments

- No public comments.

3. Consent Agenda

a. Meeting Minutes of March 17, 2023

Resolution #1

Motion to approve the meeting minutes of the Board of Directors for March 17, 2023.

b. Under $500,000 and No More in Aggregate than $1,000,000 Staff Transaction Approvals

Resolution #2

WHEREAS, on 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 April 14, 2023 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 April 14, 2023 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.

c. C-PACE Transaction – Danbury

Resolution #3

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$564,528** construction and (potentially) term loan under the C-PACE program to Evelyn L. Wells, as surviving Trustee of the Testamentary Trust, Main 215-219 CGS LLC, and Main 215-219 SRS LLC, the building owners of 215-219 Main St, Danbury, CT (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

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 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 April 21, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

d. C-PACE Transaction – East Hartford

Resolution #4

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$491,537** construction and (potentially) term loan under the C-PACE program to 580 Tolland Street, LLC the building owner 580 Tolland Street East Hartford, CT (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

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 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 April 21, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

e. C-PACE Transaction – Groton

Resolution #5

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the “Statute”), 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 **$552,567** construction and (potentially) term loan under the C-PACE program to Mystic Business Park LLC, the building owner of 800 Flanders Road, Mystic, CT (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

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 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 April 21st, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

f. C-PACE Transaction – Stonington/Mystic

Resolution #6

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the “Statute”), 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 $**595,435** construction and (potentially) term loan under the C-PACE program to Unicorn Project, LLC the building owner of 247-251 Greenmanville Avenue Mystic, CT 06355 (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

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 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 April 21st, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

g. C-PACE Transaction – Stamford

Resolution #7

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$536,095** construction and (potentially) term loan under the C-PACE program to Glenbrook Self Storage Property, LLC, the building owner of 317 Courtland Avenue, Stamford, CT (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

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 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 April 21, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

h. C-PACE Transaction Extension – Redding

Resolution #8

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 Connecticut Green Bank Board of Directors (the "Board") or the Connecticut Green Bank Deployment Committee ("DC"), as may be applicable, 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 April 21, 2023 (the "Finance Agreements");

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

WHEREAS, due to delays in fulfilling pre-closing requirements, 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 April 22, 2022 and consistent in every other manner with the original Board authorization for the Finance Agreement.

Upon a motion made by John Harrity and seconded by Brenda Watson, the Board of Directors voted to approve the Consent Agenda which includes Resolutions 1 – 8. None opposed or abstained. Motion approved unanimously.

i. FY23 Q3 Progress to Targets

j. Under $100,000 and No More in Aggregate than $500,000 Staff Restructurings

4. Financing Programs Updates and Recommendations

a. Progress to Targets Updates

- Mackey Dykes summarized the progress to the Financing Programs targets which is at 74.3% met overall for projects deployed, 59.6% of the capital deployed overall, and 23.1% for MW deployed overall. The reason for the disparity between the categories is due to the SBEA goal doing well for projects deployed while the other programs have less projects but higher capital and MW goals. He mentioned many other projects are in good places going into the end of the year; the paperwork is being processed but they can't be included as completed yet.
    - Mackey Dykes noted the one program that will fall short of its goals is the Multi

Family Term. One project of six has been closed so far and another which was approved previously should also be considered, but overall, the program is just going to take more time than was previously expected due to navigating the new policies and new program.

b. C-PACE Transaction – Branford

- Catherine Duncan summarized the project details for two roof replacements and two rooftop solar PV arrays totaling 330.2 kW using a $1,003,474 loan. David Beech summarized the underwriting which has a loan-to-value ratio of [redacted]

Resolution #9

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$1,003,474** construction and (potentially) term loan under the C-PACE program to Elm Harbor Realty LLC, the building owner of 20 Elm Street, Branford, CT (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

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 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 April 21st, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

Upon a motion made by Adrienne Houël and seconded by Bettina Bronisz, the Board of Directors voted to approve Resolution 9. None opposed or abstained. Motion approved unanimously.

c. C-PACE Transaction – Milford

- Catherine Duncan explained the project details for a 1.25MW rooftop solar PV array using a $2,318,539 loan. [redacted]

Resolution #10

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$2,318,539** construction and (potentially) term loan under the C-PACE program to Milford Holdings, LLC the building owner of 80 Wampus Lane, Milford CT 06460 (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

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 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 April 21st, 2023 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

Upon a motion made by Matthew Ranelli and seconded by John Harrity, the Board of Directors voted to approve Resolution 10. None opposed or abstained. Motion approved unanimously.

d. C-PACE Transaction – Southington

- Alysse Lembo-Buzzelli summarized the project details for a roof replacement and two rooftop solar PV arrays totaling 516 kW using a $1,687,886 loan. [redacted]

Resolution #11

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$1,687,886** construction and (potentially) term loan under the C-PACE program to Car-Sue Realty, LLC, the building owner of 44 Robert Porter Rd, Southington, CT 06489 (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

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 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 April 21, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

Upon a motion made by Bettina Bronisz and seconded by Matthew Ranelli, the Board of Directors voted to approve Resolution 11. None opposed or abstained. Motion approved unanimously.

e. C-PACE Transaction – South Windsor (420 Ellington Road)

- Alysse Lembo-Buzzelli summarized the project details for a rooftop solar PV array of 1.45MW using a $3,225,500 loan. [redacted]

Resolution #12

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 $3,225,500 construction and (potentially) term loan under the C-PACE program to Admiral Holdings CT LLC the building owner of 420 Ellington Road, South Windsor, CT 06074 (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

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 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 April 21st, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

Upon a motion made by John Harrity and seconded by Matthew Ranelli, the Board of Directors voted to approve Resolution 12. None opposed or abstained. Motion approved

unanimously.

f. C-PACE Transaction – South Windsor (688 Sullivan Avenue)

- Alysse Lembo-Buzzelli summarized the project details for a rooftop solar PV array of 287.9 kW using a $710,783 loan. [redacted]

Resolution #13

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$710,783** construction and (potentially) term loan under the C-PACE program to Admiral Holdings CT LLC, the building owner of 688 Sullivan Ave (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

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 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 April 21st, 2023, 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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

Upon a motion made by Matthew Ranelli and seconded by Adrienne Houël, the Board of

Directors voted to approve Resolution 13. None opposed or abstained. Motion approved unanimously.

g. C-PACE Transaction – Stonington

- [redacted]

Resolution #14

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), the Connecticut Green Bank ("Green Bank") is directed to 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 [redacted] 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.

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 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 Green Bank Board of Directors (the "Board") dated December 9, 2022, 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;

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 Statute, including but not limited to the savings to investment ratio and lender consent requirements; 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 affect the above-mentioned legal instruments.

Upon a motion made by Matthew Ranelli and seconded by John Harrity, the Board of Directors voted to approve Resolution 14. None opposed or abstained. Motion approved unanimously.

h. C-PACE Transaction – Windsor

- Alysse Lembo-Buzzelli summarized the project details for a roof replacement, LED lighting, and a rooftop solar PV array of 243 kW using a $765,948 loan. [redacted]

Resolution #15

WHEREAS, pursuant to Connecticut General Statute Section 16a-40g (the "Statute"), 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 **$765,948** construction and (potentially) term loan under the C-PACE program to Easter Seals Greater Hartford Rehabilitation Center Inc, the building owner of 70 Deerfield Rd, Windsor, CT 06489 (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

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 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 April 21, 2023, 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 Statute, 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 affect the above-mentioned legal instruments.

Upon a motion made by John Harrity and seconded by Bettina Bronisz, the Board of Directors voted to approve Resolution 15. None opposed or abstained. Motion approved unanimously.

5. Incentive Programs Updates and Recommendations

a. Progress to Targets

- Sergio Carrillo summarized the progress to targets for the Incentive Programs. Overall 89.2% of the project target has been met, 84.2% of the capital deployed has been met, and 85.7% of the MW target has been met. Smart-E projects are going strong, but Energy Storage Solutions is a bit behind due to key market players not being ready and a couple projects falling through.
    - Lonnie Reed asked if there was any theme to the reasons potential customers changed their minds. Sergio Carrillo responded he thinks the timing of the approval from an interconnection perspective was a key determinant. The projects were speculated to take 2 to 3 years for interconnection and the customers weren't willing to wait that long. Lonnie Reed asked if there was any way to lessen that time, and Sergio Carrillo responded it is a challenge and though there are efforts to reduce that timing, he doesn't believe there is much that can be done.
    - Sergio Carrillo continued to discuss the details about the target progress for Vulnerable Communities. The programs are on track for the Energy Justice 40 goals.
    - Matthew Ranelli commended Sergio and the team for their efforts and commented that getting more Residential customers within vulnerable communities will depend on closer examination of the numbers. Sergio Carrillo agreed and noted that the large multifamily projects will help with increasing the numbers.
    - John Harrity asked when there are periods of volatility, if there is a big impact on the willingness to go into new projects and take on new debt. Sergio Carrillo responded that on the Residential side it doesn't tend to affect it, but the key driver is a perceived lack of application. Unless there is a significant outage, people seem to have a hard time seeing the value of storage, which is thanks to a stable grid. Bert Hunter commented on the Commercial side, the increase in interest rates does affect those customers looking for larger projects. The interest rates have increased dramatically over the last 12 months. As well, there are ongoing supply chain issues which may be slowing progress.

6. Investment Updates and Recommendations

a. Capital for Change and EcoSmart Home Services – ITC Bridge Loan

- Bert Hunter summarized the proposed Smart-E program expansion through an Investment Tax Credit Loan. He explained the reasons behind its development and that the Smart-E ITC loans could fill the gap in the market, but it needs the Green Bank's funding to enable a buydown to be affordable.
- Stephen Pelton provided a contractor's perspective to the Smart-E program and the proposed Smart-E ITC loan. Bert Hunter explained the details of the loan process.
    - John Harrity thanked Stephen Pelton for his contribution to the discussion.
    - Bettina Bronisz asked how much is being requested as a bridge loan. Bert Hunter responded $2million for Capital For Change and $3million for other lenders.

Resolution #16

WHEREAS, the Connecticut Green Bank ("Green Bank") has established the Smart-E Loan program with financing agreements with various credit unions, community banks and a community development financial institution (Capital for Change ("C4C"));

WHEREAS, Green Bank desires to pilot an investment tax credit bridge loan pilot, in partnership with C4C, various credit unions and community bank partners in the Smart-E

Program (the "ITC Loan Pilot");

WHEREAS, the ITC Loan Pilot would require Green Bank to either lend on an unsecured basis to C4C or to deposit funds with the other Smart-E lenders to fund the up to 18-month underlying ITC Bridge Loans as explained in the memorandum dated April 18, 2023 to the Green Bank Board of Directors (the "Board") (the "Concept Memo"); and

WHEREAS, Green Bank staff recommends approval by the Board for Green Bank to make loans or deposits up to an aggregate amount of $5 million as follows:

- Up to $2 million on an unsecured basis to C4C under a loan facility that would extend for a two and one-half year period (meaning a one-year draw period with the final loans being repaid 18 months from the end of the draw period), such loan facility being the "C4C Bridge Loan Facility"; and
- Up to $3 million in deposits to all other Smart-E lenders (credit unions or community banks) for periods and amounts that would approximately match the size and maturity of the underlying Smart-E Solar Option Loans (the "Bridge Loan Deposits").

NOW, therefore be it:

RESOLVED, that the Board approves the C4C Bridge Loan Facility and the Bridge Loan Deposits, to be implemented generally as described in the Concept Memo;

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 affect the C4C Bridge Loan Facility on such terms and conditions as are materially consistent with the Concept Memo; and

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

Upon a motion made by John Harrity and seconded by Bettina Bronisz, the Board of Directors voted to approve Resolution 16. None opposed or abstained. Motion approved unanimously.

b. IPC Loan Facility - Modification

- Bert Hunter summarized the history of the IPC Loan and proposed modification.
  - Bettina Bronisz asked how much IPC still owes the Green Bank and if it is a forgivable loan. Bert Hunter responded it is not a forgivable loan and that the current outstanding is $850,000.

Resolution #17

WHEREAS, the Connecticut Green Bank ("Green Bank") has an existing partnership with Inclusive Prosperity Capital, Inc. ("IPC") to lessen the burden of government, and to protect, promote and preserve the environment by, among other things, furthering the purpose of the Green Bank as described in Connecticut General Statute Section 16-245n(d)(1)(B);

WHEREAS, on June 13, 2018, the Green Bank Board of Directors ("Board") approved a

Memorandum of Understanding ("MOU") governing the Green Bank's partnership with IPC as part of Green Bank's long-term sustainability plan and on June 25, 2021 extended pursuant to a strategic selection the MOU to end on June 30, 2026 (the "MOU Extension");

WHEREAS, the MOU included a Revolving Line of Credit ("RLC") intended to support IPC startup and operational costs for an amount not to exceed $150,000 outstanding and with a maturity date of June 30, 2021, which maturity date was extended to June 30, 2024 and the not to exceed amount was increased to $1,000,000 by the Board at a meeting duly held on December 18, 2020;

WHEREAS, the maturity date of the RLC was not extended at the time of the MOU Extension and, pursuant to a request by IPC, Green Bank staff has recommended to the Board to extend the maturity date of the RLC to June 30, 2026 (the "Amended Maturity Date") in line with the end of the MOU as more fully explained in a memorandum to the Board dated April 18, 2023 (the "Board Memo");

WHEREAS, since August 2020, IPC has drawn on and has remained current and in good-standing on all repayments associated with the RLC;

NOW, therefore be it:

RESOLVED, that the Board approves of the extended RLC with a maturity date of June 30, 2026 consistent with the Board Memo;

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 affect the above-mentioned legal instruments.

Upon a motion made by Adrienne Houël and seconded by Victoria Hackett, the Board of Directors voted to approve Resolution 17. None opposed or abstained. Motion approved unanimously.

c. Skyview Loan Facility - Modification

- Louise Della Pesca summarized the history of the Skyview transaction and the proposed amendment due to the current terms and documentation conditions not meeting CGB requirements for a construction financing facility. She reviewed the proposed controls and changes.
    - John Harrity asked if the increased controls are based on a problematic past experience or if it's just cautionary in nature. Louise Della Pesca responded that they are being inserted since there has not been a construction financing facility with this company previously.
    - Bettina Bronisz asked for clarification for what Green Bank requirements were not met. Louise Della Pesca responded that they failed to meet requirements, but the term loan facility documentation in place needs to be amended to allow for construction financing advances. Bettina Bronisz asked if the Green Bank has worked with Skyview before and Louise Della Pesca answered yes and gave a brief history of the type of work done with them. Bettina Bronisz asked if there is a concern to put in the extra controls and Louise Della Pesca answered the controls specific to construction financing are due to the nature of that type of loan and is unrelated to the financial performance of Skyview

Ventures. She further clarified that the added controls are not a deep concern and explained the factors leading to those controls.

- Bettina Bronisz asked at which stage when reviewing the quarterly financial statements would become a red flag to bring to the Board's attention. Louise Della Pesca responded that if the company's net income started continually decreasing and explained the type of hypothetical situation further. Bert Hunter added that one of the reasons the team is comfortable with taking on this risk is because this position is where the Green Bank started, thus there are those experiences to draw from though it has been made clear in the documentation that if needed, the Green Bank has full and unlimited step-in rights, even though it is not anticipated to be needed.
- Lonnie Reed asked if there is a ballpark idea of how much higher the interest right might be. Louise Della Pesca responded yes, the team would prepare for 100 basis points higher than the term loan financing.
- Matthew Ranelli asked if the Green Bank is crowding out regular banks which could be contacted for similar funding, and if there is a specific commercial need to take on this new role. Louise Della Pesca answered that Skyview has had a construction financing facility with a commercial bank used for coverage in all the states they operate in, along the east coast. But it simply isn't big enough for their development pipeline at the moment. They came to the Green Bank for financing because they already had an arrangement specifically within Connecticut and figured this new facility could offload some of the strain from their private sector funding. The question was asked to them, and the response Skyview gave was that they enjoy how well the Green Bank knows their business, the work done together already, and the standards that the Green Bank adheres to.
- Lonnie Reed asked if the same people that the team has been communicating with are still running it, and if there have any key personnel changes. Louise Della Pesca answered not at all; the decision-making level has remained constant though some of the junior staff has changed.
- Matthew Ranelli asked if their credit worthiness is the same as before despite the decrease in profitability. Louise Della Pesca responded that the borrower is the special purpose vehicle which has only grown and diversified its portfolio of assets and is in fact more credit worthy. It is not affected by the decrease in profitability of the parent company. Bert Hunter added that it is certainly always better to be more profitable, but the way Skyview approaches the market allows them to navigate the changes to the market with more stability. They are now emphasizing their work in their solar portfolios and EV charging networks, which are projects that will increase in revenue over time even as the RECs decrease. He praised their intelligent portfolio diversification.

Resolution #18

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

WHEREAS, the Green Bank Board of Directors (the "Board") approved at its meeting held on March 25, 2020 a senior secured loan facility ("Original Term Loan") transaction with a Skyview Ventures special purpose vehicle ("Skyview") in an amount not to exceed $2.3M as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, uniqueness, strategic importance, urgency and timeliness, and multi-phase characteristics of the Original Term Loan transaction. The Original Term Loan was first expanded to $3.5M, and then to $7M (the (Existing Term Loan"), as approved by the Board

at its meetings on April 24 and October 23, 2020, respectively;

WHEREAS, as of November 2021, approximately 70% of the Existing Term Loan commitment has been advanced to finance PPA projects;

WHEREAS, in light of the financial incentives available (starting 2022) for the deployment of energy storage solutions ("ESS") projects, Skyview is developing a pipeline of ESS projects in CT; and

WHEREAS, given the rate of utilization of the Existing Term Loan by Skyview for Skyview PPA projects, and the opportunity to develop ESS projects, following diligence of Green Bank staff, Green Bank staff proposes increasing the Existing Term Loan size and amending its terms to allow for ESS project financing, and requests Board approval.

WHEREAS, the Green Bank Deployment Committee recommended that the Board approve of the staff's request to amend and restate the Board's existing approval of the Existing Term Loan transaction as described in the Project Qualification Memo submitted by the staff to the Deployment Committee and dated November 12, 2021 (the "Deployment Committee Memorandum")

NOW, therefore be it:

RESOLVED, that the Board approves staff's request to amend and restate the Board's existing approval of the Existing Term Loan transaction as described in the "Deployment Committee Memorandum and consistent with the memorandum to the Board dated December 10, 2021 (the "Memorandum") to include ESS projects to be qualified for future advances within the increased limit of $10,000,000 on terms and conditions substantially consistent with those described in the Memorandum as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, uniqueness, strategic importance, urgency and timeliness, and multi-phase characteristics of the Existing Term Loan transaction.

Upon a motion made by Binu Chandy and seconded by John Harrity, the Board of Directors voted to approve Resolution 18. None opposed and Matthew Ranelli abstained. Motion approved.

7. Environmental Infrastructure Updates

- Eric Shrago welcomed Leigh Whelpton as the newly hired Director of Environmental Infrastructure, to join the company fully in September. She will be on a PSA until then.

8. Other Business

a. Residential Solar Investment Program: 2012-2022 Program Impact Evaluation and Future Recommendations

- Eric Shrago introduced Dan Streit and Lee Shaver from Slipstream and explained the background behind the RSIP program reporting required by statute. Dan Streit explained the evaluation objectives including the program's impact, effectiveness, comparison to other Northeast Residential Solar programs, and recommendations. He then summarized the

methodology of the research, analyses, and reviewed the results of the study. For effectiveness within the state, high levels of incentives initially transformed Connecticut's market and jumpstarted the state's solar industry allowing for great participation over time. The PV adoption rate within Connecticut was higher than the national average and continued to exceed it as time progressed. For adoption relative to income and community type, Connecticut exceeded the national average for adoption in communities below 100% AMI and more than 50% of installations were in designated communities. The program allowed for consistent reduction in usage of around 80% for all program years and that there were robust energy cost savings even after the financing costs were accounted for.

- Lee Shaver reviewed the results in comparison to other New England states, and it shows that Connecticut kept pace with neighboring states and then leads starting in 2018, all of which is above the national average. For incentive costs compared to watts per capita, Connecticut has the highest install rate, lowest incentive costs, and greatest spread between the two when compared to other regional states showing significant success. Connecticut's cost per ton for emissions reductions is below the regional average but is notable compared to the low cost, meaning the dollar per ton reduced is amongst the highest in the region despite the lower total reductions per ton.
- Dan Streit summarized the recommendations to the Green Bank on what its role could be as the market transitions away from RSIP including market monitoring, support sustained LMI adoption, and engage in Solar+ markets.
- Matthew Ranelli commented that the AMI trendline is now trending back towards the national average as the RSIP comes to an end and to remain vigilant to keep it trending upwards. He then asked if the installation rate is high and the incentive cost is low, how does Connecticut get to a better emissions per ton reduced. Lee Shaver responded that many factors went into the calculation, including the grid makeup between the different states in terms of power sources, and explained that the grid is already pretty clean in those states, such as Connecticut, and so more solar is needed to impact the remaining emissions.

b. Other Business

- Eric Shrago thanked Mayor Laura Hoydick for her service to the Board as she will not be able to continue due to time constraints. Lonnie Reed also thanked Laura Hoydick for her time and praised her for her plan to maintain open communication.
- Adrienne Houël reviewed an update to the Communities LEAP program including the progress made so far, plans for the future, and thanked the Green Bank for its continued support and guidance.

9. Adjourn

Lonnie Reed adjourned the Board of Directors Meeting at 11:24 am.

Respectfully submitted,

_____

Lonnie Reed, Chairperson

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CONNECTICUT
GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank – Deployment Committee of the Connecticut Green Bank

From: Bryan Garcia (President and CEO)

Date: June 23, 2023

Re: Approval of Funding Requests below $500,000 and No More in Aggregate than $1,000,000 – Update

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At the October 20, 2017 Board of Directors (BOD) meeting of the Connecticut Green Bank ("Green Bank") it was resolved that the BOD approves the authorization of Green Bank staff to evaluate and approve funding requests less than $500,000 which are pursuant to an established formal approval process requiring the signature of a Green Bank officer, consistent with the Comprehensive Plan, approved within Green Bank's fiscal budget and in an aggregate amount not to exceed $1,000,000 from the date of the last Deployment Committee meeting. This memo provides an update on funding requests below $500,000 that were evaluated and approved. During this period, 2 projects were evaluated and approved for funding in an aggregate amount of approximately $540,034. If members of the board or committee would be interested in the internal documentation of the review and approval process Green Bank staff and officers go through, then please request it.

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100 Sanford Street: A C-PACE Project in Hamden, CT

Address	100 Sanford Street, Hamden, CT 06514			
Owner	Aron 100 Sanford Street, LLC			
Proposed Assessment	$167,561			
Term (*years*)	20			
Term Remaining (*months*)	Pending construction completion			
Annual Interest Rate	5.25%			
Annual C-PACE Assessment	$13,716			
Savings-to-Investment Ratio	1.66			
Average DSCR	[redacted]			
Lien-to-Value	[redacted]			
Loan-to-Value	[redacted]			
Projected Energy Savings (mmBTU)		EE	RE	Total
	Per year	-	329.2	329.2
	Over term	-	6,583	6,583
Estimated Cost Savings (incl. ZRECs and tax benefits)	Per year (av.)	-	$22,729	$22,729
	Over project life	-	$454,571	$454,571
Objective Function	39.3 kBTU / ratepayer dollar at risk			
Location	Hamden			
Type of Building	Manufacturing facility			
Year of Build	1950			
Building Size (*sf*)	26,868 sf			
Year Acquired by Owner	2022			
As-Is Appraised Value[1]	[redacted]			
Mortgage Lender Consent	[redacted]			
Proposed Project Description	Rooftop solar PV (77.1kW)			
Est. Date of Construction Completion	Pending closing			
Current Status	Awaiting Staff Approval			
Energy Contractor	[redacted]			

[redacted]

700 Flanders Road: A C-PACE Project in Groton, CT

Address	700 Flanders Road, Mystic, CT 06355			
Owner	Mystic Business Park II LLC			
Proposed Assessment	$372,473			
Term (*years*)	20			
Term Remaining (*months*)	Pending construction completion			
Annual Interest Rate	5.25%			
Annual C-PACE Assessment	$30,488			
Savings-to-Investment Ratio	1.45			
Average DSCR	[redacted]			
Lien-to-Value	[redacted]			
Loan-to-Value	[redacted]			
Projected Energy Savings (mmBTU)		EE	RE	Total
	Per year	-	604.7	604.7
	Over term	-	12,094	12,094
Estimated Cost Savings (incl. ZRECs and tax benefits)	Per year[2]	-	$44,260	$44,260
	Over term	-	$885,196	$885,196
Objective Function	32.5 kBTU / ratepayer dollar at risk			
Location	Groton			
Type of Buildings	Warehouses			
Year of Build	2014 to 2020[3]			
Building Size (*sf*)	90,330 sf			
Year Acquired by Owner	2014			
As-Is Appraised Value[4]	[redacted]			
Mortgage Lender Consent	[redacted]			
Proposed Project Description	Rooftop solar PV (146.9kW)			
Est. Date of Construction Completion	Pending closing			
Current Status	Awaiting Staff Approval			
Energy Contractor	[redacted]			

[2] [redacted]

Resolution

WHEREAS, on 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 June 23, 2023 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 June 23, 2023 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.

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CONNECTICUT GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank

From: Sergio Carrillo, Ed Kranich, and Bryan Garcia

Cc Mackey Dykes, Brian Farnen, Bert Hunter, Jane Murphy, and Eric Shrago

Date: June 16, 2023

Re: Energy Storage Solution Program – Upfront Incentive Approvals

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Background:

The Energy Storage Solutions (ESS) Program was established by the Public Utilities Regulatory Authority (PURA) in Docket No. 17-12-03RE03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies – Electric Storage. In PURA's final Decision[1] in this docket, issued July 28, 2021, PURA appointed The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource), The United Illuminating Company (UI), and the Connecticut Green Bank (Green Bank) as co-administrators of the ESS Program.[2]

The Green Bank's Program responsibilities include customer enrollment, administration of the upfront incentive, marketing and promotion, and data aggregation and publication to support Program evaluation, measurement, and verification, among others.[3]

A. Upfront Incentive Approval Process

At its June 24, 2022 meeting, the Green Bank Board of Directors (BOD) authorized a process for the approval of upfront incentives for projects participating in the ESS Program, by which projects with estimated upfront incentives greater than $500,000 would follow a process similar to the approval process used for C-PACE program.

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[1] PURA's final Decision in Docket 17-12-03RE03 may be found here.
[2] Additionally, with the passage of Public Act 21-53, "An Act Concerning Energy Storage," PURA shall solicit input from the Department of Energy and Environmental Protection (DEEP), the Office of Consumer Counsel (OCC), the Electric Distribution Companies (EDCs), and the Green Bank in developing energy storage system programs, and may select DEEP, EDCs, Green Bank, a third party, or any combination thereof to implement one or more programs for electric storage resources as directed by PURA.
[3] The Green Bank's programmatic responsibilities, including the administration of all upfront incentives, are cost recoverable from ratepayers via the annual Revenue Adjustment Mechanism (RAM) proceeding, which is overseen by PURA.

Within the existing BOD and Deployment Committee regular meeting schedule, Green Bank staff shall obtain BOD approval of estimated upfront incentive payments via consent agenda utilizing the Tear Sheet process described in the Memorandum to the Board dated June 24, 2022. Only after securing BOD approval will Green Bank staff issue Reservation of Funds (ROF) letters to project developers and/or owners.

After projects are fully operational, Green Bank staff will notify the BOD of their intent to issue Confirmation of Funds (COF) letters, highlighting any differences between the Board-approved incentive and the final incentive amount, and the reason for the difference.

B. Request for Approval of New Upfront Incentives Above $500,000

One ESS project with an estimated upfront incentive above $500,000 requires BOD approval. Table 1 below shows the single project seeking approval with estimated upfront incentives totaling $1,020,770.60. The project has a total capacity of 1,927 kW, which accounts for 1% of the 100 MW of non-residential capacity available for Tranche 2 of the ESS Program, and 9.12% of the 10 MW of residential capacity available for Step 1 of the ESS Program.[4]

Project Name	Contractor Name	Battery Manufacturer	Battery Model	Host Customer City	Total System Power (kW)	Total System Energy Capacity (kWh)	Estimated Upfront Incentive	Total Battery Cost
ESS-00635	Waldron Engineering	Tesla	MP2-XL	Bridgeport	1,927	3,854	$1,020,771	$3,242,100
Totals					**1,927**	**3,854**	**$1,020,771**	**$3,242,100**

Table 1. Summary of Estimated Upfront Incentives Above $500,000

The project ESS-00635 is a large C&I project located at a mixed-used site in Bridgeport, CT, an underserved community.[5] The site contains 161 apartments, many of which are considered low-income and a charter school. The BESS will be owned by the host customer, NuPower Cherry Street LLC. The upfront incentive for this project was partly calculated using residential upfront incentive formulas to account for the residential apartments located onsite.[6] The use of residential upfront incentive formulas resulted in a higher-than-average upfront incentive for this project.[7]

The project will provide resiliency benefits to the host customer, in addition to grid-wide benefits via a flattening of the demand curve. The Tesla battery used for the project has been preapproved for the Program.[8] Further, the project is expected to be completed in 2025 after the completion of interconnection studies, which can be lengthy and costly.

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[4] ESS-00635 is a mixed commercial and residential site.
[5] Underserved communities are defined according to the latest Distressed Municipality list. Updated annually by the Department of Economic and Community Development (DECD), Distressed Municipalities are the "the state's most fiscally and economically distressed municipalities." See DECD's Distressed Municipalities webpage for more details.
[6] 47% of the battery size and project cost data was inputted into the residential upfront incentive formula, while 53% of the battery size and project cost data was inputted into the commercial upfront incentive formula. The proportions were determined by calculating the site's demand proportion which will serve residential (i.e., the 161 apartments) and commercial (i.e., community rooms and the charter school) purposes.
[7] In this case, the dollar per kWh value used in the first residential upfront incentive formula was 3.6 times higher than the dollar per kWh value used in the first commercial upfront incentive formula ($450 versus $125 respectively).
[8] Project equipment is eligible for preapproval by meeting all technical requirements listed in section 4.2 of the Program Manual and upon Program Administrator review of the equipment's New Technology Application.

Finally, the attached Tear Sheets in Appendix A provide additional details pertaining to the project seeking upfront incentive approval.

Resolution

WHEREAS, in its June 24, 2022 meeting the Connecticut Green Bank Board of Directors (Board) approved the implementation of an Upfront Incentive Project Approval procedures ("Procedures") for non-residential projects under the Energy Storage Solutions Program (Program) with an estimated upfront incentive payment greater than $500,000 and procedures for less than $500,000;

WHEREAS, as part of the Procedures, Green Bank staff shall present Program projects via the consent agenda utilizing a standard form Tear Sheet process described in the memorandum to the Board dated June 24, 2022;

WHEREAS, in its December 9, 2022 meeting the Board approved updated Procedures to better align with the Program process;

NOW, therefore be it:

RESOLVED, that the Board hereby approves the estimated upfront incentives for one Program project above $500,000, totaling $1,020,770.60 consistent with the approved Procedures and this memorandum dated June 16, 2023;

RESOLVED, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver any and all documents and regulatory filings as they shall deem necessary and desirable to affect the above-mentioned incentives consistent with the Procedures.

Energy Storage Solution Program
Upfront Incentive Application

Project Description	Installation of a Tesla Megapack battery storage system with 979 kW of power capacity, and with 3,916 kWh of energy capacity, to reduce electric bills and provide backup power to a technical services facility during power outages.

Customer / Site information

Customer Name	NuPower Cherry Street LLC
Address	375 Howard Ave., Bridgeport, CT 06605
Business Purpose	Professional, Scientific, and Technical Services
Incentive Application No.	ESS-00635
Incentive Application Date	3/27/2023
Customer Peak Annual Demand (kW)	621.60
Customer Class (S / M / L)	Large
Project Developer / Installer	Waldron Engineering & Construction, Inc.

Program Eligibility

Critical Facility	No
Small Business	No
Onsite Fossil Fuel Generator	No
Grid Edge Customer	Yes
Participation in FCM Allowed	No
Participation in FCM Declared	No
Resiliency Plan on File (N/A if Grid Edge Customer)	No

Battery Energy Storage System (BESS) Characteristics

System Configuration	Paired with existing on-site generation (fuel cell)
Expected Program Participation	Passive and Active Dispatch
BESS Make / Model	Tesla Megapack
BESS Power Rating (kW)	1,927
BESS Energy Capacity (kWh)	3,854
BESS Technology Approval Status	Pre-Approved
Interconnection Application Filed	Yes
Interconnection Study Required	Fast Track study needed
Estimated Project Cost	$3,242,100

Benefit / Cost Ratios

RIM – Ratepayer Impact Measure	1.34
PCT – Participant Cost Test	0.88

PACT – Program Administrator Cost Test	1.77
SCT – Societal Cost Test	1.09
TRC – Total Resource Cost Test	1.09

Upfront Incentive Information

Incentive Application Status	▪ **Application Submitted** ▪ Approved Reservation of Funds Letter (ROF) ▪ Approved Confirmation of Funds Letter (COF)
Incentive Calculation Method	Tiered Rate using Peak Demand
Estimated Upfront Incentive	$1,020,770.60

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CONNECTICUT GREEN BANK

Memo

To: Board of Directors of the Connecticut Green Bank – Deployment Committee of the Connecticut Green Bank

From: Bryan Garcia (President and CEO)

Date: June 23, 2023

Re: Approval of Restructure/Write-Offs Requests below $100,000 and No More in Aggregate than $500,000 – Update

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At the June 13, 2018 Board of Directors (BOD) meeting of the Connecticut Green Bank ("Green Bank") it was resolved that the BOD approves the authorization of Green Bank staff to evaluate and approve loan loss restructurings or write-offs for transactions less than $100,000 which are pursuant to an established formal approval process in an aggregate amount not to exceed $500,000 from the date of the last Deployment Committee meeting. At the April 24, 2020 BOD meeting of the Green Bank, it was resolved that the BOD approves the authorization of Green Bank staff to evaluate and approve a semi-annual (or two quarterly periods) repayment modification of various transaction types in light of the COVID-19 pandemic.[1] And at the June 26, 2020 BOD meeting of the Green Bank, it was resolved that the BOD approves of the framework applying to subsidiaries of the Green Bank.

During this period, 1 project was evaluated and approved for payment restructure/write-off in an aggregate amount of approximately $5,968. If members of the board or committee would be interested in the internal documentation of the review and approval process Green Bank staff and officers go through, then please request it.

Project Name:	**WINN Solar Limited Partnership - Sunset Ridge Apartments**
Write-off Amount:	**$5,968.42**
Comprehensive Plan:	**OSDG**

Description

Green Bank staff is evaluating a write-off for a solar energy facility ("SEF") at Sunset Ridge Apartments at 17 Mountain Ridge Terrace, New Haven, CT 06513 (the "Project"), a 17-

[1] The Board also approved accommodation for one year for C-PACE transactions in certain towns where C-PACE assessments are collected annually.

building affordable housing community, with an estimated value of less than $6,000, for which Green Bank Staff approval is sufficient to move forward with the write-off.

The Project is a 131.48kW$_{STC}$ (116.810kW$_{PTC}$) rooftop solar project that is owned by WINN Solar Limited Partnership, which is affiliated with WinnCompanies. Green Bank entered into a Financial Assistance Agreement dated as of June 17, 2008 ("FAA") with the property owner. The cost to install the SEF in 2008 was $1,180,803.

In 2018, WinnCompanies sold Sunset Ridge Apartments to Capital Realty Group Inc, but they retained ownership of the SEF. Capital Realty Group has notified Winn Solar in 2023 that the solar must be removed to accommodate new roofs at the site. The current roofs have persistent leaks, and roof replacement is required immediately. Due to the age of the solar equipment and the costs to re-install, the building owner does not intend to re-install the solar panels after the roofs are replaced.

Given that the FAA obligation expires less than 2 weeks from now, which is the end of the 15-year term, WINN Solar LP wishes to have Green Bank approve an early termination to facilitate the immediate removal so that roofs can be replaced. There is an urgency to resolve this within the next few weeks, because the roof replacement is required as part of a larger transaction that Capital Realty is pursuing at Sunset Ridge, which intends to close by June 15. **The write-off amount is $5,968.42**, not including lost REC income.

With the approval by Senior Staff, the Green Bank will move towards writing off the Project.

Department of Economic and Community Development

Connecticut

Alexandra Daum
Commissioner

DESIGNATION OF REPLACEMENT MEMBER – CONNECTICUT GREEN BANK

KNOW ALL MEN BY THESE PRESENTS, that I, Alexandra Daum, Commissioner of the Department of Economic and Community Development for the State of Connecticut, as authorized by Conn. Gen. Stat. §4-9d, do hereby designate Robert Hotaling, Deputy Commissioner of Department of Economic and Community Development, to represent me at all meetings of the Connecticut Green Bank, as provided in section 16-245n of the Connecticut General Statutes, with full power to vote and act on my behalf.

This designation shall be coterminous with my term as Commissioner unless earlier terminated by me. This designation also terminates all earlier appointments to the position described herein.

Dated at Hartford, Connecticut this 17th day of May 2023.

Alexandra Daum
Commissioner

Witnessed by:

Maureen Brierton
Maureen Brierton

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

Katherine S. Dykes, Commissioner

DESIGNATION OF AUTHORITY FOR EX OFFICIO DIRECTORSHIP ON CONNECTICUT GREENBANK BOARD OF DIRECTORS

May 10, 2023

Pursuant to Connecticut General Statutes §§ 22a-2 and 16-245n(e), I, Katherine S. Dykes, the Commissioner of the Department of Energy and Environmental Protection, designate Hank Webster, Deputy Commissioner for Energy, as the Commissioner's ex officio member of the Connecticut Green Bank's Board of Directors, vested with the authority to exercise full powers, and to act and vote on the Commissioner's behalf. This designation shall remain in place until otherwise amended, revoked, or superseded. In the event, that Hank Webster is unable to participate in a board meeting, his alternate, Victoria Hackett, Chief of the Bureau of Energy and Technology Policy, may act in his stead.

Katherine S. Dykes
Commissioner
Department of Energy and Environmental Protection

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INCLUSIVE
PROSPERITY CAPITAL

Memo

To: Connecticut Green Bank Senior Team

From: Inclusive Prosperity Capital Staff

Date: May 15, 2023

Re: IPC Quarterly Reporting – Q3 FY23 (January 1, 2023 – March 31, 2023)

Progress to targets for Fiscal Year 2023, as of 3/31/2023

Product	Number of Projects	Projects Target	% to goal	Total Financed Amount	Financed Target	% to goal	MW Installed	MW Target	% to goal
Smart-E Loan	855	960	89.1%	$15,999,358	$14,994,623	106.7%	0.3	0.2	136.5 %
Multi-Family H&S	1	1	100%	$17,730,072	$0	n/a	n/a	n/a	n/a
Multi-Family Pre-Dev.	0	0	0%	$0	$0	0%	0.0	0.0	0%
Multi-Family Term	0	6	0%	$0	$1,380,000	0.0%	0.0	0.60	0.0%
Solar PPA	4	19	21.1%	$1,848,950	$13,710,000	13.57%	13	7.6	17.1%

PSA 5410 – Smart-E Loan

- Smart-E Volume continued its strong FY2023 performance in the third quarter, seeing 225 loans close for $4,428,359 (66 in January, 66 in February and 93 in March). HVAC projects continue to be the majority of volume this year. With the first round of contractor engagement completed, the Smart-E team has begun focusing on the Smart-E lenders. A lender road show has been planned for the forth quarter of fiscal year 2023 to provide updates to each lender on their current status and future Smart-E updates over the next year.

PSA 5411 – Multifamily

- **No Projects Closed in Q3 of FY'23**. IPC staff are working to bring the Seabury Coop H&S loan to the finish line, targeted for Q4 (mid-May 2023), and continue to shepherd a handful of prospective LIME financing opportunities that are currently at the evaluation/underwriting stage while working in close coordination with Green Bank staff for market engagement under the Affordable Multifamily Solar tariff program (additional detail below).
- **The ECT Health & Safety Revolving Loan Fund capital has been fully allocated** to two distressed co-ops. The first project is Antillean Manor, closed in Q2 of FY23 in the amount of $400,000. The second project, Seabury Coop, has a planned closing date in Q4 (mid-May 2023) in the amount of $892,500.
- **IPC has actively supported design/development of solar programs that will use the new solar tariff incentive**. Supporting the Green Bank, IPC staff have actively provided scenario modeling and participated in CTGB- and DEEP-led policy deliberations to inform PURA decision-making as part of PURA's affordable multifamily solar tariff rule-making docket. We continue to collaborate with CTGB in revisiting program design for this sector, with an eye towards higher volume deployment that leverages the final form of the tariff offering.
- **We continued to provide support for long-term distressed projects, Seabury Co-op in New Haven and Success Village in Bridgeport**, that are being stabilized and preserved as affordable housing by funding energy and health and safety improvements. Seabury is moving towards the end of its respective pre-development processes and securing term financing for project implementation. Success Village's governance and management changes have prevented further involvement/support for this project at this time.

PSA 5412 – Solar PPA

- To-date, 4 solar PPA projects have closed in FY23 for 1.3MW for $1,848,950 in total funds deployed.
- IPC staff responded to PPA pricing requests received by CTGB staff, particularly extensive scenarios to support the Solar MAP initiative.
- IPC staff continues to survey and monitor pricing competitiveness across installer and developer channels. General feedback is that our current pricing offering is competitive (for those projects requesting pricing).
- IPC staff continues to enhance its use of IPC Salesforce Platform to provide formatted installer/developer pricing responses.
- IPC staff worked with CTGB staff to fund 12 Solar MAP Round 1 projects in the 2022 partnership. Staff continue to coordinate with CTGB staff on funding the remaining 4 Solar MAP Round 1 projects in early 2023.
- IPC staff has executed a Master Services Agreement with AEC as its new long-term engineering services provider for O&M, project inspection, etc. in CT in Q1 FY23.
- Staff continues to coordinate as part of the CGB-IPC Storage Product Working Group to identify market opportunities, structures and products to leverage the Green Bank's new storage incentive program.

- IPC staff coordinated with CGB staff to structurally approve Greenleaf as an eligible PPA EPC.

Use of DEEP Proceeds

Energize CT Health & Safety Revolving Loan Fund

- The multifamily housing team's work in closing and funding two H&S loans to distressed co-ops in New Haven is reaching the finish line: Seabury Cooperative has a scheduled closing in late-May 2023 in the amount of $892,500.

- The loan described above accounts for the remaining H&S funds available. Once deployed, we will begin funding projects with capital as it becomes available from repayments.

$5M Capital Grant

- In Q1 FY20, IPC's Board approved a $1.2M investment in Capital for Change to provide liquidity under its successful LIME Loan program offered in partnership with the Connecticut Green Bank. Although the transaction was expected to close in February 2020 under a master facility construct with CGB, in the wake of the COVID-19 outbreak, CGB funded the entirety of the LIME recapitalization in IPC's stead. IPC is in discussions with CGB to reactivate the participation opportunity with Capital for Change, with a target closing in Q2 of 2023.

General Updates

Below are updates for the third quarter of FY23:

- **Capital raising**:
    - No capital raising needs at present.

- **Business/Product Development/Initiatives of interest to Connecticut**:
    - Software licensing agreement for the NGEN platform
        - Colorado Energy Office has transferred the program out of the state energy office to the CO Clean Energy Fund (their green bank) for easier contracting. Discussions in advanced stages for licensing NGEN.
        - Advanced discussions for NGEN licensing with CAETFA. Have worked through numerous CA contracting and procurement challenges.
    - Full Smart-E Program Implementation
        - Working with Inclusiv, Smart-E launch has launched in NM (public launch event on 4/22) and AZ (public launch event on 5/19) with TX to follow later in 2023 with funding provided by Wells Fargo Foundation. This is for a lender-led model, meaning no green bank or state energy office sponsoring the program, and with IPC being compensated to manage the program. IPC closed a $2.5M guarantee with the Community Investment Guarantee Program for a credit enhancement for participating lenders.
        - Continued work with Inclusiv (the member network of CDFI/community development credit unions) and UNH Carsey (under a DOE grant) on potential Smart-E programs in various geographies, many led by lender

interest, some by green bank or state/local government interest. Discussions ongoing with partners in over 20 states.

- Continued to work with a number of green banks, state energy offices, local governments, community-based lenders (including CDFIs), etc. on leveraging IPC's products and financing strategies. Continue to coordinate with CGC on a variety of opportunities.

- **Administrative**:
  - Staffing and Recruiting Update – Below are changes to staff:
    - Additions:
      - Melinda Mason - Counsel 3/13/23
      - Brian Sullivan - Director Clean Energy Finance 4/3/23
      - Matthew Yung - Senior Investment Analyst 5/1/23
    - Departures:
      - Tobias Daros - Senior Manager, Clean Energy Transactions 3/22/23
    - Currently open:
      - Accounting Manager
      - Underwriting Analyst
      - Manager, Solar Development Finance

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CONNECTICUT
GREEN BANK

Memo

To: Connecticut Green Bank Board of Directors

From: Bryan Garcia (President and CEO), Jane Murphy (Executive Vice President of Finance and Administration), and Eric Shrago (Vice President of Operations)

Date: June 16, 2023

Re: Proposed FY2024 Targets and Budget

After last summer's surprise passage of the Inflation Reduction Act, there continues to be an air of excitement as we expect much that was in that legislation will facilitate the maturation of clean energy markets and further the deployment of clean energy, not just in Connecticut but across the county. As staff eagerly await the funding to start to flow from Washington, we are currently implementing our "Dream Big" proposals for scaling up:

- We have hired a Director to lead our new Environmental Infrastructure efforts, and we are working to roll out the first wave of new Smart-E measures to address water measures for homeowners.
- We are working on the evaluation of the first full year of Energy Storage Solutions with the two utilities in the state as co-administrators and are continuing to find areas that we need to address to achieve greater deployment of energy storage.
- Our Marketplace Assistance Program for the PPA and our C-PACE programs continue to bring the organization projects and advance the deployment of clean energy in Connecticut.

Between these programs, and our continued efforts to increase investment in and deliver the benefits from the clean energy economy to vulnerable communities, we are looking at many exciting developments this upcoming fiscal year.

After careful consideration and reflection staff have constructed the below targets and supporting budget for the upcoming fiscal year and have reviewed these with the Board's Budget, Operations, and Compensation (BO&C) Committee.

I. Targets

The Green Bank has proposed the following targets for each sector's programs for the upcoming fiscal year:

Table 1: Financing Programs Targets

Segment	Product	Channel	Targets				Societal Impacts			
			Number of Projects	Total Capital Deployed	CGB Capital Deployed	Capacity Installed	EstimatedTotal annual Emissions (tons)	Total Direct Jobs	Total Indirect/Induced Jobs	Total Jobs
Financing Programs	CPACE	Total CPACE	19	$21,170,000	$7,700,000	0.0	0	65.6	84.7	150.3
	PPA/Roof Leases	Total PPA	16	$16,081,668	$11,049,001	8.2	14,098	49.9	64.3	114.2
	SBEA		480	$11,728,000	$2,345,600		65,493	68.0	88.0	156.0
	Multi-Family Pre-Dev		0	$0		0.0		-	-	-
	Multi-Family Term	Total Multi-Family Term	3	$300,000	$300,000	0.3	529	0.9	1.2	2.1
	Transportation	EVCC	0	0		0	150,000	-	-	-
	Strategic Investments	Total Strategic Investments	0	$10,000,000	$10,000,000	0.0	0			
	Financing Programs Total		515	$ 58,979,668	$ 31,094,601	8.2	229,591	181.9	234.9	416.8

Table 2: Incentive Programs Targets

Segment	Program		Targets				Societal Impacts			
			Number of Projects	Total Capital Deployed	CGB Capital Deployed	Capacity Installed/ Nameplate Capacity	EstimatedTotal annual Emissions (tons)	Total Direct Jobs	Total Indirect/Induced Jobs	Total Jobs
Incentive Programs	ESS (C&I)	*C&I Storage Incentives Total*	29	73,529,412		50.0	0			
	ESS	Total Battery Storage	279	$81,529,412		52.1	0	-	-	-
	Smart-E	Total Smart-E	944	$17,852,737		0.3	17,203	92.4	119.9	212.3
	Incentive Programs Total		1,211	$98,998,148		52.3	17,203	92	120	212

Table 3: Organizational Targets

Segment	Business Segment	Targets				Societal Impacts			
		Number of Projects	Total Capital Deployed	CGB Capital Deployed	Capacity Installed	EstimatedTotal annual Emissions (tons)	Total Direct Jobs	Total Indirect/Induced Jobs	Total Jobs
CGB	Financing Programs Total	515	$58,979,668	$ 31,094,601	8.2	229,591	181.9	234.9	416.8
	Incentive Programs Total	1,211	$98,998,148	$0	52.3	17,203	92.4	119.9	212.3
	Green Bank Total	1,726	$157,977,816	$ 31,094,601	60.5	246,794	274	355	629

II. Proposed Green Bank FY 2024 Operating and Program Budget

Enclosed is the proposed Green Bank's FY 2024 budget for review and discussion at the June 23rd meeting.

Revenues

At the May 10th BO&C Committee meeting, we focused on the above targets and the revenue for the FY 2024 budget, which staff forecast to be $54,106,801. This estimate includes public revenues (utility customer assessments and RGGI auction proceeds) and earned revenues (interest income, REC sales, grants, and closing fees). The public revenues are $29,397,900, or 54% of total revenues – while the earned revenues are $24,708,901, or 46% of total revenues ($13.1 Million for the incentive programs and $11.2 Million for the financing programs). This is the highest amount of earned revenue forecast for the organization in our existence and a significant increase YOY (in FY23, we forecast earned revenue to be just 38% of all revenues) as we continue to make steady progress on sustainability.

Expenses

In the Jun 7th meeting of the BO&C Committee, we reviewed proposed organizational expenses. Projected operating expenses for FY2024 are forecast at $ 29,029,228 – or $15,778,369 for personnel (i.e., 70% Financing Programs, 23% Incentive Programs, and 5% Environmental Infrastructure Programs) and $13,250,859 for non-personnel (i.e., 56% Financing Programs, 40% Incentive Programs, and 4% Environmental Infrastructure Programs) related operating expenses. Year on year, expenses are increasing by 10%. The noteworthy year on year budget differences are:

- **Compensation and Benefits** – increase of $3,562,582 representative of 5 new positions (two new team members in battery storage, an additional member of the asset management team to help ensure optimized production, an environmental markets (carbon focused) manager to drive our carbon offsets program, and an additional member of our investments team). This is in addition to the 5 positions that were added as part of the dream big scenario but were only budgeted for a fraction of the year this fiscal year

- **Program Administration** – is due to decrease by $1,086,914. The driver of this is having made significant progress on the wireless meters replacements to ensure SHREC revenue for the RSIP.

- **Program Administration (IPC Fee)** – will decrease by 25% or $341,555 as per our agreements with Inclusive Prosperity Capital.

- **Marketing** – we are forecasting a decrease of $179,740 as we expended towards some bigger projects this past year (i.e. website redesign). We have shifted the costs of the project development partner from marketing to consulting and have offset this drop by proposing expenses that will greater facilitate the reach of our home solutions products (Smart-E and ESS)

- **Evaluation, Measurement & Verification** – is nearly flat YOY

- **Research and Development** – will decrease by $362,000 now that the work on the Hydrogen Task Force Study is complete.

- **Consulting and Professional Fees** – This is proposed to increase by $550,665. This is driven primarily by two proposed expenses. The first is the project development partner who is a central part of our Marketplace Assistance Program as they are the ones that shepherd projects to completion. This cost will be offset by the revenues from the PPA's developed as part of this channel. The second is for our Carbon Markets Consultant who is critical to our Electric Vehicle Charging Carbon Credits program. This cost will be offset fully by the revenues achieved once we monetize the credits minted from this program.

- **Bond Issuance Costs** – As we do not intend to issue another SHREC backed municipal bond this year, we are not budgeting for any issuance costs at this time.

- **Grants and Incentives** – are projected to be $9,559,093 for our existing programs (down 41% YOY); while non-operating expenses (e.g., interest expense, provision for loan losses) are projected to be $ 3,911,900 or an decrease of 29%.

Investments
This budget includes $31,094,000 in projected investments that deliver $10.9M in interest income, or a weighted average return of 4.42% over 8 years.

On June 7th, the Budget, Operations, and Compensation Committee recommended the budget and targets to the Board of Directors for their approval.

Resolution:

WHEREAS, Section 5.2.2 of the Bylaws of the Connecticut Green Bank's requires the recommendation of the Budget, Operations, and Compensation Committee (Committee) of the annual budget to the Connecticut Green Bank Board of Directors;

WHEREAS, on June 7, 2023, the Committee recommended the adoption of these targets and budget for FY2024 and the professional services agreements (PSAs) listed below;

NOW, therefore be it:

RESOLVED, the Board of Directors authorizes Green Bank staff to enter into new or extend existing PSAs with the following, contingent upon a competitive bid process having occurred in the last three years (except Inclusive Prosperity Capital):

I. New Charter Technologies (Adnet Technologies, LLC parent company)
II. Alter Domus (formerly Cortland)
III. Clean Power Research, LLC
IV. Craftsman Technologies
V. C-TEC Solar, LLC
VI. DNV (includes what was formerly ERS)
VII. Go, LLC
VIII. Guidehouse (formerly Navigant)
IX. Inclusive Prosperity Capital
X. PKF O'Connor Davies
XI. Strategic Environmental Associates

For fiscal year 2024 with the amounts of each PSA not to exceed the applicable approved budget line item;

RESOLVED, that the Green Bank Board hereby approves: (1) the FY2024 Targets and Budget.

Connecticut Green Bank
FY 2024 Operating and Program Budget
Table of Contents

Presented to the Board of Directors on June 23, 2023

Presented to BOC Committee on May 10 and June 7, 2023

Connecticut Green Bank
FY 2024 Operations and Program Budget - DRAFT
Statement of Revenues and Expenses - Financing Programs vs. Incentive Programs vs. Environmental Infrastructure Programs

	Total CT Green Bank			Financing Programs			Incentive Programs			Environmental Infrastructure		
	FY24	FY23	YOY	FY24	FY23	YOY	FY24	FY23	YOY	FY24	FY23	YOY
	Budget	Budget	Variance	Budget	Budget	Variance	Budget	Budget	Variance	Budget	Budget	Variance
Revenue												
Operating Income	44,889,934	48,517,837	(3,627,903)	32,568,650	36,067,201	(3,498,551)	12,321,284	12,450,636	(129,352)	0	0	0
Interest Income	7,885,255	6,158,000	1,727,254	7,845,955	6,104,600	1,741,354	39,300	53,400	(14,100)	0	0	0
Interest Income, Capitalized	60,000	48,000	12,000	60,000	48,000	12,000	0	0	0	0	0	0
Other Income	1,271,612	404,535	867,078	504,500	404,535	99,965	767,112	0	767,112	0	0	0
Total Revenue	**$ 54,106,801**	**$ 55,128,372**	**(1,021,571)**	**$ 40,979,105**	**$ 42,624,336**	**(1,645,232)**	**$ 13,127,696**	**$ 12,504,036**	**623,660**	**$ 0**	**$ 0**	**0**
Operating Expenses												
Compensation and Benefits												
Employee Compensation	8,292,695	6,477,984	1,814,711	5,877,918	4,361,135	1,516,783	1,977,871	1,792,338	185,533	436,906	324,510	112,395
Employee Benefits	7,485,674	5,737,803	1,747,871	5,288,227	3,873,222	1,415,005	1,799,863	1,572,523	227,340	397,584	292,060	105,525
Total Compensation and Benefits	15,778,369	12,215,787	3,562,582	11,166,145	8,234,357	2,931,788	3,777,734	3,364,861	412,873	834,490	616,570	217,920
Program Development & Administration	3,891,852	4,828,766	(936,914)	1,308,052	936,766	371,286	2,303,800	3,492,000	(1,188,200)	280,000	400,000	(120,000)
Program Administration-IPC Fee	1,024,665	1,366,220	(341,555)	786,948	1,049,197	(262,249)	237,717	317,022	(79,305)	0	0	0
Lease Origination Services	4,000	4,000	0	4,000	4,000	0	0	0	0	0	0	0
Marketing Expense	1,620,425	1,800,165	(179,740)	1,147,825	1,272,099	(124,274)	472,600	528,066	(55,466)	0	0	0
E M & V	1,030,004	1,048,000	(17,996)	205,000	205,000	0	825,004	843,000	(17,996)	0	0	0
Research and Development	358,000	720,000	(362,000)	220,000	415,000	(195,000)	0	179,000	(179,000)	138,000	126,000	12,000
Consulting and Professional Fees	2,097,715	1,536,050	561,665	1,436,715	955,950	480,765	611,000	580,100	30,900	50,000	0	50,000
Rent and Location Related Expenses	1,107,142	1,088,430	18,712	930,538	908,731	21,807	144,651	151,895	(7,244)	31,953	27,804	4,149
Office, Computer & Other Expenses	2,267,056	1,780,265	486,791	1,605,856	1,227,302	378,554	602,904	513,204	89,700	58,296	39,759	18,536
Total Operating Expenses	**29,179,228**	**26,387,683**	**2,791,545**	**18,811,079**	**15,208,402**	**3,602,677**	**8,975,410**	**9,969,148**	**(993,738)**	**1,392,739**	**1,210,133**	**182,605**
Program Incentives and Grants												
Financial Incentives-CGB Grants	485,000	5,185,000	(4,700,000)	425,000	5,125,000	(4,700,000)	60,000	60,000	0	0	0	0
Program Expenditures-Federal Grants	40,000	40,000	0	40,000	40,000	0	0	0	0	0	0	0
EPBB/PBI/HOPBI Incentives	7,200,000	9,396,958	(2,196,958)	0	0	0	7,200,000	9,396,958	(2,196,958)	0	0	0
Battery Storage Incentives	1,834,093	1,657,012	177,081	0	0	0	1,834,093	1,657,012	177,081	0	0	0
Total Program Incentives and Grants	**$ 9,559,093**	**$ 16,278,970**	**(6,719,877)**	**$ 465,000**	**$ 5,165,000**	**(4,700,000)**	**$ 9,094,093**	**$ 11,113,970**	**(2,019,877)**	**$ 0**	**$ 0**	**0**
Operating Income/(Loss)	**$ 15,368,480**	**$ 12,461,719**	**2,906,761**	**$ 21,703,025**	**$ 22,250,934**	**(547,909)**	**$ (4,941,807)**	**$ (8,579,082)**	**3,637,275**	**$ (1,392,739)**	**$ (1,210,133)**	**(182,605)**
Non-Operating Expenses												
Interest Expense	1,918,737	2,554,641	(635,904)	155,457	169,732	(14,275)	1,763,280	2,384,909	(621,629)	0	0	0
Provision for Loan Loss	1,743,163	2,333,000	(589,837)	1,743,163	2,333,000	(589,837)	0	0	0	0	0	0
Interest Rate Buydowns-ARRA	250,000	600,000	(350,000)	0	0	0	250,000	600,000	(350,000)	0	0	0
Total Non-Operating Expenses	**$ 3,911,900**	**$ 5,487,641**	**(1,575,741)**	**$ 1,898,620**	**$ 2,502,732**	**(604,112)**	**$ 2,013,280**	**$ 2,984,909**	**(971,629)**	**$ 0**	**$ 0**	**0**
Net Revenues Over (Under) Expenses	**11,456,580**	**6,974,079**	**4,482,501**	**19,804,406**	**19,748,203**	**56,203**	**(6,955,087)**	**(11,563,990)**	**4,608,904**	**(1,392,739)**	**(1,210,133)**	**(182,605)**

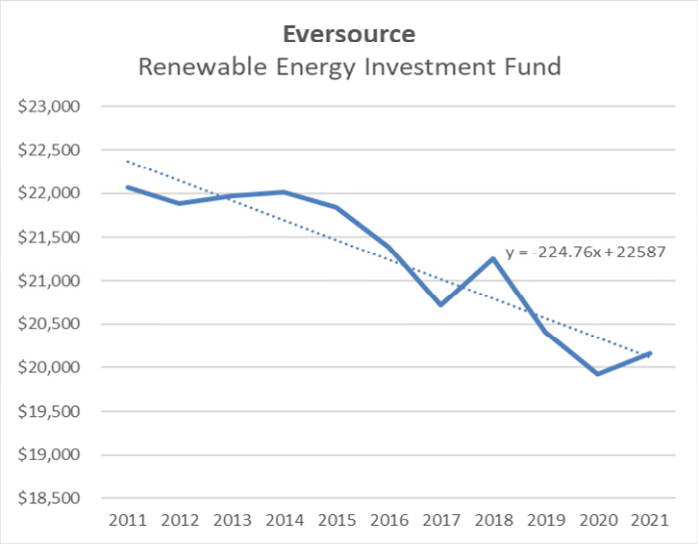
Connecticut Green Bank
FY 2024 Operating and Program Budget - DRAFT
Revenue Detail

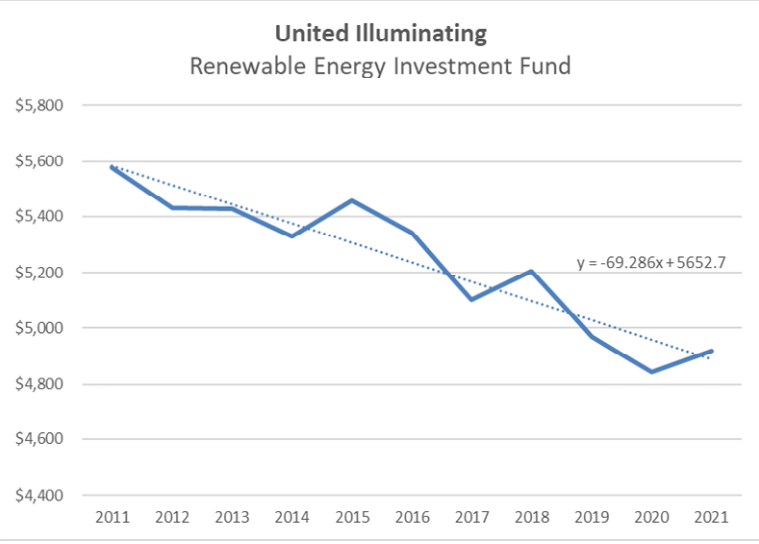
	FY24 Budget	FY23 Budget	$ Increase / (Decrease)	FY23 YTD 06/1/23
Revenues				
Utility customer assessments	$ 24,203,000	$ 24,737,413	$ (534,413)	$ 21,063,812
RGGI auction proceeds - renewables	10,410,444	9,278,117	1,132,327	6,312,752
RGGI auction proceeds - renewables - ESB Support	(5,210,444)	(367,829)	(4,842,615)	-
Total Public Revenue:	$ 29,403,000	$ 33,647,701	$ (4,244,701)	$ 27,376,564
Interest Income - Cash Intercompany	73,200	69,475	3,725	59,292
Interest Income - Cash deposits	180,000	50,400	129,600	1,122,984
Interest Income - Delinquent CPACE payments	-	-	-	13,861
Interest Income - Capitalized construction interest	60,000	48,000	12,000	162,465
Interest Income - Residential PV Solar Loans (Solar Loan 1)	36,000	54,000	(18,000)	37,651
Interest Income - CPACE Warehouse, benefit assessments	2,690,173	2,937,675	(247,502)	2,341,813
Interest Income - Loan portfolio, other programs	4,823,382	2,942,841	1,880,540	2,816,844
Interest Income - CPACE Selldown Bonds	43,200	50,209	(7,009)	66,922
Interest Income - Solar lease I promissory notes, net	39,300	53,400	(14,100)	44,257
CPACE closing fees	120,000	123,000	(3,000)	46,106
Grant income (federal programs)	40,000	40,000	-	1,453
Grant income (private foundations)	150,000	-	150,000	24,402
REC sales	1,910,750	1,466,500	444,250	2,241,182
REC sales to utilities under SHREC program	12,321,284	12,450,636	(129,352)	12,922,085
PPA Income	500,000	465,000	35,000	419,768
LREC/ZREC Income	450,000	325,000	125,000	463,035
Other income - Programs	836,112	81,000	755,112	616,521
Other income - General [(1)]	435,500	323,535	111,965	174,366
Total Earned Revenue:	$ 24,708,901	$ 21,480,671	$ 3,228,229	$ 23,575,007
Total Sources of Revenue:	$ 54,111,901	$ 55,128,372	$ (1,016,471)	$ 50,951,571

(1) Of the $423,535 in Other Income - General, $225,535 is from EV Carbon Offsets.

Connecticut Green Bank
FY 2024 General Operations Budget - DRAFT
Utility Customer Assessment Projections

	FY24 Budget	FY23 Budget	FY23 Projected (1)	YOY Budget Incr / (Decr)	FY24 Budget vs. FY23 Projected	FY23 Budget vs. FY23 Projected
July	$ 2,336,500	$ 2,324,667	$ 2,324,667	$ 11,833	$ 11,833	$ -
August	2,524,400	2,755,685	2,755,685	(231,285)	(231,285)	-
September	2,253,800	2,362,839	2,362,839	(109,039)	(109,039)	-
October	1,772,500	1,774,172	1,774,172	(1,672)	(1,672)	-
November	1,750,700	1,756,750	1,756,750	(6,050)	(6,050)	-
December	2,038,300	2,055,600	2,065,644	(17,300)	(27,344)	10,044
January	2,154,800	2,224,200	2,201,693	(69,400)	(46,893)	(22,507)
February	2,070,400	2,122,400	1,956,396	(52,000)	114,004	(166,004)
March	1,945,500	1,969,700	1,978,036	(24,200)	(32,536)	8,336
April	1,809,500	1,841,100	1,887,931	(31,600)	(78,431)	46,831
May	1,666,600	1,674,300	1,705,600	(7,700)	(39,000)	31,300
June	1,880,000	1,876,000	1,916,300	4,000	(36,300)	40,300
Total assessments:	$ 24,203,000	$ 24,737,413	$ 24,685,712	$ (534,413)	$ (482,712)	$ (51,701)
				(2.2%)	(2.0%)	(0.2%)

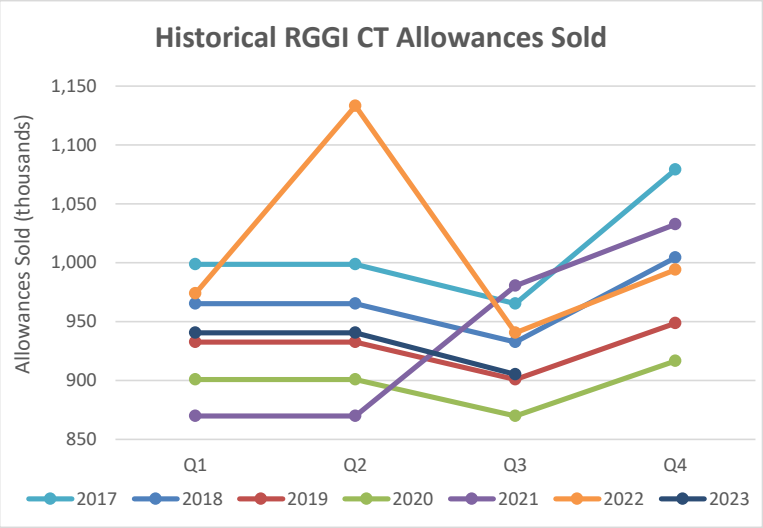




(1) Actual data through Apr 2023 and estimated data beyond.

Connecticut Green Bank
FY 2024 General Operations Budget - DRAFT
RGGI Auction Receipts

	FY24 Action #	Price	Allowances	FY24 Budget	FY23 Budget	FY23 Projected	YOY Budget Incr / (Decr)	FY23 Budget vs. Projected
September Auction	61	$ 12.00	940,000	$ 2,594,400	$ 2,909,041	$ 2,909,041	$ (314,641)	$ -
December Auction	62	$ 11.88	965,000	$ 2,636,766	801,247	801,247	1,835,519	-
March Auction	63	$ 11.76	930,000	$ 2,515,464	2,711,781	2,602,464	(196,317)	(109,317)
June Auction	64	$ 11.64	995,000	$ 2,663,814	2,856,048	2,972,230	(192,234)	116,182
September ESB Support				-	-	-	-	-
December ESB Support				(31,166)	-	-	(31,166)	-
March ESB Support [1]				(2,515,464)	-	-	(2,515,464)	-
June ESB Support [1]				(2,663,814)	(367,829)	(374,695)	(2,295,985)	(6,866)
			Total auction receipts:	$ 5,200,000	$ 8,910,288	$ 8,910,288	$ (3,710,288)	$ (0)
Auction Proceeds				$ 10,410,444	$ 9,278,117	$ 9,284,983	$ 1,132,327	$ 6,866
ESB Support				(5,210,444)	(367,829)	(374,695)	(4,842,615)	(6,866)
			Total auction receipts:	$ 5,200,000	$ 8,910,288	$ 8,910,288	$ (3,710,288)	$ (0)



[1] Per Public Act 22-25, to support electric school buses in vulnerable communities (i.e., environmental justice communities), proceeds in excess of $5.2 million for each fiscal year to be directed to DEEP to support vouchers under CHEAPR.

Connecticut Green Bank
FY 2024 RSIP Budget - DRAFT
REC Revenue

Tranche	Description	FY24 Budget - DRAFT: Fiscal Q1 2024	Fiscal Q2 2024	Fiscal Q3 2024	Fiscal Q4 2024	Total Fiscal 2024 Budget	Total Fiscal 2023 Budget	YOY Budget Incr / (Decr)	FY23 Actual	FY23 Budget vs. Actual
	Generation Month	**Calendar Q1 2023**	**Calendar Q2 2023**	**Calendar Q3 2023**	**Calendar Q4 2023**	**Total Calendar Year 2023**	**Total Calendar Year 2022**	**YOY Budget Incr / (Decr)**	**Total Calendar Year 2022**	**Calendar 2022 Budget vs. Actual**
SHREC T1	P90 Generation (mWh)	8,443	14,589	14,091	6,416	43,539	44,189	(650)	42,558	(1,631)
SHREC T1	Revenue @ $50 / mWh	$ 422,150	$ 729,450	$ 704,550	$ 320,800	$ 2,176,950	$ 2,209,450	$ (32,500)	$ 2,127,900	$ (81,550)
SHREC T2	P90 Generation (mWh)	10,821	18,419	17,820	8,234	55,294	56,053	(759)	54,294	(1,759)
SHREC T2	Revenue @ $49 / mWh	$ 530,229	$ 902,531	$ 873,180	$ 403,466	$ 2,709,406	$ 2,746,597	$ (37,191)	$ 2,660,406	$ (86,191)
SHREC T3	P90 Generation (mWh)	6,828	11,977	11,589	5,167	35,561	35,854	(293)	39,801	3,947
SHREC T3	Revenue @ $48 / mWh	$ 327,744	$ 574,896	$ 556,272	$ 248,016	$ 1,706,928	$ 1,720,992	$ (14,064)	$ 1,910,448	$ 189,456
SHREC T4	P90 Generation (mWh)	10,550	18,688	18,047	8,008	55,293	55,772	(479)	60,076	4,304
SHREC T4	Revenue @ $47 / mWh	$ 495,850	$ 878,336	$ 848,209	$ 376,376	$ 2,598,771	$ 2,621,284	$ (22,513)	$ 2,823,572	$ 202,288
SHREC T5	P90 Generation (mWh)	11,417	20,128	19,494	8,670	59,709	60,047	(338)	65,549	5,502
SHREC T5	Revenue @ $35 / mWh	$ 399,595	$ 704,480	$ 682,290	$ 303,450	$ 2,089,815	$ 2,101,645	$ (11,830)	$ 2,294,215	$ 192,570
SHREC T6	P90 Generation (mWh)	5,884	10,278	9,957	4,452	30,571	30,902	(331)	32,516	1,614
SHREC T6	Revenue @ $34 / mWh	$ 200,056	$ 349,452	$ 338,538	$ 151,368	$ 1,039,414	$ 1,050,668	$ (11,254)	$ 1,105,544	$ 54,876
	Total SHREC Revenue	$ 2,375,624	$ 4,139,145	$ 4,003,039	$ 1,803,476	$ 12,321,284	$ 12,450,636	$ (129,352)	$ 12,922,085	$ 471,449
	Generation Month	**Calendar Q1 2023**	**Calendar Q2 2023**	**Calendar Q3 2023**	**Calendar Q4 2023**	**Total Calendar Year 2023**	**Total Calendar Year 2022**	**YOY Budget Incr / (Decr)**	**Total Calendar Year 2022**	**Calendar 2022 Budget vs. Actual**
Non-SHREC	Actual Generation (mWh)	-	-	-	66,000	66,000	49,000	17,000	49,000	-
Non-SHREC	Revenue @ $31.7256* / mWh	$ -	$ -	$ -	$ 1,925,750	$ 1,925,750	$ 1,478,750	$ 447,000	$ 2,241,182	$ 762,432
	Commission Expense	-	-	-	(15,000)	(15,000)	(12,250)	(2,750)	-	12,250
	Total Non-SHREC Revenue	$ -	$ -	$ -	$ 1,910,750	$ 1,910,750	$ 1,466,500	$ 444,250	$ 2,241,182	$ 774,682
	Total REC Revenue	$ 2,375,624	$ 4,139,145	$ 4,003,039	$ 3,714,226	$ 14,232,034	$ 13,917,136	$ 314,898	$ 15,163,267	$ 1,246,131

Notes:

* The Green Bank manages its price risk by selling its Non-SHREC RECs in advance to buyers. To date we have sold 41,000 @ at a weighted average price of $31.7256.

Connecticut Green Bank
FY 2024 Operations and Program Budget - DRAFT
Staffing Plan

Position / Department	Name	Staffing Budget Hours			Staffing Budget FTEs			Staffing Budget $s		
		FY24	FY23	YOY Variance	FY24	FY23	YOY Variance	FY24	FY23	YOY Variance
Employees Employed Year Over Year										
Senior Associate, Incentive Programs	Attruia, Stephanie	2,080	2,080		1.00	1.00				
Corporate Paralegal	Backman, Blaire	2,080	2,080		1.00	1.00				
Associate Director, Financing Programs	Basham, Emily	2,080	2,080		1.00	1.00				
Senior Manager, Investments	Beech, David	2,080	2,080		1.00	1.00				
Senior Manager, Operations	Buonannata, Giuseppe	2,080	2,080		1.00	1.00				
Managing Director, Incentive Programs	Carrillo, Sergio	2,080	2,080		1.00	1.00				
Controller	Cartelli, Shawne	2,080	2,080		1.00	1.00				
Associate Director, Data and Impact	Charpentier, Lucy	2,080	2,080		1.00	1.00				
Senior Associate, Incentive Programs	DeTeso, William	2,080	2,080		1.00	1.00				
Associate Director, Financing Programs	Duncan, Catherine	2,080	2,080		1.00	1.00				
Vice President, Financing Programs	Dykes, Mackey	2,080	2,080		1.00	1.00				
General Counsel and Chief Legal Officer	Farnen, Brian	2,080	2,080		1.00	1.00				
President and CEO	Garcia, Bryan	2,080	2,080		1.00	1.00				
Associate Director, Innovation & Strategic Advisor to the President and CEO	Harari, Sara	2,080	2,080		1.00	1.00				
Executive Vice President and Chief Investment Officer	Hunter, Bert	2,080	2,080		1.00	1.00				
Office Manager	Johnson, Barbara	2,080	2,080		1.00	1.00				
Senior Associate, Asset Management & Compliance	Johnson, Karl	2,080	2,080		1.00	1.00				
Associate Director and Deputy General Counsel	Kovtunenko, Alex	2,080	2,080		1.00	1.00				
Senior Manager, Incentive Programs	Kranich, Ed	2,080	2,080		1.00	1.00				
Associate Director, Financing Programs	Lembo-Buzzelli, Alysse	2,080	2,080		1.00	1.00				
Associate, Incentive Programs	Lewis, Lynne	2,080	2,080		1.00	1.00				
Senior Manager, Financing Programs	Ludwig, Peter N.	2,080	2,080		1.00	1.00				
Executive Assistant to the President and CEO	Lumpkin, Cheryl	2,080	2,080		1.00	1.00				
Senior Associate, Incentive Programs	Maiolo, Stephanie	2,080	2,080		1.00	1.00				
Associate Manager, Incentive Programs	McCarthy, Neil	2,080	2,080		1.00	1.00				
Associate Director, Investments	Miller, Desiree	2,080	2,080		1.00	1.00				
Executive Vice President, Finance and Administration	Murphy, Jane	2,080	2,080		1.00	1.00				
Senior Manager, Incentive Programs	Pyne, Sara	2,080	2,080		1.00	1.00				
Associate Director, Marketing & Outreach	Schmitt, Robert	2,080	2,080		1.00	1.00				
Senior Accountant	Schneider, Ariel	2,080	2,080		1.00	1.00				
Vice President, Operations	Shrago, Eric	2,080	2,080		1.00	1.00				
Associate Director, Financial Reporting	Smith, Dan	2,080	2,080		1.00	1.00				
Senior Accountant	Soares, Natalia	2,080	2,080		1.00	1.00				
Senior Manager, Investments	Stewart, Fiona	2,080	2,080		1.00	1.00				
Associate Director, Marketing & Communication Strategy	Sturk, Rudy	2,080	2,080		1.00	1.00				
Senior Associate, Financing Programs	Tsitso, Christina	2,080	2,080		1.00	1.00				
Associate, Incentive Programs	Vigil, Marycruz	2,080	2,080		1.00	1.00				
Associate Director, Special Projects	Waters, Barbara	2,080	2,080		1.00	1.00				
	Subtotal	79,040	79,040	-	38.00	38.00	-	$ 5,382,652	$ 4,681,933	$ 700,719
Employees Hired for Open Positions										
Associate Director, Investments	Campana, Lawrence	2,080	2,080		1.00	1.00				
Associate Director, Legislative & Regulatory Affairs	DeSantos, James	2,080	2,080		1.00	1.00				
Associate, Marketing & Outreach (prior year includes Andrea Janecko)	Gustavsen, Abby	2,080	2,080		1.00	1.00				
Associate Director, Portfolio Management	Lesniak, Corey	2,080	2,080		1.00	1.00				
Senior Accountant	Rubega, Tyler	2,080	2,080		1.00	1.00				

Connecticut Green Bank
FY 2024 Operations and Program Budget - DRAFT
Staffing Plan

	Position / Department	Name	Staffing Budget Hours FY24	Staffing Budget Hours FY23	Staffing Budget Hours YOY Variance	Staffing Budget FTEs FY24	Staffing Budget FTEs FY23	Staffing Budget FTEs YOY Variance	Staffing Budget $s FY24	Staffing Budget $s FY23	Staffing Budget $s YOY Variance
	Manager, Marketing & Outreach	Sobocinski, Laura	2,080	2,080		1.00	1.00				
	Manager, Community Engagement	Stewart, Ashley	2,080	2,080		1.00	1.00				
	Associate Director, Investments	Trief, Mariana	1,560	768		0.75	0.37				
(1)	Senior Manager, Residential Outreach	Colonis, William	2,080	320		1.00	0.15				
		Subtotal	18,200	15,648	2,552	8.75	7.52	1.23	$ 1,237,426	$ 849,649	$ 387,777
	Open Positions - Vacancies										
(2)	FY22 - Open-Director, Environmental Infrastructure		1,600	2,080		0.77	1.00				
(3)	FY23 - Open-Finance - Underwriting Lead		2,080	2,080		1.00	1.00				
(4)	FY23 - Open-Sr. Accountant		2,080	1,040		1.00	0.50				
(4)	FY23 - Open-Financing Programs - Senior Manager		2,080	560		1.00	0.27				
(4)	FY23 - Open-Financing Programs - Senior Manager		2,080	560		1.00	0.27				
(4)	FY23 - Open-Financing Programs - Admin		2,080	560		1.00	0.27				
(4)	FY23 - Open-Marketing - Data Analytics		2,080	320		1.00	0.15				
(4)	FY24 - Open-Associate Manager - Battery Storage		2,080	-		1.00	-				
(4)	FY24 - Open-Associate Manager - Asset Management		2,080	-		1.00	-				
(4)	FY24 - Open-Senior Manager - EV Carbon Credits		2,080	-		1.00	-				
(4)	FY24 - Open-Assoc Director - Investments		2,080	-		1.00	-				
(5)	Open - Associate - Battery Storage		2,080	-		1.00	-				
	Associate, Incentive Programs - Battery Storage	Saavedra, Emma	-	2,080		-	1.00				
		Subtotal	24,480	9,280	15,200	12	4	7.31	$ 1,483,000	$ 506,111	$ 976,889
	Other										
(1)	Senior Manager, Incentive Programs	Colonis, William	-	2,080		-	1.00				
	Legislative Liaison and Associate Director	Macunas, Matt	-	2,080		-	1.00				
		Subtotal	-	4,160	(4,160)	-	2.00	(2.00)	$ -	$ 239,946	$ (239,946)
		Total Employees	121,720	108,128	13,592	59	52	6.53	8,103,078	6,277,639	$ 1,825,439
	Interns										
	Intern - Finance 1		560	560		0.27	0.27				
	Intern - Financing Programs 1		560	-		0.27	-				
	Intern - RSIP 1		-	560		-	0.27				
	Intern - RSIP 2		-	560		-	0.27				
	Intern - Battery Storage 1		-	560		-	0.27				
	Intern - Battery Storage 2		-	560		-	0.27				
	Intern - Legal 1		560	560		0.27	0.27				
	Intern - Climate Corps 1		560	560		0.27	0.27				
		Total Interns	2,240	3,920	(1,680)	1.08	1.88	(0.81)	$ 72,800	$ 100,380	$ (27,580)
		Total Employees and Interns	123,960	112,048	11,912	59.60	53.87	5.73			

	Compensation Dollars		
Employees	$ 7,487,606	$ 5,860,275	$ 1,627,331
Merit Pool - 5.0%	315,242	190,536	124,706
COLA - 5.0%	300,230	226,828	73,402
Promotion Pool - 1.5%	116,818	89,166	27,652
Subtotal Compensation Employees:	8,219,895	6,366,805	1,853,090
Intern Pool	72,800	100,380	(27,580)
Total Compensation Employees and Interns:	8,292,695	6,467,185	1,825,510

(1) Employee is being redeployed from a Senior Manager of Incentive Programs to a Senior Manager, Residential Outreach role that was an open position.
(2) This position will be filled by Leigh Whelpton beginning September 2023.
(3) Position vacant due to departure of Mike Yu June 2022.
(4) Add to staff to support increased workload and opportunity from the Inflation Reduction Act
(5) Open due to departure of Emma Saavedra April 2023.

Connecticut Green Bank
FY 2024 Operations and Program Budget - DRAFT
Compensation - Job Grades

		Salary Ranges				
Job Grade	**Job Titles**	**Min**	**25th Percentile**	**Mid**	**75th Percentile**	**Max**
21	President	214,912	247,149	279,385	311,622	343,859
20	EVP, Officers	179,093	205,957	232,821	259,685	286,549
19	Managing Director, Vice President	149,244	171,631	194,018	216,404	238,791
18	Director	124,370	143,026	161,681	180,337	198,993
17	Associate Director, Sr. Manager-Clean Energy Finance, Controller	118,689	136,492	154,295	172,099	189,902
16	Sr. Manager-Programs/Corporate, Sr. Administrator	98,907	113,743	128,580	143,416	158,252
15	Manager, Administrator	82,423	94,786	107,150	119,513	131,876
14	Senior Associate, Associate Manager, Senior Accountant	71,672	82,423	93,174	103,924	114,675
13	Associate, Executive Assistant, Office Manager	62,323	71,672	81,020	90,369	99,718
12	Senior Assistant, Staff Accountant	54,194	62,323	70,453	78,582	86,711
11	Assistant	47,125	54,194	61,263	68,332	75,401

Notes:
The salary bands above were adjusted by the average of the preceding 12 month's Consumer Price Index (CPI) of 6.7% for inflation.

Connecticut Green Bank
FY 2024 Program Budget - DRAFT
Program Loans

Program Type - CGB portfolio loan (Asset) advances

Program Name	Description		Interest Rate	Term in Years	Q1	Q2	Q3	Q4	FY24 Total	FY23 Budget	FY23 YTD Actuals
Multifamily Programs	C4C Lime facility draws		4.0%	15	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,000,000	$ 200,000	$ 5,264,000
Multifamily Programs	PPA Multifamily		4.25%	20	75,000	75,000	75,000	75,000	300,000	1,380,000	-
		Total MultiFamily Program Loans:			***$ 325,000***	***$ 325,000***	***$ 325,000***	***$ 325,000***	***$ 1,300,000***	***$ 1,580,000***	***$ 5,264,000***
LMI Programs	[redacted]			6	$ 825,000	$ 825,000	$ 825,000	$ 825,000	$ 3,300,000	$ 2,100,000	$ 4,296,475
LMI Programs				2	-	-	-	-	-	2,000,000	1,995,160
LMI Programs				2	-	-	-	-	-	500,000	6,000,000
		Total Resi 1-4 Program Loans:			***$ 825,000***	***$ 825,000***	***$ 825,000***	***$ 825,000***	***$ 3,300,000***	***$ 4,600,000***	***$ 12,291,635***
CPACE	CGB Portfolio	Current/Future Pipeline	[redacted]	17.5	$ 1,700,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 7,700,000	$ 7,000,000	$ 1,573,676
Solar PPA Development	PPA State			20	800,000	800,000	800,000	810,000	3,210,000	8,330,000	1,561,483
Solar PPA Development	PPA Municipality			20	1,000,000	1,000,000	1,000,000	1,031,201	4,031,201	-	1,693,936
Solar PPA Development	Commercial Projects			20	-	-	-	-	-	-	776,211
Solar PPA Development	PPA Developers			20	75,000	75,000	75,000	82,800	307,800	1,300,000	-
Solar PPA Development	PPA Debt to 3rd parties			15	800,000	800,000	800,000	800,000	3,200,000	2,700,000	3,199,730
SBEA	Regular Loan Purchases			4	586,400	586,400	586,400	586,400	2,345,600	3,720,000	2,233,649
		Total CI&I Program Loans:			***$ 4,961,400***	***$ 5,261,400***	***$ 5,261,400***	***$ 5,310,401***	***$ 20,794,601***	***$ 23,050,000***	***$ 11,038,685***
CE Finance Prg	Strategic Investments		[redacted]	10	-	-	-	-	-	3,200,000	5,176,659
CE Finance Prg	Strategic Investments			10	-	-	2,500,000	2,500,000	5,000,000	5,000,000	-
		Total CE Finance Program Loans:			***$ -***	***$ -***	***$ 2,500,000***	***$ 2,500,000***	***$ 5,000,000***	***$ 8,200,000***	***$ 5,176,659***
		Total of all Program Loans:			***$ 6,111,400***	***$ 6,411,400***	***$ 8,911,400***	***$ 8,960,401***	***$ 30,394,601***	***$ 37,430,000***	***$ 33,770,978***

	Prob.	Ratio	Q1	Q2	Q3	Q4	FY24 Total	FY23 Budget	FY23 YTD Actuals
Total MultiFamily Program Loans	85%	10%	$ 21,250	$ 21,250	$ 21,250	$ 21,250	$ 85,000	$ 17,000	$ 8,500
Total Resi 1-4 Program Loans	85%	10%	$ 70,125	$ 70,125	$ 70,125	$ 70,125	$ 280,500	$ 391,000	286,875
Total CI&I Program Loans-CPACE	85%	10%	144,500	170,000	170,000	170,000	654,500	595,000	425,000
Total CI&I Program Loans-PPA Developers/Debt to 3rd Parties	85%	10%	74,375	74,375	74,375	75,038	298,163	340,000	255,000
Total CE Finance Program Loans	85%	10%	-	-	212,500	212,500	425,000	990,000	688,171
Total Provision for Loan Losses:			***$ 310,250***	***$ 335,750***	***$ 548,250***	***$ 548,913***	***$ 1,743,163***	***$ 2,333,000***	***$ 1,663,546***

Prg Name	Description	Interest Rate	Term	Q1	Q2	Q3	Q4	FY24 Total	FY23 Budget	FY23 YTD Actuals
Multifamily	HDF/MacArthur Interest Expense - $5.0m draw	1.0%	15	$ 12,500	$ 12,500	$ 12,500	12,500	$ 50,000	$ 50,000	$ 50,000
RSIP	Interest Expense-SHREC ABS-Class A/Class B	5.09%/7.0%	15	257,918	256,662	244,967	235,307	994,854	1,594,955	936,489
RSIP	Interest Expense-Green Liberty Bond 2020	0.95%-2.90%	15	81,964	80,172	78,380	78,380	318,897	332,510	250,543
RSIP	Interest Expense-Green Liberty Bond 2021	0.23%-2.95%	15	113,812	112,668	111,525	111,525	449,530	457,444	343,632
CREBs	New England Hydro CREBs net of Treasury Subsidy	4.09%	20	2,532	2,274	1,994	1,994	8,794	10,785	7,433
CREBs	CSCU CREBs net of Treasury Subsidy	4.9%	20	26,290	24,691	22,841	22,841	96,663	108,947	80,200
				$ 495,016	$ 488,967	$ 472,207	$ 462,547	$ 1,918,737	$ 2,554,641	$ 1,668,297

Connecticut Green Bank
FY 2024 Program Budget - DRAFT
Credit Enhancements

Credit Enhancements - Additions to Loan Loss Reserves - CGB Funds

Dept	Prg Code	Prg Name	Description	FY24 Budget Q1	Q2	Q3	Q4	Total	FY23 Budget
Resi	52210	SmartE	CGB/Smart E loans	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 300,000	$ 190,000
				-	-	-	-	-	-
				$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 300,000	$ 190,000

Credit Enhancements - Interest rate Buydowns - ARRA Funds

Dept	Prg Code	Prg Name	Description	FY24 Budget Q1	Q2	Q3	Q4	Total	FY23 Budget
Resi	52211	SmartE ARRA IRB	CGB/Smart E loans	$ 150,000	$ 100,000	$ -	$ -	$ 250,000	$ 600,000
				-	-	-	-	-	-
				$ 150,000	$ 100,000	$ -	$ -	$ 250,000	$ 600,000

Connecticut Green Bank
FY 2024 Program Budget - DRAFT
Financial Incentives - Grants and Rebates

Program Name	Description	FY23 Budget Q1	Q2	Q3	Q4	FY24 Budget	FY23 Budget	FY23 YTD Actuals
RSIP	PBI Incentives	$ 2,400,000	$ 1,140,000	$ 720,000	$ 1,740,000	$ 6,000,000	$ 8,204,762	$ 4,597,812
RSIP	EPBB Incentives	600,000	300,000	150,000	150,000	1,200,000	1,192,196	942,196
Battery Storage (PURA)	Battery Storage Incentives - Residential	276,000	276,000	276,000	322,000	1,150,000	1,657,012	46,320
Battery Storage (PURA)	Battery Storage Incentives - Commercial (1)	228,031	228,031	228,031	-	684,093	-	-
Federal Programs	Other Federal Grants	10,000	10,000	10,000	10,000	40,000	40,000	650
GenOps	Sustainable CT Grant	50,000	50,000	-	25,000	125,000	125,000	100,000
GenOps	CGB Matching Grants for Federal BIL Grants	-	-	-	-	-	5,000,000	-
LMI Programs- RJWF	RJWF Grant	75,000	75,000	75,000	75,000	300,000	-	48,803
Battery Storage (PURA)	Battery Storage Grants (CEG, Operation Fuel)	15,000	15,000	15,000	15,000	60,000	60,000	-
		$ 3,654,031	$ 2,094,031	$ 1,474,031	$ 2,337,000	$ 9,559,093	$ 16,278,970	$ 5,735,781

(1) The proposed incentives for ESS are dependent upon the time taken for interconnection approval. Should these be approved and interconnected more quickly than expected, we will need to come back to the committee in January to revisit this expenditure.

Connecticut Green Bank
FY 2024 General Operations Budget - DRAFT
Research and Development Expenditures

Project	Purpose	FY24 Budget	FY23 Budget	FY23 Actuals as of 6/1/23
Hydrogen Task force	Strategen	$ -	$ 325,000	$ 325,000
Hydrogen Task force	Translation	-	15,000	6,238
ESS	Recycling Study	-	14,000	13,750
ESS	Battery FTM	-	165,000	-
Hydrogen Task force	Day Pitney	-	25,000	33,359
AFV	Electric School Bus work with Guidehouse	-	40,000	-
EMV	Joint Jobs Study with EEB	10,000	10,000	6,168
Environmental Infrastructure	TPL - Hartford Parks Score	-	25,000	-
Environmental Infrastructure	Battery EPR with Product Stewardship Initiative	38,000	50,000	-
Environmental Infrastructure	TBD by the director	100,000	50,000	42,000
Environmental Infrastructure	Venture Clash	-	1,000	-
Gen Ops	Honorariums & Other	-	-	3,954
Gen Ops	Grant to Sustainable CT/Towns (Grant Writers)	50,000	-	-
Gen Ops	GHGRF Listening Sessions	50,000	-	-
Financing Programs	EV School Busses	50,000	-	-
Financing Programs	MHDV	50,000	-	-
Gen Ops	UCONN Resiliance Data	10,000	-	-
		$ 358,000	$ 720,000	$ 430,469

Connecticut Green Bank
FY 2024 General Operations Budget - DRAFT
Capital Expenditure Budget

	FY24 Budget	FY23 Budget	FY23 Actuals YTD
IT Hardware & Software			
New/Replacement Desktops & Laptops	$ 25,000	$ 40,000	$ 19,869
New/replacement Firewall	50,000	-	18,140
	$ 75,000	$ 40,000	$ 38,009
Office Furniture & Equipment			
AV Equipment	-	25,000	19,109
	$ -	$ 25,000	$ 19,109
Total Capital Expenditures	$ 75,000	$ 65,000	$ 57,118

Connecticut Green Bank
FY 2024 General Operations Budget - DRAFT
Strategic Partners

Partner	Department	RFP	Year of RFP	Work Performed	FY24 Budget	FY23 Budget
New Charter Technologies, LLC	General Operations	Y	2021	IT Outsourcing	$ 525,000	$ 400,000
Clean Power Research, LLC	Incentive Programs	Y	2021	PowerClerk Software	200,000	200,000
Alter Domus (formerly Cortland)	Financing Programs	Y	2022	CPACE - Loan Servicing	155,000	130,720
Inclusive Prosperity Capital	Multiple	N [1]		Program Execution and Investment Management	1,024,665	1,366,220
DNV	Multiple	Y	2023	CPACE Technical Administrator; SHREC Due Diligence	150,000	120,000
Guidehouse (formerly Navigant) [2]	Incentive Programs	Y	2021	Battery storage EM&V and Technical Support	600,000	620,000
Novasource (f.k.a. SunSystem Technology - SST)	Incentive Programs	Y	2021	Operations and Maintenance for SL2 and 3G meter replacement	-	800,000
PKF O'Connor Davies	General Operations	Y	2022	Auditing Services - CGB Annual Audit, CGB Green Liberty Notes Annual Audit	106,000	100,000
C-TEC Solar, LLC	Multiple	Y	2022	Servicing PPA systems from a technical perspective (operations & maintenance)	1,055,000	1,225,000
Go, LLC [3]	Marketing	Y	2023	Marketing, Paid Media	625,000	700,000
Craftsman Technologies	General Operations	Y	2022	Salesforce Development	280,000	-
Strategic Environmental Associates	Financing Programs	Y	2022	Consulting on Carbon Markets and Facilitation of EVCCC	255,000	-
					$ 4,975,665	$ 5,661,940

[1] The Board of Directors of the Green Bank, per the Sustainability Strategy Pathway which was approved on December 15, 2017, reviewed and approved a series of agreements between the Green Bank and Inclusive Prosperity Capital on July 27, 2018, July 18, 2019, and June 26, 2020. Per the Comprehensive Plan of the Green Bank, IPC is a strategic partner of the organization.

[2] The Green Bank Board of Directors authorized a multi year PSA with Guidehouse for $1 million in March of 2022. The above request is inclusive of the portion of that PSA that is expected to be spent in FY2024.

[3] FY23 expense amount is for former agency Stark Raving.

Connecticut Green Bank

March 2023 Quarterly Financial Package

(Abridged)

Connecticut Green Bank

March 2023 Financial Package

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Connecticut Green Bank:

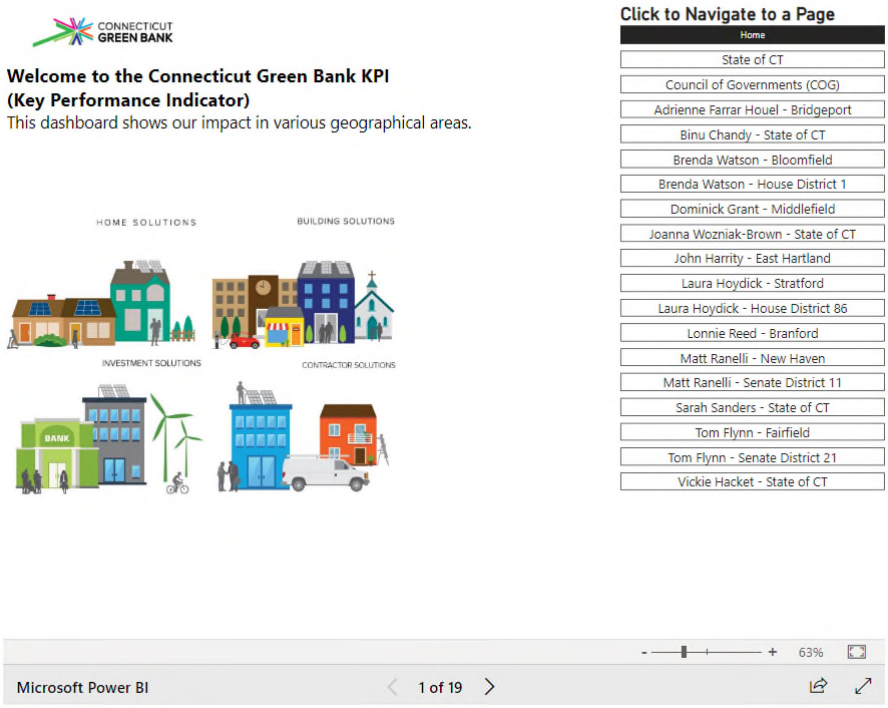
Connecticut Green Bank

Making an Impact

Board Member Dashboard

So that you can best articulate our ongoing impact to the Green Bank's stakeholders, we have created the below linked dashboards that show the organization's impact to your community or is most relevant to your appointer.

https://www.ctgreenbank.com/boardimpact/



When you access the site, you will see the different dashboards on the righthand side. Please click on the one you wish to view. The dashboards default to our performance and impact since inception but you may filter them by calendar or fiscal year in the top right. The top has a summary statement of the performance and impact for that geographic area. The bottom tables are further cross sections of this performance for vulnerable communities, Community Reinvestment Act Eligible Projects, and projects in Distressed Communities.

Please forward me your feedback and suggestions at eric.shrago@ctgreenbank.com.

CGB-Primary Government
Mobilizing Private Investment
Balance Sheet

		CGB-Primary Government As of 3/31/2023	CGB-Primary Government As of 06/30/2022	CGB-Primary Government YTD $ Change
Assets				
Current Assets				
Cash and Cash Equivalents **(1)**	{a}	41,602,018	50,243,875	(8,641,857)
Due From Component Units (SL2/SL3/CSS)	{b}	56,944,019	47,802,865	9,141,154
Other Current Assets	{c}	10,186,738	12,816,164	(2,629,426)
Total Current Assets		108,732,775	110,862,904	(2,130,129)
Noncurrent Assets				
Program Loans/Notes Receivable and Other Investments	{d}	106,009,363	98,385,642	7,623,721
Capital Assets, net	{e}	15,556,007	16,028,071	(472,064)
Restricted Assets **(1)**	{f}	20,134,116	17,002,056	3,132,060
Total Noncurrent Assets		141,699,486	131,415,769	10,283,717
Total Assets		**250,432,261**	**242,278,673**	**8,153,588**
Liabilities				
Current Liabilities	{g}	15,696,228	11,539,504	4,156,724
Noncurrent Liabilities				
Bonds Payable-SHREC ABS 1	{h}	20,020,187	31,615,390	(11,595,203)
Bonds Payable-Green Liberty Bonds	{i}	37,163,000	39,985,000	(2,822,000)
Total RSIP Bonds Payable		57,183,187	71,600,390	(14,417,203)
Bonds Payable-CREBs	{j}	9,272,525	9,966,229	(693,704)
Lease Liability	{k}	2,313,242	2,527,386	(214,144)
Pension & OPEB Liabilities	{l}	41,789,937	41,789,937	0
Total Noncurrent Liabilities		110,558,891	125,883,942	(15,325,051)
Total Liabilities		**126,255,119**	**137,423,446**	**(11,168,327)**
Deferred Inflows of Resources	{m}	**3,506,823**	**3,506,823**	**0**
Total Net Position		**120,670,319**	**101,348,404**	**19,321,915**

(1) The $41.6M unrestricted balance at 3/31/2022 was mostly due to the issuance of two series of Special Capital Reserve Fund (SCRF) backed Green Liberty Bonds in FY21. The purpose of these issuances was to refinance expenditures of the Green Bank related to its Residential Solar Incentive Program (RSIP) per CGS 16-245ff. As of 3/31/23, unfunded and committed Solar PV incentives related to the RSIP program totaled approximately $29.5M, to be paid to third parties over the next six fiscal years using the proceeds from these two bond issuances. Additionally, $8.0M of RGGI funds are committed to Class 1 Renewable projects under the Regional Greenhouse Gas Initiative and not yet spent as of 3/31/23.

	Actual	Adj for RSIP/RGGI Commitments	Total
Cash - Unrestricted	$ 41,602,018	$ (37,500,000)	$ 4,102,018
Cash - Restricted	20,134,116	37,500,000	57,634,116
Total Cash	**$ 61,736,134**	**$ -**	**$ 61,736,134**

* Additionally, Pursuant to CGS 16-245n(h), the State cannot impair the Green Bank's rights or obligations contained in contracts it has with third parties unless the State otherwise makes the third party whole pursuant to the Green Bank's unique non-impairment clause. As such, please contact the Green Bank before any material funding reductions or sweeps to ensure this non-impairment clause is not triggered. This could impact the Green Bank's or the State's credit and bond rating, if applicable.

Appendix

{a} Cash and Cash Equivalents includes all unrestricted cash accounts for the CT Green Bank and all entities included within the Primary Government for financial reporting purposes.

{b} Due from Component Units represents the balance due to CGB's primary government through intercompany receivable accounts, the bulk of which relates to investment made in the CTSL2 and CTSL3 programs via CEFIA Solar Services Inc.

{c} Other Current Assets are made up of Accounts Receivable, Utility Remittance Receivable, Interest Receivable, Other Receivables and Prepaid Expenses

{d} Program Loans/Notes Receivable and Other Investments include the principal balances of all outstanding Program Loans, SBEA Notes, Solar Lease 1 Notes as well as some additional smaller investments made.

{e} Capital Assets, net represent the cost of all capital assets that are owned by entities of the Primary Government, including Solar PV systems, furniture and equipment, leasehold improvements and computer hardware.

{f} Restricted Assets includes all restricted cash accounts such as loan loss reserves, Special Capital Reserve Funds (SCRFs) related to the bonds outstanding and other contractually restricted cash accounts

{g} Current Liabilities includes accounts payable and accrued expenses (including accrued incentives), accrued interest, and custodial liabilities

{h} SHREC ABS 1 Bonds Payable represent the outstanding principal remaining on $38.6M in bonds issued in March 2019. These bonds were collateralized by revenue from sales of SHRECs for two tranches of approx. 14,000 residential Solar PV systems to two CT utilities. These mature in 2033.

{i} Green Liberty bonds represent the outstanding principal remaining on the $16.8M Series 2020 and $24.8M Series 2021 Green Liberty Bonds, collateralized by revenues from sales of SHRECs related to Tranche 3(Series 2020) and Tranche 4 (Series 2021). These mature in 2037.

{j} Bonds Payable- CREBs are two separate Clean Energy Renewable Energy bonds issued in February 2017 for just under $3.0M(Meriden Hydro project) and December 2017 for $9.1M (CSCUs project). These mature in 2038.

{k} Lease liability represents the amount owed on the two leases of office space (Hartford & Stamford). The amount is determined per GASB 87, which included a present value of payments expected to be made during the lease term at the onset of the lease (both of which include 10.5 year terms beginning in Fiscal year 2021).

{l} Pension and OPEB Liabilities represent the actuarially determined Pension and OPEB liabilities allocated to the CT Green Bank out of the SERS retirement plans. This number is uncontrollable by the Green Bank, with the amount to be booked provided by the actuarial valuation on an annual basis.

{m} Deferred inflows of resources are a governmental accounting function which represents an acquisition of net position that applies to future periods and will not be recognized until that time. Amounts included here are functions of the Pension and OPEB actuarial valuations and are updated on an annual basis.

CGB-Primary Government
Achieving Sustainability
Organizational P&L

		Consolidated 7/1/2022 Through 3/31/2023				
		Actual	Budget	Variance	Prior Year Actual	Variance
Total Revenues						
Public Revenues	{a}	25,488,633	25,768,082	(279,449)	27,947,798	(2,459,165)
Earned Revenues (**)	{b}	21,565,727	16,332,450	5,233,277	15,014,366	6,551,361
Total Revenues		**47,054,360**	**42,100,532**	**4,953,828**	**42,962,164**	**4,092,196**
Total Operating Expenses						
Personnel Related Operating Expenses	{c}	8,196,127	9,202,557	(1,006,430)	7,016,972	1,179,155
Non-Personnel Related Operating Expenses (**)	{d}	11,196,897	10,158,288	1,038,609	7,339,408	3,857,489
Total Operating Expenses		**19,393,024**	**19,360,845**	**32,179**	**14,356,380**	**5,036,644**
Margin ($) - All Revenues		**27,661,336**	**22,739,687**		**28,605,784**	
Margin (%) - All Revenues		**58.8%**	**54.0%**		**66.6%**	
Margin ($) - Pre Public Revenues		**2,172,703**	**(3,028,395)**		**657,986**	
Margin (%) - Pre Public Revenues		**4.6%**	**-7.2%**		**1.5%**	
Total Non-Operating Expenses						
Program Incentives and Grants	{e}	4,875,831	8,935,230	(4,059,399)	11,678,297	(6,802,466)
Non-Operating Expenses	{f}	3,471,892	4,159,562	(687,670)	4,357,272	(885,380)
Total Non-Operating Expenses		**8,347,723**	**13,094,792**	**(4,747,069)**	**16,035,569**	**(7,687,846)**
Total Expenses		**27,740,747**	**32,455,637**	**(4,714,890)**	**30,391,949**	**(2,651,202)**
Net Margin ($) - All Revenues (*)		**19,313,613**	**9,644,895**	**9,668,718**	**12,570,215**	**6,743,398**
Net Margin (%) - All Revenues		**41.0%**	**22.9%**		**29.3%**	

* Net Margin represents the Operating Results of the Green Bank before impact of State Pension and OPEB allocation of costs based on the annual actuarial valuation performed of the benefit plans. As such, the benefit/expense related to these actuarial determined amounts are not included in this presentation. See Detailed Quarterly and Annual ACFR for more details on these amounts.

** The Earned revenues and non-personnel related operating expenses both include $3.2M in Energy System Sales that occurred in the current period, where the revenues and cost of sales net to zero. These items both have a budget of $0. The prior year actuals include $451k related to an energy system sale as well in he same lines. See Detailed Quarterly report for more details on these amounts.

Appendix

{a} Public Revenues include system benefit charges from electric ratepayers and RGGI allowance proceeds.

{b} Earned Revenues include interest income, REC sales, PPA income and other revenues earned by the Primary Government.

{c} Personnel Related Operating Expenses include Salaries, benefits and payroll taxes.

{d} Non-Personnel Related Operating Expenses include all other operating expenses not related to personnel, including O&M, tech support costs, IPC human capital, marketing, consulting, rent, insurance, IT and other office expenses.

{e} Program Incentives and Grants are included in Non-Operating Expenses, and relate mostly to PBI & EPBB incentives paid out.

{f} Non-Operating Expenses include Interest expense (mostly on bonds), loan loss reserve expense, and Interest Rate Buydowns using ARRA funds.

Connecticut Green Bank
Monitoring State Benefit Allocation
March 31, 2023

	FYTD 3/31/23 Actual	FYE 6/30/22 Actual	FYE 6/30/21 Actual	FYE 6/30/20 Actual	FYE 6/30/19 Actual	FYE 6/30/18 Actual
Compensation:	**$ 4,317,683**	**$ 4,813,293**	**$ 4,476,214**	**$ 3,931,596**	**$ 4,204,855**	**$ 5,154,021**
Employee Benefits:						
State Retirement Plan Contributions	$ 2,978,603	$ 3,317,054	$ 2,903,780	$ 2,411,864	$ 2,869,823	$ 3,013,747
Medical Dental Rx Premiums	564,612	610,627	625,480	553,908	545,779	678,633
Total Employee Benefits	**3,543,215**	**3,927,681**	**3,529,260**	**2,965,772**	**3,415,602**	**3,692,380**
Total Compensation and Benefits	**$ 7,860,898**	**$ 8,740,974**	**$ 8,005,474**	**$ 6,897,368**	**$ 7,620,457**	**$ 8,846,401**
* **Retirement Plan Contributions as a % of Salary**	68.99%	68.91%	64.87%	61.35%	68.25%	58.47%
Medical Dental Rx Premiums as a % of Salary	13.08%	12.69%	13.97%	14.09%	12.98%	13.17%
Total Benefits and Taxes as a % of Salary	82.06%	81.60%	78.84%	75.43%	81.23%	71.64%
*** **State of CT Comptroller Employer SERS Rate**	67.40%	65.90%	64.14%	59.99%	64.30%	56.58%

* Retirement Plan Contributions include Pension & OPEB, included Employer contributions to the Tier IV Defined Contribution for associated employees in that plan.
** OPEB began in the year ended 6/30/18.
*** State of CT Comptroller Employer SERS Rate provided via the annual "Fringe Benefit Recover Rate" memo issued 7/1 of each year by the State Comptroller.

Total Benefits Cost @ Hypothetical Benefits Rate	**35%**	1,511,189	1,684,653	1,566,675	1,376,059	1,471,699	1,803,907
Actual Total Compensation and Benefits		7,860,898	8,740,974	8,005,474	6,897,368	7,620,457	8,846,401
Less Total Compensation and Benefits @ Hypothetical Rate		(5,828,873)	(6,497,946)	(6,042,889)	(5,307,655)	(5,676,554)	(6,957,928)
Incremental HR cost due to State Benefits Charge		2,032,026	2,243,028	1,962,585	1,589,713	1,943,903	1,888,473

Connecticut Green Bank

March 2023 Quarterly Financial Package

(Comprehensive)

Connecticut Green Bank

March 2023 Financial Package

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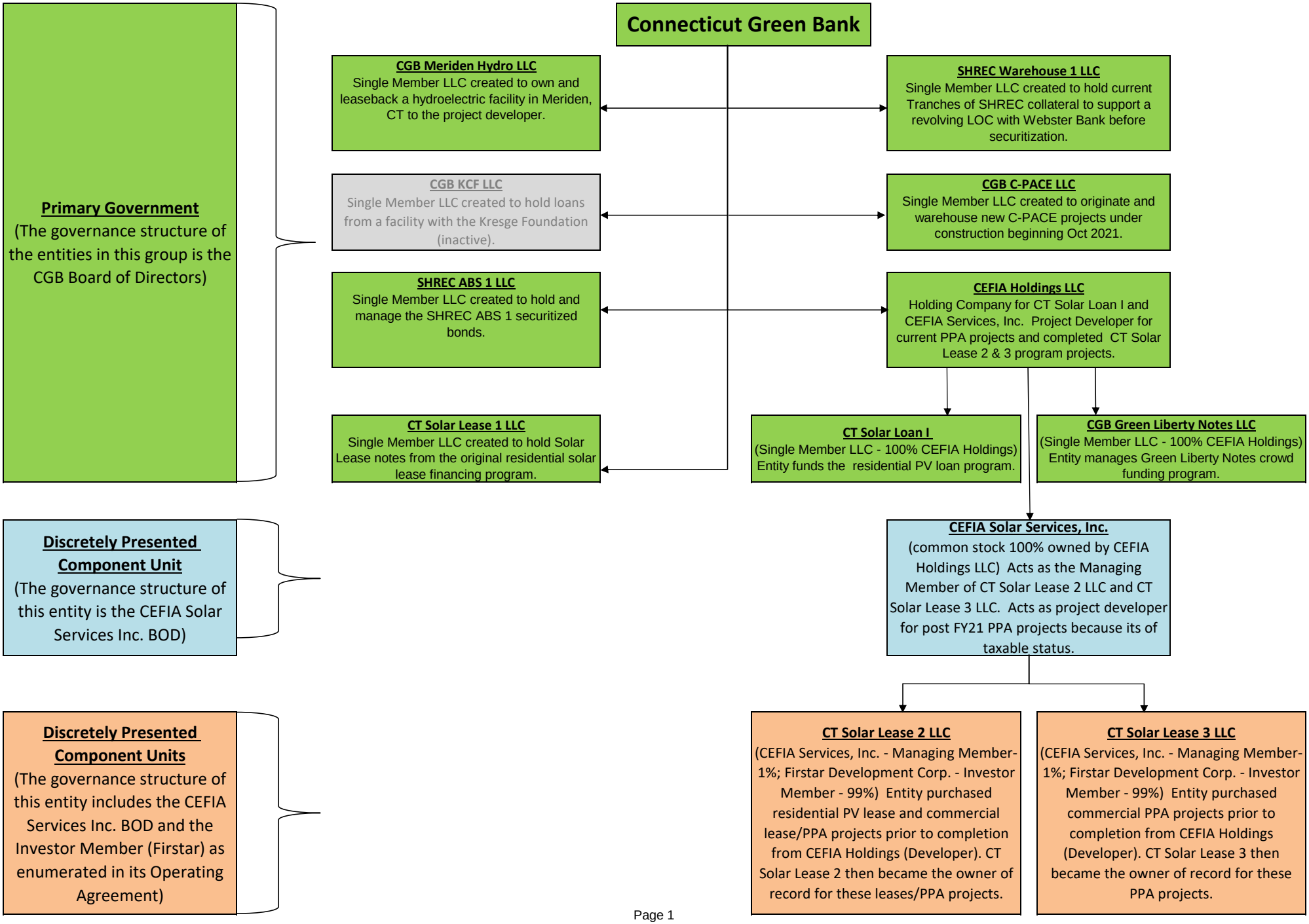
Connecticut Green Bank:

Consolidated Financial Statements:

The Connecticut Green Bank and its Component Units (as of 3/31/2023)

See the Annual Comprehensive Financial Report of the Connecticut Green Bank for more details.



Connecticut Green Bank

Executive Summary

March 2023

Overview

This financial package contains financial information for the Connecticut Green Bank (CGB) for Fiscal Year ending June 30, 2023 through March 31, 2023 with comparisons to June 30, 2022 for balance sheet, comparisons to the same period ended March 31, 2022 for the statement of revenue and expenditures, and versus Budget for the Statement of Revenue and Expenditures. Schedules of comp and benefits, unfunded commitments, loan guarantees, and program loans, notes and loan loss reserves are also presented. See Consolidated Balance Sheet, Consolidated Statement of Revenues and Expenditures and Consolidated Statement of Cash Flows for more details on the entities that make up the Primary Government for purposes of this Reporting.

Balance Sheet - Primary Government

- ✓ CGB's current assets decreased by $23M compared to March 2023. which is mostly due to a function of timing of reporting current portions of loans/notes receivable (done for ACFR purposes annually at fiscal year end). Taking out the $11.7M decrease in current assets related to this, the remaining current assets decreased $11.3M in the first three quarters of FY23. This is due mostly to cash and cash equivalents decreasing $8.6M. The cash decrease is mostly due to an approx. $15.2M repayment of the long term debt in the period and a net $7.3M increase in program loans (representing disbursed money) offsetting current period income of $19.3M.
- ✓ Noncurrent assets increased $31.1M compared to June 30, 2022, due in part to the aforementioned reclassification of $11.7M done for fiscal year end, the aforementioned $7.3M increase in program loans, as well as a $9.1M increase in due from component units due to funds transferred to SL2, CSS and CGB GLN during the period.
- ✓ As of March 31, 2023, 90.5% of accounts receivable is aged 30 days or lower, 9.4% of receivables aged 31-60 days are within their normal quarterly payment terms and only 0.1% of accounts receivable aged 60+ days - showing no significant collectability issues on accounts receivable. Utility Remittance receivables are all aged under 30 days, and Other Receivables represent disbursements made for development of projects and don't have specific aging/invoice due dates at any given time.
- ✓ Liabilities have decreased $11.2M compared to June 30, 2022, mostly attributable to approx. $15.2M of payments made on Long-Term debt in the first three quarters of FY23.
- ✓ Net Position for the Primary Government has increased $19.3M due to the fiscal year's income as seen on Statement of Revenues and Expenditures below.

Statement of Revenues and Expenditures vs. Prior Year - Primary Government

Change in Net Position for the first three quarters of FY23 was approximately $19.3M of Income.

- ✓ Operating Revenues increased $3.1M from the same period of the prior year and Operating expenses decreased $2.2M from the same period of the prior year, resulting in Operating income increasing $5.3M from the same period of the prior year. The revenue increase is mostly due to the $2.7M increase in the Energy System Sales and a $2.2M increase in REC Sales.
- ✓ Offsetting the increases in Operating Revenues, there was a $2M decrease in RGGI auction proceeds compared to the same three quarters of the prior year, due the December auction hitting a calendar year ratepayer relief threshold built into Section 22a-174-31(j)(3) of the Regulations of Connecticut State Agencies in 2022 limiting the amount of RGGI proceeds received by the Green Bank by $2M lower for that auction.
- ✓ Operating Expenses had decreases of $7.6M in grants and incentive payments (due to substantially lower PBI and EPBB incentives paid in FY23 due to accrual adjustments made to actual as well as systems in the RSIP program being fully paid their PBIs), partially offset by increases of $2.7M in Cost of Goods Sold-Energy Systems as well as increases of $1.3M and $1M in program administrative expenses and general and administrative expenses compared to the same period of the prior year, respectively.
- ✓ Nonoperating Revenues (expenses) showed a decrease in expenses of $1.4M compared to the same period of the prior year mostly due to interest income from CT STIF accounts increasing $0.9M from the same three quarters of the prior fiscal year due to the rapidly changing interest-rate environment and interest expense decreasing approx. $0.4M compared to the same period of the prior year due to the lower outstanding principal on debt year over year discussed above.

Statement of Revenues and Expenditures vs. Budget - Primary Government

Fiscal Year to Date Net Revenues Over Expenses of $19.3M was $9.7M better than budget (which has been adjusted for the FY23 recast budget approved by the Board on January 20, 2023).

- ✓ Revenues were $4.5M higher than budget mostly due to $3.2M in sales of energy systems that were not budgeted for, and $1.1M higher interest income than budget.
- ✓ Operating Expenses were $32k above budget; however if we exclude the Costs of Sales of Energy Systems and its $3.2M variance over a budget of zero, the remaining Operating expenses were $3.1M below budget. The biggest factors to this were $1.2M lower program development and administration costs, $1.0M lower compensation and benefit expenses, $0.4M lower EM&V expenses, and $0.4M lower consulting expenses than budget. See breakout of budget to actual for financing programs, incentive programs and environmental infrastructure programs for more details.
- ✓ Program incentives and grants were approx. $4.1M lower than the recast budget for the fiscal year due to PBIs/EPBBs falling $1.2M lower than budget, grant expenditures falling $2.1M lower than budget for the period (the beginning of $5M budgeted BIL matching grants hitting the budgeted column for January to June 2023), and ESS incentives falling $0.7M below budget.
- ✓ Non-operating expenses were approximately $0.7M under budget, driven mostly by ARRA Interest Rate Buydowns being paid below budget year to date by $0.4M.

Unfunded Commitments

CGB has a total of $97.9M in unfunded commitments at March 31, 2023, an increase of $16.6M from June 30, 2022. The increase is seen mostly in an increased commitment to the multifamily/LMI solar PV/EE group and the Fuel Cells group due to several large projects being approved at Board Meetings throughout Fiscal Year 2023 without being fully funded yet.

CGB-Primary Government
Balance Sheet

	CGB-Primary Government 3/31/2023	CGB-Primary Government 6/30/2022	CGB-Primary Government $ Change
Assets			
Current Assets			
Cash and Cash Equivalents	41,602,018	50,243,875	(8,641,857)
Accounts Receivable	4,004,852	4,072,651	(67,799)
Utility Remittance Receivable	1,978,035	2,041,786	(63,751)
Interest Receivable	1,011,208	1,167,400	(156,192)
Other Receivables	1,967,432	4,398,795	(2,431,363)
Prepaid Expenses and Other Assets	1,225,211	1,135,532	89,679
Current Portion of Solar Lease Notes	0	1,016,267	(1,016,267)
Current Portion of SBEA Promissory Notes	0	1,129,900	(1,129,900)
Current Portion of Program Loans, Net of Reserves	0	9,547,825	(9,547,825)
Total Current Assets	51,788,756	74,754,031	(22,965,275)
Noncurrent Assets			
Restricted Assets	20,134,116	17,002,056	3,132,060
Investments	880,426	912,218	(31,792)
Program Loans, net of reserves	99,102,450	82,287,432	16,815,018
Solar Lease I Promissory Notes, net of reserves	2,242,371	1,987,394	254,977
Renewable Energy Certificates	229,019	229,019	0
SBEA Promissory Notes, net of reserves	3,554,996	1,275,487	2,279,509
Due From Component Units	56,944,019	47,802,865	9,141,154
Investment in Component Units	100	100	0
Capital Assets, net	15,556,007	16,028,071	(472,064)
Total Noncurrent Assets	198,643,504	167,524,642	31,118,862
Total Assets	**250,432,260**	**242,278,673**	**8,153,587**
Deferred Outflows of Resources			
Deferred Amount for Pensions	6,439,478	6,439,478	0
Deferred Amount for OPEB	5,172,871	5,172,871	0
Total Deferred Outflows of Resources	**$ 11,612,349**	**$ 11,612,349**	**$ 0**
Liabilities			
Current Liabilities			
Accounts Payable	377,055	592,637	(215,582)
Accrued Payroll and Related Liabilities	1,296,862	1,296,862	0
Accrued Expenses	9,764,189	7,838,819	1,925,370
Notes Payable- Green Liberty Notes	864,335	304,735	559,600
Current Maturities of Long-Term Debt	214,144	15,450,938	(15,236,794)
Custodial Liability	1,096,201	1,386,450	(290,249)
Deferred Revenue	97,104	0	97,104
Total Current Liabilities	13,709,890	26,870,441	(13,160,551)
Noncurrent Liabilities			
Due to Component Units	1,986,336	120,000	1,866,336
Bonds Payable-SHREC ABS 1	20,020,187	19,894,301	125,886
Bonds Payable-CREBs	9,272,525	9,272,525	0
Bonds Payable-Green Liberty Bonds	37,163,000	37,163,000	0
Lease Liability, less current maturities	2,313,242	2,313,242	0
Pension Liability	21,273,373	21,273,373	0
OPEB Liability	20,516,564	20,516,564	0
Total Noncurrent Liabilities	112,545,227	110,553,005	1,992,222
Total Liabilities	**126,255,117**	**137,423,446**	**(11,168,329)**
Deferred Inflows of Resources			
Deferred Pension Inflow Liability	5,424,891	5,424,891	0
Deferred OPEB Inflow Liability	9,694,281	9,694,281	0
Total Deferred Inflows of Resources	**15,119,172**	**15,119,172**	**0**
Net Position			
Net Investment in Capital Assets	15,556,007	16,028,071	(472,064)
Restricted-Energy Programs	20,134,115	17,002,056	3,132,059
Unrestricted Net Position	84,980,197	68,318,277	16,661,920
Total Net Position	**120,670,319**	**101,348,404**	**19,321,915**

CGB-Primary Government
Statement of Revenues and Expenditures

	CGB-Primary Government Fiscal YTD 3/31/2023	CGB-Primary Government Fiscal YTD 3/31/2022	CGB-Primary Government $ Change
Change in Net Position			
Operating Income (Loss)			
Operating Revenues			
Utility Remittances	19,175,880	19,556,893	(381,013)
Interest Income-Promissory Notes	4,919,952	4,679,686	240,266
RGGI Auction Proceeds	6,312,752	8,390,905	(2,078,152)
Energy System Sales	3,154,487	451,092	2,703,394
REC Sales	11,477,277	9,327,254	2,150,024
Other Income	1,064,538	579,757	484,780
Total Operating Revenues	46,104,886	42,985,587	3,119,299
Operating Expenses			
Cost of Goods Sold-Energy Systems	3,154,486	451,092	2,703,394
Provision for Loan Losses	1,515,396	1,163,844	351,552
Grants and Incentive Payments	5,075,174	12,718,027	(7,642,853)
Program Administration Expenses	12,400,135	11,051,369	1,348,767
General and Administrative Expenses	4,032,249	3,008,153	1,024,094
Total Operating Expenses	26,177,440	28,392,485	(2,215,046)
Operating Income (Loss)	19,927,446	14,593,102	5,334,345
Nonoperating Revenue (Expenses)			
Interest Income-Short Term Cash Deposits	981,970	41,383	940,585
Interest Income-Component Units	53,440	52,147	1,295
Interest Expense-ST Debt	(11,575)	(1,048)	(10,528)
Interest Expense-LT Debt	(1,618,297)	(2,013,710)	395,413
Debt Issuance Costs	(7,500)	(13,500)	6,000
Net chance in fair value of investments	(3,568)	(88,158)	84,590
Total Nonoperating Revenue (Expenses)	(605,530)	(2,022,886)	1,417,355
Change in Net Position	**19,321,916**	**12,570,216**	**6,751,700**

CT Green Bank Primary Government
Budget to Actual Financial Analysis
March 2023

	CGB Primary Government 07/01/2022 Through 3/31/2023			Incentive Programs 07/01/2022 Through 3/31/2023			Financing Programs 07/01/2022 Through 3/31/2023			Environmental Infrastructure 07/01/2022 Through 3/31/2023		
	Actual	Budget	Variance	Actual	Budget	Variance	Actual	Budget	Variance	Actual	Budget	Variance
Revenue												
Operating Income												
Utility Customer Assessments	19,175,880	19,346,013	(170,132)	0	0	0	19,175,880	19,346,013	(170,132)	0	0	0
RGGI Auction Proceeds-Renewables	6,312,753	6,422,069	(109,317)	0	0	0	6,312,753	6,422,069	(109,317)	0	0	0
CPACE Closing Fees	43,943	92,250	(48,307)	0	0	0	43,943	92,250	(48,307)	0	0	0
REC Sales	11,103,734	10,627,583	476,151	10,812,734	10,627,583	185,151	291,000	0	291,000	0	0	0
Sales of Energy Systems	3,154,486	0	3,154,486	0	0	0	3,154,486	0	3,154,486	0	0	0
Grant Income-Federal Programs	1,309	30,000	(28,691)	0	0	0	1,309	30,000	(28,691)	0	0	0
Grant Income-Private Foundations	13,036	0	13,036	0	0	0	13,036	0	13,036	0	0	0
PPA Income	306,798	306,449	350	0	0	0	306,798	306,449	350	0	0	0
LREC/ZREC Income	373,544	257,644	115,899	0	0	0	373,544	257,644	115,899	0	0	0
Total Operating Income	40,485,483	37,082,008	3,403,475	10,812,734	10,627,583	185,151	29,672,749	26,454,425	3,218,324	0	0	0
Interest Income	5,740,860	4,693,730	1,047,130	236,072	41,400	194,672	5,504,787	4,652,330	852,458	0	0	0
Interest Income, Capitalized	128,565	36,000	92,566	0	0	0	128,566	36,000	92,565	0	0	0
Other Income	699,452	288,794	410,657	453,148	0	453,148	246,303	288,794	(42,490)	0	0	0
Total Revenue	**$ 47,054,360**	**$ 42,100,532**	**$ 4,953,828**	**$ 11,501,954**	**$ 10,668,983**	**$ 832,971**	**$ 35,552,405**	**$ 31,431,549**	**$ 4,120,857**	**$ 0**	**$ 0**	**$ 0**
Operating Expenses												
Compensation and Benefits	8,196,127	9,202,557	(1,006,430)	2,233,853	2,570,873	(337,020)	5,764,979	6,157,264	(392,285)	197,295	474,420	(277,125)
Program Development & Administration	3,413,578	4,592,878	(1,179,300)	1,881,860	2,856,767	(974,906)	1,419,651	1,436,111	(16,460)	112,067	300,000	(187,933)
Cost of Sales Energy Systems	3,154,486	0	3,154,486	0	0	0	3,154,486	0	3,154,486	0	0	0
Lease Origination Services	1,977	3,000	(1,023)	0	0	0	1,977	3,000	(1,023)	0	0	0
Marketing Expense	1,059,418	1,050,014	9,404	348,224	342,691	5,533	711,194	707,323	3,870	0	0	0
E M & V	365,952	764,750	(398,798)	293,011	617,250	(324,240)	72,941	147,500	(74,558)	0	0	0
Research and Development	385,385	410,000	(24,615)	(6,450)	89,500	(95,950)	391,835	232,500	159,335	0	88,000	(88,000)
Consulting and Professional Fees	823,244	1,222,125	(398,881)	204,679	435,075	(230,396)	576,565	787,050	(210,485)	42,000	0	42,000
Rent and Location Related Expenses	768,234	778,823	(10,588)	105,084	113,921	(8,836)	653,705	644,049	9,657	9,445	20,853	(11,409)
Office, Computer & Other Expenses	1,216,320	1,336,698	(120,380)	507,664	384,902	122,760	694,273	921,976	(227,704)	14,383	29,820	(15,436)
Total Operating Expenses	**19,384,721**	**19,360,845**	**23,875**	**5,567,925**	**7,410,979**	**(1,843,055)**	**13,441,606**	**11,036,773**	**2,404,833**	**375,190**	**913,093**	**(537,903)**
Program Incentives and Grants	**$ 4,875,831**	**$ 8,935,230**	**$ (4,059,399)**	**$ 4,749,110**	**$ 6,705,230**	**$ (1,956,120)**	**$ 126,721**	**$ 2,230,000**	**$ (2,103,279)**	**$ 0**	**$ 0**	**$ 0**
Operating Income/(Loss)	**$ 22,793,808**	**$ 13,804,456**	**$ 8,989,352**	**$ 1,184,919**	**$ (3,447,226)**	**$ 4,632,145**	**$ 21,984,079**	**$ 18,164,776**	**$ 3,819,303**	**$ (375,190)**	**$ (913,093)**	**$ 537,903**
Non-Operating Expenses	**$ 3,471,892**	**$ 4,159,562**	**$ (687,670)**	**$ 1,733,108**	**$ 2,409,898**	**$ (676,790)**	**$ 1,738,784**	**$ 1,749,664**	**$ (10,879)**	**$ 0**	**$ 0**	**$ 0**
Net Revenues Over (Under) Expenses	**$ 19,321,916**	**$ 9,644,894**	**$ 9,677,022**	**$ (548,189)**	**$ (5,857,125)**	**$ 5,308,936**	**$ 20,245,294**	**$ 16,415,112**	**$ 3,830,182**	**$ (375,190)**	**$ (913,093)**	**$ 537,903**

Connecticut Green Bank
March 2023 Financial Package
Analysis of Compensation and Benefits

	FY 2023 YTD Actual	FY 2023 YTD Budget	Budget Variance	FY 2022 YTD Actual	Prior Year Variance
Compensation:					
Full Time Employees	$ 4,239,383	$ 4,783,736	$ (544,353)	$ 3,677,346	$ 562,037
Interns	61,382	100,380	(38,998)	9,800	51,582
Temporary Employees	-	5,400	(5,400)	-	-
Overtime	16,918	-	16,918	16,218	700
Total Compensation	**$ 4,317,683**	**$ 4,889,516**	**$ (571,833)**	**$ 3,703,364**	**$ 614,319**
Employee Benefits:					
State Retirement Plan Contributions	$ 2,978,603			$ 2,539,103	$ 439,500
Medical Dental Rx Premiums	564,612			488,404	76,208
Payroll and Unemployment Taxes	309,297			263,489	45,808
Life, Disability & WC Premiums	25,931			22,613	3,319
Total Employee Benefits	**3,878,444**	**4,313,041**	**(434,597)**	**3,313,608**	**564,835**
Total Compensation and Benefits	**$ 8,196,127**	**$ 9,202,557**	**$ (1,006,430)**	**$ 7,016,972**	**$ 1,179,154**
Benefits and Taxes as a % of Salary	89.83%	88.21%		89.48%	

Actual vs. Budget

Total Employee compensation and benefit costs were $1.0M under budget. Full time employee costs are $544k under budget mostly due to $413k of l open positions, $47k in positive variances due to timing of budgeted COLA and merit increases being earlier than actual, and $83k of timing difference and end times of employees joining and leaving the Green Bank compared to budget. Additionally, Interns were $39k under budget due to only 5 sum being hired compared to 7 budgeted positions being available in the summer of 2022. Benefits and Taxes are approx. $435k less than budget due mo favorable employee compensation variances previously noted. Additionally, Actual benefits and taxes were 89.83%, higher than a budgeted 88.21% c compensation for the period to date.

Actual vs. Prior Year

Compensation costs increased $572k and benefit costs increased $435k, respectively over the same period of the prior year. The Compensation incr the 5% Cost-of-Living Adjustment (COLA) each employee received effective 7/1/22, merit increases for employees received in January 2023, as well a of nine new employees joining the Green Bank offset by three departing employees to date in FY23. The Benefit increase is mostly in-line with the incr compensation for the reasons previously noted. Actual benefit percentages increased slightly from 89.48% in the prior period, to 89.83% in the current Additionally, actual contributions to the State employee retirement plan increased from 69.0% to 70.3% of full time employee compensation, year over

For detailed staffing, please refer to FY23 Budget.

Connecticut Green Bank
March 2023 Financial Package
Historical Analysis of Compensation and Benefits

	FYTD 3/31/23 YTD Actual	FYE 6/30/22 Actual	FYE 6/30/21 Actual	FYE 6/30/20 Actual	FYE 6/30/19 Actual	FYE 6/30/18 Actual
Compensation:						
Full Time Employees	$ 4,317,683	$ 4,813,293	$ 4,476,214	$ 3,929,354	$ 4,195,593	$ 5,136,066
Temporary Employees	-	-	-	2,242	9,262	17,955
Total Compensation	**$ 4,317,683**	**$ 4,813,293**	**$ 4,476,214**	**$ 3,931,596**	**$ 4,204,855**	**$ 5,154,021**
Employee Benefits:						
State Retirement Plan Contributions	$ 2,978,603	$ 3,317,054	$ 2,903,780	$ 2,411,864	$ 2,869,823	$ 3,013,747
Medical Dental Rx Premiums	564,612	610,627	625,480	553,908	545,779	678,633
Payroll and Unemployment Taxes	309,297	353,405	305,032	269,295	306,091	347,070
Life, Disability & WC Premiums	25,931	28,223	23,840	27,567	46,944	102,225
Total Employee Benefits	**3,878,444**	**4,309,308**	**3,858,132**	**3,262,634**	**3,768,636**	**4,141,675**
Total Compensation and Benefits	**$ 8,196,127**	**$ 9,122,602**	**$ 8,334,346**	**$ 7,194,230**	**$ 7,973,491**	**$ 9,295,696**
Medical Dental Rx Premiums as a % of Salary	13.08%	12.69%	13.97%	14.09%	12.98%	13.17%
* **Retirement Plan Contributions as a % of Salary**	68.99%	68.91%	64.87%	61.35%	68.25%	58.47%
Total Benefits and Taxes as a % of Salary	89.83%	89.53%	86.19%	82.98%	89.63%	80.36%
*** **State of CT Comptroller Employer SERS Rate**	67.40%	65.90%	64.14%	59.99%	64.30%	56.58%

* Retirement Plan Contributions include Pension & OPEB, included Employer contirbutions to the Tier IV Defined Contribution for employees in that plan.
** OPEB began in the year ended 6/30/18.
*** State of CT Comptroller Employer SERS Rate provided via the annual "Fringe Benefit Recover Rate" memo issued 7/1 of each year by the State Comptroller.

Total Benefits Cost @ Hypothetical Benefits Rate	**35%**	1,511,189	1,684,653	1,566,675	1,376,059	1,471,699	1,803,907
Actual Total Compensation and Benefits		8,196,127	9,122,602	8,334,346	7,194,230	7,973,491	9,295,696
Less Total Compensation and Benefits @ Hypothetical Rate		(5,828,873)	(6,497,946)	(6,042,889)	(5,307,655)	(5,676,554)	(6,957,928)
Incremental HR cost due to State Benefits Charge		2,367,254	2,624,656	2,291,457	1,886,575	2,296,937	2,337,768

Analysis:

As noted above, the cost of benefits per employee has been in excess of 80% of salary for every year since FYE 6/30/18, with retirement plan contributions making up 58-69% of the cost of total benefits in each of these years. It is noted that the medical/dental/Rx costs have remained fairly consistent over the period presented above (approx. 12-14%). The main driver of the benefits rate is the State of CT Comptroller Employer SERS rate that is a tool the state uses to allocate expenses accross all SERS employees. The allocation is done only based on salary of the employees, regardless of the demographic information or tier level of the benefit plans that each employee is eligible for. The Green Bank has a fairly young staff, with 17 Tier III and 23 Tier IV employees of the total 48 full-time employees of the Green Bank at 3/31/23 (where Tier III and Tier IV are lower cost pension arrangements than Tier IIa and Tier II where the Green Bank only has 8 employees). This rate is a cost of doing business to the Green Bank as a quasi-public agency of the state, and management of the Green Bank has no control to manage this rate provided to us. Due to the demographics of our staff, we also believe the rate charged to the Green Bank based on its broad allocation to not be representative of the Tier of employees, where the Green Bank would likely pay a lower rate than what is being charged if employee demographic information as it relates to what Tier SERS plan they are enrolled in was used in the allocation. As further noted above, if we were to apply a standard 35% benefits rate to our salaries over the time period presented, we would save approx. **$2 - 2.5M per year**.

Connecticut Green Bank
Summary of Unfunded Commitments
As of March 31, 2023

(In thousands)

	EPBB Balance 3/31/2023	PBI Balance 3/31/2023	CPACE Loans Balance 3/31/2023	Non CPACE Loans Balance 3/31/2023	All Projects Balance 3/31/2023	Balance 6/30/2022	Increase / (Decrease)
Solar - SHREC Eligible	1,341	19,443	0	0	20,784	26,324	(5,540)
Solar - Not SHREC Eligible	5	237	0	0	242	1,368	(1,126)
CPACE	0	0	6,727	0	6,727	1,783	4,944
Multifamily/LMI Solar PV & EE	0	0	0	26,920	26,920	16,087	10,833
SBEA	0	0	0	16,142	16,142	17,480	(1,338)
Solar PPAs/IPC	0	0	0	9,802	9,802	12,989	(3,187)
Fuel Cells	0	0	0	17,000	17,000	5,000	12,000
Hydropower	0	0	0	330	330	330	0
Total Unfunded Commitments	$ 1,346	$ 19,680	$ 6,727	$ 70,194	$ 97,947	$ 81,361	$ 16,586

Connecticut Green Bank
Summary of Loan Guarantees
As of March 31, 2023

Guarantor	Issuer	Beneficiary	Relationship of guarantor to Issuer	Type of obligation guaranteed	Maximum amount of guaranty	Obligations guaranteed as of 3/31/2023	Obligations guaranteed as of 6/30/2022
CT Green Bank	Owners of multifamily dwellings in Connecticut	Housing Development Fund	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	$ 3,458,408	$ 3,448,384
CT Green Bank	New England Hydropower Company	Webster Bank	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.	CHFA	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	1,295,467	1,366,560
CT Green Bank	Canton Hydro, LLC	Provident Bank	Issuer is the developer of hydropower project in Connecticut approved by the CGB Board of Directors.	Unfunded guaranty not to exceed $500,000, decreased to $250,000 in December 2022.	500,000	250,000	500,000
					$ 7,695,807	**$ 5,303,875**	**$ 5,614,944**

Connecticut Green Bank

Program Loans, Notes and Loan Loss Reserve Analysis

As of March 31, 2023

Legal Entity	Loan Program	Project	Loan Portfolio Balance 7/1/2022	FY23 YTD Investments	FY23 YTD Repayments	Loan Portfolio Balance As of March 31, 2023	Loan Loss Reserve Balance 7/1/2022	FY23 YTD Increase / Decrease to Reserve	Loan Loss Reserve Balance As of March 31, 2023	Reserve as a % of Portfolio Balance	Loan Portfolio Carrying Value As of March 31, 2023
CGB	CPACE Program	Various	$ 52,649,614	$ 379,091	$ (4,587,608)	$ 48,441,097	(5,264,961)	$ (425,000)	$ (5,689,961)	11.7%	$ 42,751,135
CGB	Fuel Cell Projects	Fuel Cell Energy-Bridgeport	3,715,899		(639,374)	3,076,526	(371,590)		(371,590)	12.1%	2,704,936
		FCE Corp-Bridge Loan	1,800,000			1,800,000	(180,000)		(180,000)	10.0%	1,620,000
		FCE Corp-Bridge Loan	3,000,000			3,000,000	(300,000)		(300,000)	10.0%	2,700,000
CGB	CHP Pilot	Bridgeport MicroGrid	403,910		(16,759)	387,151	(20,196)		(20,196)	5.2%	366,955
CGB	Anaerobic Digester	Quantum Biopower	1,253,925		(99,870)	1,154,055	(62,696)		(62,696)	5.4%	1,091,359
		Fort Hill Ag-Grid LLC	662,475		(41,179)	621,296	(33,124)		(33,124)	5.3%	588,172
CGB	Other Loans	Nu Power Thermal	427,000			427,000	(427,000)		(427,000)	100.0%	-
		Terrace Heights Condos	77,899		(25,814)	52,085	(7,790)		(7,790)	15.0%	44,295
CGB	Multifamily / Affordable Housing / Credit Challenged / LMI	Capital for Change	3,672,898		(151,173)	3,521,725	(367,290)		(367,290)	10.4%	3,154,436
		CEEFCo	2,656,000	400,000		3,056,000	(265,600)		(265,600)	8.7%	2,790,400
		Pre-Dev Loans	266,236		(25,232)	241,003	(53,247)		(53,247)	22.1%	187,756
		Posigen	10,849,941	12,291,635	(1,551,531)	21,590,045	(1,084,994)		(1,084,994)	5.0%	20,505,051
CGB	Energy Efficiency Financing	RENEW Energy Efficiency Bridgeport	108,675		(25,240)	83,435	(10,867)		(10,867)	13.0%	72,567
CGB	Alpha Program	Anchor Science	150,000			150,000	(75,000)		(75,000)	50.0%	75,000
CGB	Op Demo Program	New England Hydropower Co.	500,000			500,000	(499,999)		(499,999)	100.0%	1
CGB	Wind Financing	Wind Colebrook	1,474,232		(85,609)	1,388,624	(147,423)		(147,423)	10.6%	1,241,200
CGB	Hydro Projects	Canton Hydro	704,827			704,827	(35,241)		(35,241)	5.0%	669,586
CGB	Sunwealth Note	Sunwealth	846,941		(38,840)	808,101	(42,347)		(42,347)	5.2%	765,754
CGB	IPC Note Receivable	IPC	1,000,000		(150,000)	850,000	-		-	0.0%	850,000
CGB	Budderfly	Budderfly	5,014,583	135,175		5,149,759	(501,458)		(501,458)	9.7%	4,648,300
CGB	Budgeted LLR Adj (to be adjusted at fiscal year end)	Various	-	-	-	-	-	(1,238,546)	(1,238,546)	0.0%	(1,238,546)
CEFIA Holdings	Sunwealth Note	Sunwealth	761,915		(48,880)	713,035	(38,096)	(6,023)	(44,119)	6.2%	668,916
CEFIA Holdings	Skyview Notes	Skyview	6,197,860	1,345,900	(317,899)	7,225,861	(309,893)	125,024	(184,869)	2.6%	7,040,992
CEFIA Holdings	SBEA Loans	SBEA	54,147	-	(46,092)	8,055	-	-	-	0.0%	8,055
CEFIA Holdings	Inclusive Solar Manager	IPC	1,012,318	1,841,027	(11,908)	2,841,437	(20,246)	20,246	-	0.0%	2,841,437
CEFIA Holdings	Inclusive Solar Developer	IPC	445,169		(445,169)	-	(8,903)	8,903	-	0.0%	-
CT Solar Loan 1	Solar Loans	CT Solar Loan 1	865,378	-	(235,982)	629,396	(43,269)	-	(43,269)	6.9%	586,127
CT Solar Lease 1	Solar Lease Notes	CT Solar Lease 1	3,345,991	-	(761,291)	2,584,701	(342,330)	-	(342,330)	13.2%	2,242,371
CGB CPACE LLC	CPACE Program	Various	1,488,794	1,006,819	(118,993)	2,376,620	-	-	-	0.0%	2,376,620
CGB Green Liberty Notes LLC	SBEA Loans	SBEA	2,465,810	2,313,338	(929,099)	3,850,049	-	-	-	0.0%	3,850,049
		Total:	$ 107,872,438	$ 19,712,985	$ (10,353,541)	$ 117,231,882	$ (10,513,562)	$ (1,515,395)	$ (12,028,957)	10.3%	$ 105,202,925
		CGB:									
		CPACE Loans	$ 52,649,614	$ 379,091	$ (4,587,608)	$ 48,441,097	$ (5,264,961)	$ (425,000)	$ (5,689,961)	11.7%	$ 42,751,135
		Posigen	$ 10,849,941	$ 12,291,635	$ (1,551,531)	$ 21,590,045	$ (1,084,994)	$ -	$ (1,084,994)	5.0%	$ 20,505,051
		Sunwealth	$ 846,941	$ -	$ (38,840)	$ 808,101	$ (42,347)	$ -	$ (42,347)	5.2%	$ 765,754
		Program Loans	$ 26,888,560	$ 535,175	$ (1,260,250)	$ 26,163,486	$ (3,358,522)	$ (1,238,546)	$ (4,597,068)	17.6%	$ 21,566,418
		Total CGB:	$ 91,235,056	$ 13,205,901	$ (7,438,229)	$ 97,002,728	$ (9,750,824)	$ (1,663,546)	$ (11,414,370)	11.8%	$ 85,588,358
		CEFIA Holdings	$ 8,471,409	$ 3,186,927	$ (869,947)	$ 10,788,388	$ (377,138)	$ 148,151	$ (228,988)	2.1%	$ 10,559,400
		CT Solar Loan 1	$ 865,378	$ -	$ (235,982)	$ 629,396	$ (43,269)	$ -	$ (43,269)	6.9%	$ 586,127
		CT Solar Lease 1	$ 3,345,991	$ -	$ (761,291)	$ 2,584,701	$ (342,330)	$ -	$ (342,330)	13.2%	$ 2,242,371
		CGB CPACE LLC	$ 1,488,794	$ 1,006,819	$ (118,993)	$ 2,376,620	$ -	$ -	$ -	0.0%	$ 2,376,620
		CGB Green Liberty Notes LLC	$ 2,465,810	$ 2,313,338	$ (929,099)	$ 3,850,049	$ -	$ -	$ -	0.0%	$ 3,850,049
											$ 105,202,925

Connecticut Green Bank - Primary Government
Consolidated Balance Sheet
As of March 31, 2023

	Connecticut Green Bank As of 3/31/2023	CGB Meriden Hydro LLC As of 3/31/2023	CGB KCF LLC As of 3/31/2023	SHREC ABS 1 LLC As of 3/31/2023	SHREC Warehouse 1 LLC As of 3/31/2023	CT Solar Lease 1 LLC As of 3/31/2023	CGB C-PACE LLC As of 3/31/2023	CT Solar Loan I LLC As of 3/31/2023	CEFIA Holdings LLC As of 3/31/2023	CGB Green Liberty Notes LLC As of 3/31/2023	Eliminations As of 3/31/2023	CGB-Primary Government As of 3/31/2023
Assets												
Current Assets												
Cash and Cash Equivalents	31,895,874	171,925	-	3,325,908	164,480	-	369,317	1,876,759	1,439,250	2,358,505	-	41,602,018
Accounts Receivable	3,975,401	14,874	-	-	-	-	-	-	14,576	-	-	4,004,851
Utility Remittance Receivable	1,978,036	-	-	-	-	-	-	-	-	-	-	1,978,036
Interest Receivable	975,544	-	-	-	-	-	31,919	3,746	-	-	-	1,011,208
Other Receivables	93,511	-	-	-	-	82,364	-	247	1,791,308	-	-	1,967,432
Prepaid Expenses and Other Assets	178,150	42,817	-	4,333	-	-	-	-	999,911	-	-	1,225,212
Total Current Assets	39,096,516	229,616	-	3,330,241	164,480	82,364	401,236	1,880,752	4,245,045	2,358,505	-	51,788,756
Noncurrent Assets												
Restricted Assets												
Cash and Cash Equivalents	14,683,961	-	-	785,760	4,555,149	-	-	84,834	24,412	-	-	20,134,115
Investments	880,427	-	-	-	-	-	-	-	-	-	-	880,427
Program Loans, net of reserves	85,588,357	-	-	-	-	-	2,376,620	586,127	10,551,345	-	-	99,102,450
Solar Lease I Promissory Notes, net of reserves	-	-	-	-	-	2,242,371	-	-	-	-	-	2,242,371
Renewable Energy Certificates	229,019	-	-	-	-	-	-	-	-	-	-	229,019
SBEA Promissory Notes, net of reserves	-	-	-	-	-	-	-	-	7,661	3,547,334	-	3,554,996
Due From Component Units	75,181,781	-	-	25,663,204	3,784,455	-	-	-	11,846,974	-	(59,532,395)	56,944,019
Investment in Component Units	100,100	-	-	-	-	-	-	-	100	-	(100,100)	100
Capital Assets, net	11,856,379	3,699,628	-	-	-	-	-	-	-	-	-	15,556,007
Total Noncurrent Assets	188,520,024	3,699,628	-	26,448,964	8,339,604	2,242,371	2,376,620	670,961	22,430,493	3,547,334	(59,632,495)	198,643,504
Total Assets	**227,616,541**	**3,929,244**	**-**	**29,779,205**	**8,504,084**	**2,324,735**	**2,777,856**	**2,551,713**	**26,675,538**	**5,905,839**	**(59,632,495)**	**250,432,260**
Deferred Outflows of Resources												
Deferred Amount for Pensions	6,439,478	-	-	-	-	-	-	-	-	-	-	6,439,478
Deferred Amount for OPEB	5,172,871	-	-	-	-	-	-	-	-	-	-	5,172,871
Total Deferred Outflows of Resources	**11,612,349**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**11,612,349**
Liabilities												
Current Liabilities												
Accounts Payable	374,763	-	-	-	2,292	-	-	-	-	-	-	377,055
Accrued payroll and related liabilities	1,296,862	-	-	-	-	-	-	-	-	-	-	1,296,862
Accrued Expenses	9,033,902	-	-	46,221	-	-	-	1,196	672,087	10,784	-	9,764,190
Notes Payable-Green Liberty Notes	-	-	-	-	-	-	-	-	-	864,335	-	864,335
Current Maturities of Long-Term Debt	214,144	-	-	-	-	-	-	-	-	-	-	214,144
Custodial Liability	221,701	-	-	-	-	-	-	-	874,500	-	-	1,096,200
Deferred Revenue	97,105	-	-	-	-	-	-	-	-	-	-	97,105
Total Current Liabilities	11,238,476	-	-	46,221	2,292	-	-	1,196	1,546,587	875,119	-	13,709,890
Noncurrent Liabilities												
Due to Component Units	29,447,659	5,909,180	21,918	-	-	2,408,669	2,585,000	2,215,000	13,920,913	5,010,393	(59,532,395)	1,986,336
Long-term debt	48,748,767	-	-	20,020,187	-	-	-	-	-	-	-	68,768,954
Pension Liability	21,273,373	-	-	-	-	-	-	-	-	-	-	21,273,373
OPEB Liability	20,516,564	-	-	-	-	-	-	-	-	-	-	20,516,564
Total Noncurrent Liabilities	119,986,363	5,909,180	21,918	20,020,187	-	2,408,669	2,585,000	2,215,000	13,920,913	5,010,393	(59,532,395)	112,545,227
Total Liabilities	**131,224,840**	**5,909,180**	**21,918**	**20,066,408**	**2,292**	**2,408,669**	**2,585,000**	**2,216,196**	**15,467,500**	**5,885,512**	**(59,532,395)**	**126,255,117**
Deferred Inflows of Resources												
Deferred Pension Inflow Liability	5,424,891	-	-	-	-	-	-	-	-	-	-	5,424,891
Deferred OPEB Inflow Liability	9,694,281	-	-	-	-	-	-	-	-	-	-	9,694,281
Total Deferred Inflows of Resources	**15,119,172**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**15,119,172**
Net Position												
Net Investment in Capital Assets	11,856,379	3,699,628	-	-	-	-	-	-	-	-	-	15,556,007
Restricted-Energy Programs	14,683,961	-	-	785,760	4,555,149	-	-	84,834	24,412	-	-	20,134,115
Unrestricted Net Position	66,344,538	(5,679,564)	(21,918)	8,927,037	3,946,643	(83,934)	192,856	250,684	11,183,626	20,327	(100,100)	84,980,197
Total Net Position	**92,884,878**	**(1,979,936)**	**(21,918)**	**9,712,797**	**8,501,792**	**(83,934)**	**192,856**	**335,518**	**11,208,039**	**20,327**	**(100,100)**	**120,670,320**

Connecticut Green Bank
Consolidated Balance Sheet
As of March 31, 2023

	CGB-Primary Government As of 3/31/2023	CT Solar Lease 2 LLC As of 3/31/2023	CT Solar Lease 3 LLC As of 3/31/2023	CEFIA Solar Services Inc. As of 3/31/2023	Eliminations As of 3/31/2023	Consolidated As of 3/31/2023	Consolidated As of 6/30/2022	Consolidated YOY Change
Assets								
Current Assets								
Cash and Cash Equivalents	41,602,018	1,553,338	2,952,294	775,220	-	46,882,871	60,812,040	(13,929,169)
Accounts Receivable	4,004,851	59,761	20,573	779	-	4,085,964	3,634,085	451,879
Utility Remittance Receivable	1,978,036	-	-	-	-	1,978,036	2,472,647	(494,612)
Current Portion of Lease Receivable	-	984,926	-	2,550	-	987,476	1,058,634	(71,158)
Interest Receivable	1,011,208	8,458	-	-	-	1,019,666	658,160	361,505
Other Receivables	1,967,432	677,872	241,138	5,664,522	-	8,550,965	5,726,267	2,824,698
Prepaid Expenses and Other Assets	1,225,212	400,548	56,714	18,750	-	1,701,224	1,272,285	428,939
Total Current Assets	51,788,756	3,684,903	3,270,721	6,461,822	-	65,206,201	75,634,119	(10,427,917)
Noncurrent Assets								
Restricted Assets								
Cash and Cash Equivalents	20,134,115	1,877,639	-	383,566	-	22,395,321	19,646,513	2,748,808
Investments	880,427	-	-	-	-	880,427	943,105	(62,678)
Program Loans, net of reserves	99,102,450	-	-	-	-	99,102,450	81,616,391	17,486,059
Solar Lease I Promissory Notes, net of reserves	2,242,371	-	-	-	-	2,242,371	3,229,560	(987,189)
Renewable Energy Certificates	229,019	-	-	-	-	229,019	348,716	(119,697)
SBEA Promissory Notes, net of reserves	3,554,996	-	-	-	-	3,554,996	2,127,126	1,427,870
Lease Receivable, less current portion	-	16,215,051	-	66,268	-	16,281,319	17,049,036	(767,717)
Due From Component Units	56,944,019	-	-	7,714,862	(64,658,881)	-	-	-
Investment in Component Units	100	-	-	31,264,299	(31,264,399)	-	-	-
Prepaid Warranty Management, less current portion	-	3,281,863	-	-	-	3,281,863	3,550,991	(269,129)
Fair Value - Interest Rate Swap	-	345,706	-	-	-	345,706	(461,191)	806,897
Capital Assets, net	15,556,007	47,902,758	9,564,358	392,214	226,191	73,641,528	77,143,821	(3,502,292)
Total Noncurrent Assets	198,643,504	69,623,017	9,564,358	39,821,209	(95,697,089)	221,954,999	205,194,066	16,760,932
Total Assets	**250,432,260**	**73,307,920**	**12,835,079**	**46,283,030**	**(95,697,089)**	**287,161,200**	**280,828,185**	**6,333,015**
Deferred Outflows of Resources								
Deferred Amount for Pensions	6,439,478	-	-	-	-	6,439,478	4,550,879	1,888,599
Deferred Amount for OPEB	5,172,871	-	-	-	-	5,172,871	5,238,343	(65,472)
Deferred Amount for Asset Retirement Obligations	-	1,763,892	468,230	-	-	2,232,122	2,402,686	(170,564)
Total Deferred Outflows of Resources	**11,612,349**	**1,763,892**	**468,230**	**-**	**-**	**13,844,471**	**12,191,908**	**1,652,563**
Liabilities								
Current Liabilities								
Accounts Payable	377,055	3,200	-	784	-	381,039	341,239	39,800
Accrued payroll and related liabilities	1,296,862	-	-	-	-	1,296,862	1,139,857	157,005
Accrued Expenses	9,764,190	137,836	23,530	23,430	-	9,948,986	6,674,270	3,274,716
Notes Payable-Green Liberty Notes	864,335	-	-	-	-	864,335	190,400	673,935
Current Maturities of Long-Term Debt	214,144	-	-	-	-	214,144	152,035	62,109
Custodial Liability	1,096,200	-	-	6,383	-	1,102,583	1,395,368	(292,785)
Deferred Revenue	97,105	(36,538)	4,950	-	-	65,517	(5,587)	71,104
Total Current Liabilities	13,709,890	104,499	28,480	30,597	-	13,873,465	9,887,582	3,985,884
Noncurrent Liabilities								
Due to Component Units	1,986,336	18,540,800	408	44,131,337	(64,658,881)	-	-	-
Asset Retirement Obligation	-	3,450,596	718,889	-	-	4,169,484	4,067,616	101,868
Long-term debt	68,768,954	8,778,350	-	1,295,467	-	78,842,771	103,045,843	(24,203,072)
Pension Liability	21,273,373	-	-	-	-	21,273,373	20,268,725	1,004,648
OPEB Liability	20,516,564	-	-	-	-	20,516,564	23,688,513	(3,171,949)
Total Noncurrent Liabilities	112,545,227	30,769,745	719,297	45,426,804	(64,658,881)	124,802,193	151,070,697	(26,268,505)
Total Liabilities	**126,255,117**	**30,874,244**	**747,777**	**45,457,401**	**(64,658,881)**	**138,675,658**	**160,958,279**	**(22,282,621)**
Deferred Inflows of Resources								
Deferred Pension Inflow Liability	5,424,891	-	-	-	-	5,424,891	5,071,624	353,267
Deferred OPEB Inflow Liability	9,694,281	-	-	-	-	9,694,281	7,227,544	2,466,737
Deferred Lease Inflow Liability	-	16,987,117	-	68,819	-	17,055,935	18,372,781	(1,316,845)
Total Deferred Inflows of Resources	**15,119,172**	**16,987,117**	**-**	**68,819**	**-**	**32,175,107**	**30,671,949**	**1,503,159**
Net Position								
Net Investment in Capital Assets	15,556,007	47,902,758	9,564,358	392,214	226,191	73,641,528	77,143,821	(3,502,292)
Restricted-Energy Programs	20,134,115	1,877,639	-	383,566	-	22,395,321	19,646,513	2,748,808
Unrestricted Net Position	84,980,197	(22,569,947)	2,991,174	(18,969)	(31,264,399)	34,118,057	4,599,532	29,518,525
Total Net Position	**120,670,320**	**27,210,451**	**12,555,532**	**756,811**	**(31,038,208)**	**130,154,905**	**101,389,865**	**28,765,040**

Connecticut Green Bank - Primary Government
Consolidated Statement of Revenues and Expenditures
For the Period July 1, 2022 to March 31, 2023

	Connecticut Green Bank Fiscal YTD 3/31/2023	CGB Meriden Hydro LLC Fiscal YTD 3/31/2023	SHREC ABS 1 LLC Fiscal YTD 3/31/2023	SHREC Warehouse 1 LLC Fiscal YTD 3/31/2023	CT Solar Lease 1 LLC Fiscal YTD 3/31/2023	CGB C-PACE LLC Fiscal YTD 3/31/2023	CT Solar Loan I LLC Fiscal YTD 3/31/2023	CEFIA Holdings LLC Fiscal YTD 3/31/2023	CGB Green Liberty Notes LLC Fiscal YTD 3/31/2023	Eliminations Fiscal YTD 3/31/2023	CGB-Primary Government Fiscal YTD 3/31/2023
Operating Income (Loss)											
Operating Revenues											
Utility Remittances	19,175,880	-	-	-	-	-	-	-	-	-	19,175,880
Interest Income-Promissory Notes	4,291,418	-	-	-	127,462	82,613	34,546	327,968	55,944	-	4,919,951
RGGI Auction Proceeds	6,312,752	-	-	-	-	-	-	-	-	-	6,312,752
Energy System Sales	-	-	-	-	-	-	-	3,154,486	-	-	3,154,486
REC Sales	4,827,522	-	3,982,299	2,667,457	-	-	-	-	-	-	11,477,278
Other Income	1,030,166	-	-	-	-	15,392	83	18,896	-	-	1,064,538
Total Operating Revenues	35,637,739	-	3,982,299	2,667,457	127,462	98,006	34,629	3,501,351	55,944	-	46,104,886
Operating Expenses											
Cost of Goods Sold-Energy Systems	-	-	-	-	-	-	-	3,154,486	-		3,154,486
Provision for Loan Losses	1,663,546	-	-	-	-	-	-	(148,151)	-	-	1,515,395
Grants and Incentive Payments	5,075,175	-	-	-	-	-	-	-	-	-	5,075,175
Program Administration Expenses	11,640,876	239,421	40,750	97,917	89,036	-	12,123	265,262	14,750	-	12,400,135
General and Administrative Expenses	3,983,642	5,500	-	13,754	-	1,159	2,471	15,015	10,708	-	4,032,249
Total Operating Expenses	22,363,239	244,921	40,750	111,671	89,036	1,159	14,594	3,286,612	25,458	-	26,177,440
Operating Income (Loss)	13,274,499	(244,921)	3,941,549	2,555,786	38,426	96,846	20,035	214,739	30,486	-	19,927,446
Nonoperating Revenue (Expenses)											
Interest Income-Short Term Cash Deposits	925,948	-	55,442	63	-	-	499	18	-	-	981,969
Interest Income-Component Units	53,441	-	-	-	-	-	-	-	-	-	53,441
Interest Expense-ST Debt	-	-	-	-	-	-	-	-	(11,576)	-	(11,576)
Interest Expense-LT Debt	(681,807)	-	(936,490)	-	-	-	-	-	-	-	(1,618,297)
Debt Issuance Costs	(2,500)	-	-	-	-	-	-	-	(5,000)	-	(7,500)
Unrealized Gain (Loss) on Investments	(3,568)	-	-	-	-	-	-	-	-	-	(3,568)
Total Nonoperating Revenue (Expenses)	291,513	-	(881,048)	63	-	-	499	18	(16,576)	-	(605,531)
Change in Net Position	**13,566,013**	**(244,921)**	**3,060,501**	**2,555,849**	**38,426**	**96,846**	**20,535**	**214,757**	**13,911**	**-**	**19,321,916**

Connecticut Green Bank
Consolidated Statement of Revenues and Expenditures
For the Period July 1, 2022 to March 31, 2023

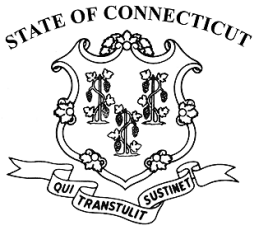
	CGB-Primary Government Fiscal YTD 3/31/2023	CT Solar Lease 2 LLC Fiscal YTD 3/31/2023	CT Solar Lease 3 LLC Fiscal YTD 3/31/2023	CEFIA Solar Services Inc. Fiscal YTD 3/31/2023	Eliminations Fiscal YTD 3/31/2023	Consolidated Fiscal YTD 3/31/2023	Consolidated Fiscal YTD 3/31/2023	Consolidated YOY Variance
Operating Income (Loss)								
Operating Revenues								
Utility Remittances	19,175,880	-	-	-	-	19,175,880	12,999,805	6,176,075
Interest Income-Promissory Notes	4,919,951	-	-	-	-	4,919,951	3,364,877	1,555,074
RGGI Auction Proceeds	6,312,752	-	-	-	-	6,312,752	16,359	6,296,393
Energy System Sales	3,154,486	-	-	992,456	-	4,146,942	5,471,049	(1,324,107)
REC Sales	11,477,278	482,542	298,958	12,946	-	12,271,724	451,092	11,820,632
Lease Income	-	1,125,981	-	5,278	-	1,131,259	6,605,805	(5,474,547)
Other Income	1,064,538	553,068	291,404	461,987	(11,902)	2,359,095	1,965,641	393,453
Total Operating Revenues	46,104,886	2,161,592	590,362	1,472,666	(11,902)	50,317,604	30,874,630	19,442,974
Operating Expenses								
Cost of Goods Sold-Energy Systems	3,154,486	-	-	992,456	-	4,146,942	451,092	3,695,850
Provision for Loan Losses	1,515,395	-	-	-	-	1,515,395	684,732	830,663
Grants and Incentive Payments	5,075,175	-	-	-	88,008	5,163,182	9,098,897	(3,935,714)
Program Administration Expenses	12,400,135	2,362,768	260,775	332,527	(226,191)	15,130,013	9,007,258	6,122,756
General and Administrative Expenses	4,032,249	183,966	46,312	4,920	(99,909)	4,167,538	2,130,959	2,036,579
Total Operating Expenses	26,177,440	2,546,734	307,087	1,329,903	(238,093)	30,123,071	21,372,937	8,750,134
Operating Income (Loss)	19,927,446	(385,143)	283,275	142,763	226,191	20,194,532	9,501,692	10,692,840
Nonoperating Revenue (Expenses)								
Interest Income-Short Term Cash Deposits	981,969	782	2,343	567	-	985,660	24,034	961,626
Interest Income-Component Units	53,441	-	-	39,718	(93,159)	-	-	-
Interest Expense-Component Units	-	(93,159)	-	-	93,159	-	-	-
Interest Expense-ST Debt	(11,576)	-	-	-	-	(11,576)	(1,048)	(10,528)
Interest Expense-LT Debt	(1,618,297)	(355,933)	-	(24,882)	-	(1,999,113)	(1,764,236)	(234,877)
Debt Issuance Costs	(7,500)	-	-	-	-	(7,500)	(11,000)	3,500
Distributions to Member	-	(257,167)	(67,908)	-	-	(325,076)	(450,864)	125,788
Realized Loss on Investments	-	-	-	-	-	-	(118,919)	118,919
Unrealized Gain on Interest Rate Swap	-	252,598	-	-	-	252,598	237,832	14,766
Net change in fair value of investments	(3,568)	(69,332)	-	-	-	(72,900)	-	(72,900)
Total Nonoperating Revenue (Expenses)	(605,531)	(522,211)	(65,565)	15,402	-	(1,177,905)	(2,084,201)	906,296
	-	-	-	-	-	-	-	-
Change in Net Position	**19,321,916**	**(907,354)**	**217,709**	**158,165**	**226,191**	**19,016,627**	**7,417,491**	**11,599,136**

Connecticut Green Bank - Primary Government
Consolidated Statement of Cash Flows
For the Period July 1, 2022 to March 31, 2023

	Connecticut Green Bank Fiscal YTD 3/31/2023	CGB Meriden Hydro LLC Fiscal YTD 3/31/2023	CGB KCF LLC Fiscal YTD 3/31/2023	SHREC ABS 1 LLC Fiscal YTD 3/31/2023	SHREC Warehouse 1 LLC Fiscal YTD 3/31/2023	CT Solar Lease 1 LLC Fiscal YTD 3/31/2023	CGB C-PACE LLC Fiscal YTD 3/31/2023	CT Solar Loan I LLC Fiscal YTD 3/31/2023	CEFIA Holdings LLC Fiscal YTD 3/31/2023	CGB Green Liberty Notes LLC Fiscal YTD 3/31/2023	Eliminations Fiscal YTD 3/31/2023	CGB-Primary Government Fiscal YTD 3/31/2023
Operating Activities												
Change in Net Position	13,566,013	(244,921)	-	3,060,501	2,555,849	38,426	96,846	20,535	214,757	13,911	-	19,321,916
Adjustments to reconcile change in net position to net cash provided by (used in) operating activites												
Depreciation	423,748	114,030	-	-	-	-	-	-	-	-	-	537,777
Provision for Loan Losses	1,663,546	-	-	-	-	-	-	-	(148,151)	-	-	1,515,395
Changes in operating assets and liabilities:							-					
Accounts Receivable	60,684	(14,874)	-	-	-	-	21,989	-	(0)	-	-	67,799
Utility Remittance Receivable	63,751	-	-	-	-	-	-	-	-	-	-	63,751
Interest Receivables	187,193	-	-	-	-	-	(31,919)	917	-	-	-	156,192
Other Receivables	73,438	-	-	-	-	-	-	(247)	2,331,300	26,873	-	2,431,363
Due from Component Units	(8,670,051)	-	-	9,972,740	-	-	-	-	(4,087,849)	-	-	(2,785,159)
Prepaid Expenses and Other Assets	83,602	60,312	-	39,000	-	-	-	-	(272,594)	-	-	(89,680)
Accounts Payable and Accrued Expenses	1,103,337	(31,059)	-	(22,155)	(1,875)	-	-	(184)	652,053	9,672	-	1,709,788
Due to Component Units	(10,092,740)	200,000	-	-	-	(799,716)	850,000	(217,500)	3,583,961	1,986,336	-	(4,489,659)
Custodial Liability	(32,356)	-	-	-	-	-	-	-	(257,893)	-	-	(290,250)
Net cash provided by (used in) operating activities	(1,472,731)	83,487	-	13,050,086	2,553,974	(761,290)	936,917	(196,480)	2,015,584	2,036,791	-	18,246,339
Investing Activities												
Purchase of Capital Assets	(65,714)	-	-	-	-	-	-	-	-	-	-	(65,714)
Program Loan Disbursements	(13,205,901)	-	-	-	-	-	(1,006,819)	-	(3,188,828)	(2,122,899)	-	(19,524,446)
Return of Principal on Program Loans	7,470,019	-	-	-	-	761,290	118,993	235,982	869,947	929,099	-	10,385,331
Net cash provided by (used in) investing activities	(5,801,595)	-	-	-	-	761,290	(887,826)	235,982	(2,318,880)	(1,193,800)	-	(9,204,829)
Financing Activities												
Proceeds from Green Liberty Notes	-	-	-	-	-	-	-	-	-	750,000	-	750,000
Repayments of Debt	(3,515,705)	-	-	(11,595,203)	-	-	-	-	-	(190,400)	-	(15,301,308)
Net cash provided by (used in) investing activities	(3,515,705)	-	-	(11,595,203)	-	-	-	-	-	559,600	-	(14,551,308)
Net increase (decrease) in cash and cash equivalents	(10,790,031)	83,487	-	1,454,883	2,553,974	-	49,091	39,502	(303,296)	1,402,592	-	(5,509,798)
Cash and Cash Equivalents, Beginning of Period												
Unrestricted	43,664,058	88,438	-	1,577,523	276,176	-	320,226	1,620,256	1,741,285	955,913	-	50,243,875
Restricted	13,705,808	-	-	1,079,262	1,889,479	-	-	301,834	25,673	-	-	17,002,056
Cash and Cash Equivalents, Beginning of Period	57,369,866	88,438	-	2,656,785	2,165,655	-	320,226	1,922,091	1,766,958	955,913	-	67,245,931
Cash and Cash Equivalents, End of Period												
Unrestricted	31,895,874	171,925	-	3,325,908	164,480	-	369,317	1,876,759	1,439,250	2,358,505	-	41,602,018
Restricted	14,683,961	-	-	785,760	4,555,149	-	-	84,834	24,412	-	-	20,134,115
Cash and Cash Equivalents, End of Period	46,579,835	171,925	-	4,111,668	4,719,629	-	369,317	1,961,593	1,463,662	2,358,505	-	61,736,134

Connecticut Green Bank
Consolidated Statement of Cash Flows
For the Period July 1, 2022 to March 31, 2023

	CGB-Primary Government Fiscal YTD 3/31/2023	CT Solar Lease 2 LLC Fiscal YTD 3/31/2023	CT Solar Lease 3 LLC Fiscal YTD 3/31/2023	CEFIA Solar Services Inc. Fiscal YTD 3/31/2023	Eliminations Fiscal YTD 3/31/2023	Consolidated Fiscal YTD 3/31/2023
Operating Activities						
Change in Net Position	19,321,916	(907,354)	217,709	158,165	-	18,790,436
Adjustments to reconcile change in net position						
to net cash provided by (used in) operating activites						
Depreciation	537,777	1,906,453	336,157	11,435	-	2,791,822
Provision for Loan Losses	1,515,395	-	-	-	-	1,515,395
Loss on Fixed Asset Disposals/Solar Lease Buyouts	-	69,332	-	-	-	69,332
Changes in operating assets and liabilities:						
Accounts Receivable	67,799	34,269	20,784	1,270	-	124,123
Utility Remittance Receivable	63,751	-	-	-	-	63,751
Interest Receivable	156,192	(8,458)	-	-	-	147,735
Other Receivables	2,431,363	58,737	79,186	(4,911,707)	-	(2,342,420)
Due from Component Units	(2,785,159)	120,000	-	(39,718)	2,704,877	-
Prepaid Expenses and Other Assets	(89,680)	145,640	(20,125)	(18,750)	-	17,086
Accounts Payable and Accrued Expenses	1,709,788	154,902	127,532	(29,933)	-	1,962,289
Due to Component Units	(4,489,659)	1,597,632	633	5,596,271	(2,704,877)	-
Custodial Liability	(290,250)	-	-	-	-	(290,250)
Deferred Revenue	97,105	(36,538)	(19,179)	-	-	41,387
Net cash provided by (used in) operating activities	18,246,339	2,924,185	751,679	767,032	-	22,689,236
Investing Activities						
Purchase of Capital Assets	(65,714)	-	-	-	-	(65,714)
Proceeds from sale of Capital Assets/Solar Lease Buyouts	-	39,405	-	-	-	39,405
Program Loan Disbursements	(19,524,446)	-	-	-	-	(19,524,446)
Return of Principal on Program Loans	10,385,331	-	-	-	-	10,385,331
Net cash provided by (used in) investing activities	(9,204,829)	39,405	-	-	-	(9,165,424)
Financing Activities						
Proceeds from Green Liberty Notes	750,000	-	-	-	-	750,000
Repayments of Debt	(15,301,308)	(3,025,419)	-	(71,093)	-	(18,397,819)
Distributions to Investor Member	-	(384,354)	(136,064)	-	-	(520,418)
Net cash provided by (used in) investing activities	(14,551,308)	(3,409,772)	(136,064)	(71,093)	-	(18,168,237)
Net increase (decrease) in cash and cash equivalents	(5,509,798)	(446,182)	615,615	695,939	-	(4,644,425)
Cash and Cash Equivalents, Beginning of Period						
Unrestricted	50,243,875	455,596	2,336,679	379,846	-	53,415,997
Restricted	17,002,056	3,421,563	-	83,000	-	20,506,619
Cash and Cash Equivalents, Beginning of Period	67,245,931	3,877,160	2,336,679	462,846	-	73,922,617
Cash and Cash Equivalents, End of Period						
Unrestricted	41,602,018	1,553,338	2,952,294	775,220	-	46,882,871
Restricted	20,134,115	1,877,639	-	383,566	-	22,395,321
Cash and Cash Equivalents, End of Period	61,736,134	3,430,978	2,952,294	1,158,786	-	69,278,192



Substitute House Bill No. 6851

Public Act No. 23-156

AN ACT IMPLEMENTING RECOMMENDATIONS OF THE HYDROGEN TASK FORCE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective July 1, 2023*) On or before December 31, 2024, the Department of Energy and Environmental Protection shall develop and approve a hydrogen strategic plan. The hydrogen strategic plan shall include recommendations for policies, programs and regulations to grow the state's hydrogen economy, consistent with the greenhouse gas reduction goals established in section 22a-200a of the general statutes, the Integrated Resources Plan approved pursuant to section 16a-3a of the general statutes and the Comprehensive Energy Strategy prepared pursuant to section 16a-3d of the general statutes. The strategic plan shall (1) encourage the use of hydrogen produced from renewable energy, (2) prioritize the application of hydrogen produced from renewable energy to aviation, maritime shipping, ferry transportation, heavy-duty trucking and high-temperature industrial processes, and (3) describe the current and projected cost differences between powering such sectors and processes with hydrogen produced from renewable energy compared to powering such sectors and processes with fossil fuels.

Sec. 2. Subsection (a) of section 31-53d of the general statutes is

repealed and the following is substituted in lieu thereof (*Effective July 1, 2023*):

(a) As used in this section, unless the context otherwise requires:

(1) "Covered project" means a renewable energy project **[**that is situated on land in this state, commences construction on or after July 1, 2021, and has**]** with a total nameplate capacity of two megawatts or more that is situated on land in the state, or, on and after January 1, 2025, a hydrogen project. "Covered project" does not include (A) any renewable energy project (i) selected in a competitive solicitation conducted by (I) the Department of Energy and Environmental Protection, or (II) an electric distribution company, as defined in section 16-1, and (ii) approved by the Public Utilities Regulatory Authority prior to January 1, 2022, **[**or**]** (B) any renewable energy project under contract with another entity and approved by the relevant regulatory authority, as applicable, prior to January 1, 2022, or (C) any renewable energy project that commenced construction before July 1, 2021;

(2) "Renewable energy project" means a Class I renewable energy source, as defined in section 16-1. "Renewable energy project" does not include any offshore wind facility procured pursuant to section 16a-3h, 16a-3m or 16a-3n;

(3) "Hydrogen project" means any project that produces, processes, transports, stores or uses hydrogen;

[(3)**]** (4) "Community benefits agreement" means an agreement between (A) the developer of a covered project, and (B) community-based organizations or a coalition of such organizations, that details the project's contributions to the community in which it is or will be sited and the aspects of the project that will mitigate adverse conditions of such community and create opportunities for local businesses, communities and workers;

[(4)**]** (5) "Labor organization" means any organization, other than a company union, that exists for the purpose, in whole or in part, of collective bargaining or of dealing with employers concerning grievances, terms or conditions of employment, or of other mutual aid or protection, including, but not limited to, (A) bona fide labor organizations that are certified or recognized as the organization of jurisdiction representing the workers involved, (B) bona fide building and construction trades councils or district councils, and (C) state and local labor federations comprised of local unions certified or recognized as the representative of the workers; and

[(5)**]** (6) "Workforce development program" means a program pursuant to which newly hired employees and existing employees are given the opportunity to develop skills that will enable such employees to qualify for higher paying jobs on a covered project. A workforce development program includes: (A) Apprenticeship training through an apprenticeship program registered with the Labor Department or a federally recognized state apprenticeship agency that complies with the requirements under 29 CFR 29 and 29 CFR 30, as each may be amended from time to time, and (B) preapprenticeship training that will enable students to qualify for registered apprenticeship training.

Sec. 3. (NEW) (*Effective from passage*) The Commissioner of Energy and Environmental Protection shall, in consultation with the Governor, the Secretary of the Office of Policy and Management and the Commissioner of Economic and Community Development, seek opportunities for federal funding of projects or activities that advance hydrogen in the state. The Commissioner of Economic and Community Development shall identify the state's share of the projects or activities required to meet the matching requirements of the federal acts making the funds available to the state.

Substitute House Bill No. 6664

Public Act No. 23-170

AN ACT CONCERNING THE MANAGEMENT OF SOLID WASTE AND ESTABLISHING THE MIRA DISSOLUTION AUTHORITY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective October 1, 2023*) (a) For purposes of this section:

(1) "Department" means the Department of Energy and Environmental Protection;

(2) "Commissioner" means the Commissioner of Energy and Environmental Protection;

(3) "Beverage" means any carbonated beverage or noncarbonated beverage;

(4) "Carbonated beverage" has the same meaning as provided in section 22a-243 of the general statutes;

(5) "Noncarbonated beverage" has the same meaning as provided in section 22a-243 of the general statutes;

(6) "Plastic" means a manufactured or synthetic material made from linking monomers through a chemical reaction to create a polymer chain that can be molded or extruded at high heat into various solid forms;

(7) "Plastic beverage container" means any beverage container, as defined in section 22a-243 of the general statutes, that is made of plastic. "Plastic beverage container" does not include any label, cap, closure or other item affixed to the container. "Plastic beverage container" does not include any refillable beverage container, including any container that is sufficiently durable for multiple rotations of such container's original or similar purpose and that is intended to function in a system of reuse;

(8) "Post-consumer recyclable material" means a material or product generated by households or by commercial, industrial or institutional facilities in the role of an end-user of the material or product that can no longer be used for its intended purpose or that was returned from the distribution chain and has been separated from the solid waste stream for the purpose of collection and recycling;

(9) "Post-consumer recycled content" means the amount of post-consumer recyclable material used in the manufacture or production of a new product. "Post-consumer recycled content" does not include preconsumer or post-industrial secondary waste material, including, but not limited to, materials and by-products generated from and commonly used within an original manufacturing and fabrication process;

(10) "Producer" means any person responsible for compliance with minimum post-consumer recycled content requirements for a plastic beverage container, including: (A) Any owner or licensee of a brand or trademark for a plastic beverage container that is sold under such owner's or licensee's owned or licensed brand or trademark, regardless of whether such trademark is registered in this state; (B) the manufacturer of a plastic beverage container that lacks identification of a brand at the point of sale or the person who manufactures such plastic beverage container; and (C) if there is no other person described in this subsection over whom the state can constitutionally exercise jurisdiction, the person who imports or distributes the plastic beverage

container in or into the state;

(11) "Manufacturer" means any person that produces or generates a plastic beverage container. "Manufacturer" does not include: (A) Any government agency, municipality or other political subdivision of the state, (B) any organization registered under Section 501(c)(3) or 501(c)(4) of the Internal Revenue Code, or (C) any producer that annually sells, offers for sale, distributes or imports into the country for sale in this state (i) less than one ton of plastic beverage containers each year, or (ii) plastic beverage containers that, in aggregate, generate less than one million dollars each year in sales in the state; and

(12) "Person" has the same meaning as provided in section 22a-2 of the general statutes.

(b) On and after January 1, 2027, plastic beverage containers sold, offered for sale or distributed in this state by each producer shall contain, on average and in the aggregate, not less than twenty-five per cent post-consumer recycled content.

(c) On and after January 1, 2032, plastic beverage containers sold, offered for sale or distributed in this state by each producer shall contain, on average and in the aggregate, not less than thirty per cent post-consumer recycled content.

(d) On or before December 31, 2032, the commissioner, in accordance with section 11-4a of the general statutes, shall submit to the joint standing committee of the General Assembly having cognizance of matters relating to the environment a report reviewing the minimum post-consumer recycled content requirements of this section. Such report shall include, but need not be limited to: (1) An evaluation of the requirements of this section; (2) any recommendations on future minimum post-consumer recycled content standards for plastic beverage containers; (3) any recommendations for the expansion of

post-consumer recycled content requirements to other packaging or product categories and the attendant percentage requirements recommended for each packaging or product category; and (4) an evaluation of any third-party certification methods existing for plastic beverage containers and whether such certification methods should be applied to future minimum post-consumer recycled content requirements.

(e) For the purposes of determining a producer's compliance with the minimum post-consumer recycled content requirements of this section, a producer may rely on state-specific data regarding plastic beverage container sales and material use, if available, or may alternatively rely on the same type of data applicable to a region or territory in the United States that includes this state. If a producer elects to rely on data regarding plastic beverage container sales and material use derived from data applicable to a region or territory in the United States that includes this state, the producer shall prorate that regional or territorial data to determine state-specific figures based on market share or population in a manner that ensures that the percentage of post-consumer recycled plastic calculated for plastic beverage containers sold in this state is the same percentage as calculated for that larger region or territory; and document in its report the methodology used to determine those state-specific figures.

(f) (1) On or before April 1, 2026, each producer that offered for sale, sold, or distributed plastic beverage containers in or into the state in the previous calendar year shall register with the commissioner, individually, or through a third-party representative that registers with the Commissioner of Energy and Environmental Protection on behalf of a group of producers, in a form and manner prescribed by the Commissioner of Energy and Environmental Protection. At the time of registration, each producer shall submit an initial registration fee of five hundred dollars in a manner prescribed by said commissioner. Any

entity that becomes a producer for the first time on or after April 1, 2026, shall submit the registration and submit the initial registration fee required by this subparagraph not more than one hundred eighty days after such entity becomes a producer and shall register on the schedule specified in subdivision (2) of this subsection. Any producer that sold, offered for sale or distributed less than ten thousand plastic beverage containers or, in the aggregate, less than two hundred pounds of plastic that is not post-consumer recycled plastic shall not be required to pay the initial registration fee required by this subdivision.

(2) On or before April 1, 2031, and every five years thereafter, each producer that offered for sale, sold, or distributed plastic beverage containers in or into this state in the previous calendar year shall register with the Commissioner of Energy and Environmental Protection. In addition, each producer or representative submitting such a registration shall remit a registration fee in an amount to be determined by said commissioner. Such fee shall be scaled to reflect the market share of any such producer or representative during the preceding five calendar years, as determined using information provided in reports filed pursuant to subdivision (3) of this subsection, and shall be adequate to cover the department's cost to implement, administer, monitor and enforce the provisions of this section and shall be used exclusively for such purposes. The commissioner may modify the amount of such registration fee, including by setting a maximum amount for such fee, as necessary, to reflect updated implementation costs. Any producer that sold, offered for sale or distributed less than ten thousand plastic beverage containers or, in the aggregate, less than two hundred pounds of plastic that is not post-consumer recycled plastic, shall not be required to pay the registration fee required by this subdivision.

(3) Each producer shall submit a report to the Department of Energy and Environmental Protection, on or before April 1, 2026, and annually thereafter, identifying the brand names of the plastic beverage

containers represented in the report as well as the weight, in pounds, of post-consumer recycled plastic, the weight, in pounds, of plastic that is not post-consumer recycled plastic and the percentage of post-consumer recycled plastic in the total weight of all plastic beverage containers the producer sold, offered for sale or distributed for sale in this state in such prior calendar year. The form and manner of the report shall be prescribed by the commissioner and each report shall be certified and such certification signed by an authorized official of the producer.

(g) Not more than once per calendar year, a producer may seek from the commissioner a waiver from the requirements of this section by filing a written request on a form prescribed by the commissioner. In seeking any such waiver, the producer shall set forth the specific basis upon which the waiver is claimed, indicate any applicable timeframe for such waiver request, submit such proof as the commissioner determines to be necessary and provide any other information specified by the commissioner. The commissioner shall consider written waiver requests submitted between the first day of September and the first day of October of each calendar year, and any approved waiver shall take effect the first day of January of the following calendar year. The commissioner may approve a waiver. In making such a determination, the commissioner may consider factors including, but not limited to, the availability of feedstock.

(h) The Commissioner of Energy and Environmental Protection may participate in the establishment and implementation of a multistate clearinghouse to assist in carrying out the requirements of this section. Any such clearinghouse shall assist in coordinating reviews of producer registrations, waiver requests and certifications, recommend acceptable third-party certifications and implement state reporting activities and any other related functions pursuant to this section. Notwithstanding the requirements of subsection (f) of this section, if the commissioner

determines to participate in such a clearinghouse, such participation may provide producers the ability to register on a centralized portal offered by such clearinghouse in lieu of a state-specific portal provided such registration requirement shall not otherwise be affected by the use of any such centralized portal.

Sec. 2. (NEW) (*Effective July 1, 2023*) The Commissioner of Energy and Environmental Protection, on behalf of one or more municipalities, municipal authorities or regional solid waste authorities, may issue a request for proposals from providers of existing or proposed solid waste materials management services, including, but not limited to, reuse, recycling and composting, such as anerobic digestion, waste conversion, energy and fuel recovery. From such proposals, the commissioner may select one or more providers of existing or proposed solid waste materials management services and, acting on behalf of and with the consent of one or more municipalities, municipal solid waste authorities or regional solid waste authorities, may enter into an agreement for the management of solid waste from such municipalities or authorities at a facility of such existing or proposed solid waste materials management services, provided any such proposed facility will utilize anaerobic digester and fuel cell technology, or any other method that utilizes gas at the point of generation. In selecting such proposal, the commissioner may consider all relevant information, including, but not limited to the following factors: (1) Consistency of such proposal with the state's solid waste management plan; (2) the available capacity at an existing or proposed facility; (3) the fee to be charged for the management of such solid waste; (4) where any proposed facility is or will be located; and (5) the likelihood that a proposed facility will be authorized and constructed. Any agreement entered into pursuant to this section for the management of solid waste at a proposed facility shall be contingent on such facility receiving all required state and municipal permits and authorizations and commencing operation by a date specified in such agreement.

Sec. 3. Subsection (f) of section 22a-220 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(f) (1) On and after January 1, 1991, each municipality shall, consistent with the requirements of section 22a-241b, make provisions for the separation, collection, processing and marketing of items generated within its boundaries as solid waste and designated for recycling by the commissioner pursuant to subsection (a) of section 22a-241b. It shall be the goal to recycle twenty-five per cent of the solid waste generated in each municipality provided it shall be the goal to reduce the weight of such waste by January 1, 2000, by an additional fifteen per cent by source reduction as determined by reference to the state-wide solid waste management plan established in 1991, or by recycling such additional percentage of waste generated, or both. The provisions of this subsection shall not be construed to require municipalities to enforce reduction in the quantity of solid waste. On or before January 1, 1991, each municipality shall: **[**(1)**]** (A) Adopt an ordinance or other enforceable legal instrument setting forth measures to assure the compliance of persons within its boundaries with the requirements of subsection (c) of section 22a-241b and to assure compliance of collectors with the requirements of subsection (a) of section 22a-220c, and **[**(2)**]** (B) provide the Commissioner of Energy and Environmental Protection with the name, address and telephone number of a person to receive information and respond to questions regarding recycling from the department on behalf of the municipality. The municipality shall notify the commissioner within thirty days of its designation of a new representative to undertake such responsibilities. A municipality may by ordinance or other enforceable legal instrument provide for and require the separation and recycling of other items in addition to those designated pursuant to subsection (a) of section 22a-241b.

(2) A municipality may, by the adoption of a municipal ordinance or

other enforceable legal instrument to which the municipality is a party, identify recyclable solid wastes not described in subdivision (1) of this subsection, including, but not limited to, food scraps, food processing residues, yard waste and other suitable recyclable organic material for diversion to recycling facilities designed for the processing and beneficial use of such wastes. For the purposes of this section and section 22a-220a, as amended by this act, "food scraps" or "food processing residues" does not include unused food that is suitable for sale or donation for human or animal consumption.

Sec. 4. Subsection (a) of section 22a-220a of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(a) The legislative body of a municipality may designate the area where solid waste generated within its boundaries by residential, business, commercial or other establishments shall be disposed. The disposal of such solid waste at any other area is prohibited, except that a municipality may approve, in writing, disposal at another area, either within or outside the boundaries of such municipality, prior to disposal. A municipality may refuse to approve disposal at another area if such disposal would adversely affect its solid waste disposal program. The legislative body of a municipality may also designate where the following items generated within its boundaries from residential properties shall be taken for processing or sale: (1) Cardboard, (2) glass, food and beverage containers, (3) leaves, (4) metal food and beverage containers, (5) newspapers, (6) storage batteries, (7) waste oil, **[**and**]** (8) plastic food and beverage containers, (9) food scraps, and (10) food processing residues. The processing or sale of such items at any other area shall be prohibited, except that a municipality may approve, in writing, processing or sale elsewhere, either within or outside the boundaries of such municipality, prior to processing or sale. A municipality may refuse to approve processing or sale elsewhere if such

processing or sale would adversely affect its recycling program. For purposes of sections 22a-208e, 22a-208f, 22a-220, as amended by this act, this section, sections 22a-220c, 22a-241b, 22a-241e, and subsection (c) of section 22a-241g, residential property means real estate containing one or more dwelling units but shall not include hospitals, motels or hotels.

Sec. 5. Section 22a-226e of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(a) (1) On and after January 1, 2014, each commercial food wholesaler or distributor, industrial food manufacturer or processor, supermarket, resort or conference center that is located not more than twenty miles from an authorized source-separated organic material composting facility and that generates an average projected volume of not less than one hundred four tons per year of source-separated organic materials shall: (A) Separate such source-separated organic materials from other solid waste; and (B) ensure that such source-separated organic materials are recycled at any authorized source-separated organic material composting facility that has available capacity and that will accept such source-separated organic material.

(2) On and after January 1, 2020, each commercial food wholesaler or distributor, industrial food manufacturer or processor, supermarket, resort or conference center that is located not more than twenty miles from an authorized source-separated organic material composting facility and that generates an average projected volume of not less than fifty-two tons per year of source-separated organic materials shall: (A) Separate such source-separated organic materials from other solid waste; and (B) ensure that such source-separated organic materials are recycled at any authorized source-separated organic material composting facility that has available capacity and that will accept such source-separated organic material.

(3) On and after January 1, 2022, each commercial food wholesaler or

distributor, industrial food manufacturer or processor, supermarket, resort or conference center that is located not more than twenty miles from either an authorized source-separated organic material composting facility an authorized transfer station or any collection location authorized to receive source-separated organic materials, and that generates an average projected volume of not less than twenty-six tons per year of source-separated organic materials shall: (A) Separate such source-separated organic materials from other solid waste; and (B) ensure that such source-separated organic materials are recycled at any authorized source-separated organic material composting facility that has available capacity and that will accept such source-separated organic material.

(4) On and after January 1, 2025, each commercial food wholesaler or distributor, industrial food manufacturer or processor, supermarket, resort, conference center or institution that generates an average projected volume of not less than twenty-six tons per year of source-separated organic materials shall: (A) Separate such source-separated organic materials from other solid waste; and (B) ensure that such source-separated organic materials are recycled at any authorized source-separated organic material composting facility that has available capacity and that will accept such source-separated organic material. For the purposes of this section "institution" means any establishment engaged in providing hospitality, entertainment or rehabilitation and health care services, and any hospital, public or private educational facility or correctional facility.

(b) Any such wholesaler, distributor, manufacturer, processor, supermarket, institution, resort or conference center that performs composting of source-separated organic materials on site or treats source-separated organic materials via on-site organic treatment equipment permitted pursuant to the general statutes or federal law shall be deemed in compliance with the provisions of this section.

(c) Any permitted source-separated organic material composting facility that receives such source-separated organic materials shall report to the Commissioner of Energy and Environmental Protection, as part of such facility's reporting obligations, a summary of fees charged for receipt of such source-separated organic materials.

(d) Not later than January 1, 2022, the Commissioner of Energy and Environmental Protection shall establish a voluntary pilot program for any municipality that seeks to separate source-separated organic materials and ensure that such source-separated organic materials are recycled at authorized source-separated organic material composting facilities that have available capacity and that will accept such source-separated organic material.

(e) On or before March 1, 2025, and annually thereafter, each wholesaler, distributor, manufacturer, processor, supermarket, resort, conference center or institution that is subject to the provisions of this section shall submit a report to the Department of Energy and Environmental Protection in electronic format. Such report shall summarize such entity's amount of edible food donated, the amount of food scraps recycled and the organics recycler or recyclers and associated collectors used.

Sec. 6. Section 22a-232 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2023*):

(a) There shall be paid to the Commissioner of Revenue Services by the owner of any resources recovery facility one dollar per ton of solid waste processed at the facility beginning on the date of commencement of commercial operation of the facility for calendar quarters commencing on or after October 1, 1987, until September 30, 2003. For calendar quarters commencing on and after October 1, 2003, the owner of any resources recovery facility shall pay to the Commissioner of Revenue Services one dollar and fifty cents per ton of solid waste

processed at such facility.

(b) Each owner of a resources recovery facility subject to the assessment as provided by this section shall submit a return quarterly to the Commissioner of Revenue Services, applicable with respect to the calendar quarter beginning October 1, **[**1987**]** 2023, and each calendar quarter thereafter, on or before the last day of the month immediately following the end of each such calendar quarter, on a form prescribed by the commissioner, together with payment of the quarterly assessment determined and payable in accordance with the provisions of subsection (a) of this section.

(c) Whenever such assessment is not paid when due, a penalty of ten per cent of the amount due or fifty dollars, whichever is greater, shall be imposed, and such assessment shall bear interest at the rate of one per cent per month or fraction thereof until the same is paid. The Commissioner of Revenue Services shall cause copies of a form prescribed for submitting returns as required under this section to be distributed throughout the state. Failure to receive such form shall not be construed to relieve anyone subject to assessment under this section from the obligations of submitting a return, together with payment of such assessment within the time required.

(d) Any person or municipality liable for the service fee for solid waste delivered to a facility whose owner is subject to **[**the**]** an assessment imposed by subsection (a) of this section shall reimburse the owner for any assessment paid for the solid waste delivered by such person or municipality. **[**The**]** Such an assessment shall be a debt from the person or municipality responsible for paying such service fee to the owner.

(e) The provisions of sections 12-548 to 12-554, inclusive, and section 12-555a shall apply to the provisions of this section in the same manner and with the same force and effect as if the language of said sections 12-

548 to 12-554, inclusive, and section 12-555a had been incorporated in full in this section, except that to the extent that any such provision is inconsistent with a provision in this section and except that the term "tax" shall be read as "solid waste assessment".

(f) Two million eight hundred thousand dollars of the proceeds from the assessments imposed pursuant to subsection (a) of this section shall be deposited by the Commissioner of Revenue Services into the General Fund and any remaining funds from such assessments shall be deposited by the commissioner into the sustainable materials management account established in section 16-244bb, as amended by this act.

Sec. 7. Subsection (a) of section 22a-241*l* of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(a) For the purposes of this section, **[**"customer" means a business and**]** "collector" means any person offering collection services for solid waste or designated recyclable **[**item collection services**]** items and "designated recyclable items" means any items designated for recycling or to be recycled pursuant to: (1) Subsection (a) of section 22a-241b, or (2) a municipal ordinance or other enforceable legal instrument to which a municipality is a party.

Sec. 8. (NEW) (*Effective July 1, 2023*) (a) There is established the MIRA Dissolution Authority. The Connecticut Waste Authority shall constitute a successor authority to the Materials Innovation and Recycling Authority in accordance with the provisions of sections 4-38d, 4-38e and 4-39 of the general statutes.

(b) Wherever the words "Materials Innovation and Recycling Authority" are used in any public or special act of 2023 or in the following sections of the general statutes, the words "MIRA Dissolution

Authority" shall be substituted in lieu thereof: 1-79, 1-120, 1-124, 1-125, 3-24d, 3-24f, 7-329a, 12-412, 12-459, 16-1, 16-245, 16-245b, 22a-208a, 22a-208v, 22a-209h, 22a-219b, 22a-220, as amended by this act, 22a-241, 22a-260, 22a-263a, 22a-263b, 22a-268a, 22a-268b, 22a-268g, 22a-270a, 22a-272a, 22a-282, 22a-283, 22a-284, 32-1e and 32-658.

(c) The Legislative Commissioners' Office shall, in codifying the provisions of this section, make such conforming, technical, grammatical and punctuation changes as are necessary to carry out the purposes of this section.

Sec. 9. (NEW) (*Effective July 1, 2023*) (a) In addition to the purposes, powers and responsibilities vested in the MIRA Dissolution Authority pursuant to chapter 446e of the general statutes, the MIRA Dissolution Authority shall: (1) Identify the immediate environmental needs and knowledge necessary for future redevelopment of the authority's properties located at 300 Maxim Road in Hartford and 100 Reserve Road in Hartford, (2) engage representatives of the city of Hartford and other stakeholders, as appropriate, with respect to the future of the properties identified in subdivision (1) of this subsection, (3) continue to operate the authority's transfer stations until acceptable alternatives, operated by entities other than the authority, become available, as determined by the Commissioner of Energy and Environmental Protection, and (4) wind down the authority's operations and activities in an orderly and responsible manner, that may include, but is not limited to, the marketing and sale of the authority's surplus real and personal property.

(b) Not later than January 1, 2024, the authority shall submit a report, in accordance with the provisions of section 11-4a of the general statutes to the Secretary of the Office of Policy and Management and the joint standing committees of the General Assembly having cognizance of matters relating to the environment and planning and development. Such report shall include a plan and timeline for the activities set forth

in subdivisions (1) to (3), inclusive, of subsection (a) of this section.

(c) The authority and any other state agency may enter into one or more memoranda of understanding that will facilitate the authority's purposes, powers and responsibilities under chapter 446e of the general statutes and subsection (a) of this section, provided any such memorandum of understanding shall terminate as of June 30, 2025.

Sec. 10. (NEW) (*Effective from passage*) (a) Notwithstanding any provision of the general statutes, the provisions of sections 8 to 15, inclusive, of this act shall not be construed to modify the liability of any person who: (1) Established a resources recovery facility, (2) created a condition or who is maintaining any such facility or condition that may reasonably be expected to create a source of pollution to the waters of the state, or (3) is the certifying party to the transfer of such a facility.

(b) Notwithstanding the requirements of sections 22a-134a to 22a-134e, inclusive, 22a-134h and 22a-134i of the general statutes, any conveyance of real property or business operations authorized or required by the provisions of sections 8 to 15, inclusive, of this act, from the Materials Innovation and Recycling Authority to the MIRA Dissolution Authority, or from the Connecticut Waste Authority to the Department of Administrative Services shall not constitute the transfer of an establishment for purposes of chapter 445 of the general statutes.

(c) (1) Notwithstanding the requirements of section 22a-6o of the general statutes, upon transfer of ownership or oversight of a permitted facility owned or operated by the Materials Innovation and Recycling Authority to the Connecticut Waste Authority any permits or licenses held by the Materials Innovation and Recycling Authority shall be deemed to be transferred to the Connecticut Waste Authority and shall continue in full force and effect.

(2) Notwithstanding the requirements of section 22a-6o of the general

statutes, upon transfer of ownership or oversight of a permitted facility owner or operated by the MIRA Dissolution Authority to the Department of Administrative Services, any permits or licenses held by the MIRA Dissolution Authority shall be deemed to be transferred to the Department of Administrative Services and shall continue in full force and effect.

Sec. 11. (NEW) (*Effective from passage*) The funds possessed by the Materials Innovation and Recycling Authority, established pursuant to section 22a-260a of the general statutes, shall not constitute surplus revenues and shall be deemed necessary to provide support for the authority's properties systems and facilities, including any environmental remediation of such properties, systems and facilities. Such funds shall not be distributed or redistributed to the users of the authority's services. Users of the authority's services shall be liable for the environmental remediation costs of the authority's properties, systems and facilities if, and to the extent, any funds were distributed or redistributed by the authority to such users on or after January 1, 2023.

Sec. 12. (*Effective July 1, 2023*) Notwithstanding any provision of the general statutes, the sum of two million dollars shall be transferred from the resources of the MIRA Dissolution Authority and shall be deposited into a nonlapsing account of the General Fund established by the Secretary of the Office of Policy and Management. Moneys in the account shall be allocated in such amounts and at such times as determined by the Secretary of the Office of Policy and Management to fund activities related to the provisions of sections 8 to 15, inclusive, of this act.

Sec. 13. Section 22a-261 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2023*):

(a) There is hereby established and created a body politic and corporate, constituting a public instrumentality and political

subdivision of the state of Connecticut established and created for the performance of an essential public and governmental function, to be known as the **[**Materials Innovation and Recycling**]** MIRA Dissolution Authority. The authority shall not be construed to be a department, institution or agency of the state.

(b) On and after **[**June 1, 2002, the**]** July 1, 2023, the terms of the board of the Materials Innovation and Recycling Authority shall terminate and the powers of the **[**authority**]** MIRA Dissolution Authority shall be vested in and exercised by a board of directors, which shall consist of eleven directors as follows: **[**Three appointed by the Governor, one of whom is a municipal official of a municipality having a population of fifty thousand or less and one of whom has extensive, high-level experience in the energy field; two appointed by the president pro tempore of the Senate, one of whom is a municipal official of a municipality having a population of more than fifty thousand and one of whom has extensive high-level experience in public or corporate finance or business or industry; two appointed by the speaker of the House of Representatives, one of whom is a municipal official of a municipality having a population of more than fifty thousand and one of whom has extensive high-level experience in public or corporate finance or business or industry; two appointed by the minority leader of the Senate, one of whom is a municipal official of a municipality having a population of fifty thousand or less and one of whom has extensive high-level experience in public or corporate finance or business or industry; two appointed by the minority leader of the House of Representatives, one of whom is a municipal official of a municipality having a population of fifty thousand or less and one of whom has extensive, high-level experience in the environmental field. No director may be a member of the General Assembly. The appointed directors shall serve for terms of four years each, provided, of the directors first appointed for terms beginning on June 1, 2002, (1) two of the directors appointed by the Governor, one of the directors appointed by the

president pro tempore of the Senate, one of the directors appointed by the speaker of the House of Representatives, one of the directors appointed by the minority leader of the Senate and one of the directors appointed by the minority leader of the House of Representatives shall serve an initial term of two years and one month, and (2) the other appointed directors shall serve an initial term of four years and one month. The appointment of each director for a term beginning on or after June 1, 2004, shall be made with the advice and consent of both houses of the General Assembly. The Governor shall designate one of the directors to serve as chairperson of the board, with the advice and consent of both houses of the General Assembly. The chairperson of the board shall serve at the pleasure of the Governor. Any appointed director who fails to attend three consecutive meetings of the board or who fails to attend fifty per cent of all meetings of the board held during any calendar year shall be deemed to have resigned from the board. Any vacancy occurring other than by expiration of term shall be filled in the same manner as the original appointment for the balance of the unexpired term. As used in this subsection, "municipal official" means the first selectman, mayor, city or town manager or chief financial officer of a municipality, or a municipal employee with extensive public works or waste management and recycling experience that has entered into a solid waste disposal services contract with the authority and pledged the municipality's full faith and credit for the payment of obligations under such contract.**]** (1) The Governor, or the Governor's designee, (2) the Secretary of the Office of Policy and Management, or the secretary's designee, (3) the Commissioner of Administrative Services, (4) the Commissioner of Energy and Environmental Protection, or the commissioner's designee, (5) one appointed by the president pro tempore of the Senate, (6) one appointed by the speaker of the House of Representatives, (7) one appointed by the majority leader of the House of Representatives, (8) one appointed by the majority leader of the Senate, (9) one appointed by the minority leader of the Senate, (10) one appointed by the minority leader of the House of Representatives, and

(11) one appointed by the mayor of Hartford. Additionally, the Hartford City Council may appoint not more than five members to the board, each of whom shall serve a term that is coterminous with that of the applicable appointing authority.

(c) The Governor, or the Governor's designee, shall serve as the chairperson and shall, with the approval of the other directors, appoint a president of the authority who shall be an employee of the authority and be paid a salary prescribed by the directors. The president shall supervise the administrative affairs and technical activities of the authority in accordance with the directives of the board.

(d) Each appointed director shall be entitled to reimbursement for such director's actual and necessary expenses incurred during the performance of such director's official duties.

(e) **[**Directors**]** Appointed directors may engage in private employment, or in a profession or business, subject to any applicable laws, rules and regulations of the state or federal government regarding official ethics or conflict of interest.

(f) Six directors of the authority shall constitute a quorum for the transaction of any business or the exercise of any power of the authority. **[**, provided, two directors from municipal government shall be present in order for a quorum to be in attendance.**]** For the transaction of any business or the exercise of any power of the authority, and except as otherwise provided in this chapter, the authority may act by a majority of the directors present at any meeting at which a quorum is in attendance. **[**If the legislative body of a municipality that is the site of a facility passes a resolution requesting the Governor to appoint a resident of such municipality to be an ad hoc member, the Governor shall make such appointment upon the next vacancy for the ad hoc members representing such facility. The Governor shall appoint, with the advice and consent of the General Assembly, ad hoc members to

represent each facility operated by the authority provided at least one-half of such members shall be chief elected officials of municipalities, or their designees. Each such facility shall be represented by two such members. The ad hoc members shall be electors from a municipality or municipalities in the area to be served by the facility and shall vote only on matters concerning such facility. The terms of the ad hoc members shall be four years.**]**

[(g) The board may delegate to three or more directors such board powers and duties as it may deem necessary and proper in conformity with the provisions of this chapter and its bylaws. At least one of such directors shall be a municipal official, as defined in subsection (b) of this section, and at least one of such directors shall not be a state employee.**]**

[(h)**]** (g) Appointed directors may not designate a representative to perform in their absence their respective duties under this chapter.

[(i) As used in this section, "director" includes such persons so designated, as provided in this section, and such designation shall be deemed temporary only and shall not affect any applicable civil service or retirement rights of any person so designated.**]**

[(j)**]** (h) The appointing authority for any director may remove such director for inefficiency, neglect of duty or misconduct in office after giving the director a copy of the charges against the director and an opportunity to be heard, in person or by counsel, in the director's defense, upon not less than ten days' notice. If any director shall be so removed, the appointing authority for such director shall file in the office of the Secretary of the State a complete statement of charges made against such director and the appointing authority's findings on such statement of charges, together with a complete record of the proceedings.

[(k)**]** (i) The authority shall **[**continue as long as it has bonds or other

obligations outstanding and until its existence is terminated by law. Upon the termination of the existence of the authority, all its rights and properties shall pass to and be vested in the state of Connecticut**]** terminate on July 1, 2026. Upon the termination of the authority, all of such authority's rights and properties shall pass to and be vested in the state of Connecticut in accordance with the provisions of section 15 of this act.

[(l)**]** (j) The directors, members and officers of the authority and any person executing the bonds or notes of the authority shall not be liable personally on such bonds or notes or be subject to any personal liability or accountability by reason of the issuance thereof, nor shall any director, member or officer of the authority be personally liable for damage or injury, not wanton or wilful, caused in the performance of such person's duties and within the scope of such person's employment or appointment as such director, member or officer.

[(m) Notwithstanding any other provision of the general statutes, it shall not constitute a conflict of interest for a trustee, director, partner or officer of any person, firm or corporation, or any individual having a financial interest in a person, firm or corporation, to serve as a director of the authority, provided such trustee, director, partner, officer or individual shall abstain from deliberation, action or vote by the authority in specific respect to such person, firm or corporation.**]**

Sec. 14. Subsection (b) of section 22a-262 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2023*):

(b) **[**These**]** The purposes of this section and subsection (a) of section 9 of this act shall be considered to be operating responsibilities of the authority, in accordance with the state-wide solid waste management plan, and are to be considered in all respects public purposes.

Sec. 15. (NEW) (*Effective July 1, 2025*) The Department of Administrative Services shall constitute a successor agency to the MIRA Dissolution Authority in accordance with the provisions of subsections (a) to (d), inclusive, and subsection (f) of section 4-38d and section 4-38e of the general statutes.

Sec. 16. Subsections (a) and (b) of section 16-244bb of the general statutes are repealed and the following is substituted in lieu thereof (*Effective from passage*):

(a) There is established an account to be known as the sustainable materials management account which shall be a separate, nonlapsing account within the General Fund. The account shall contain moneys collected by the alternative compliance payment for Class II renewable portfolio standards pursuant to subsection (h) of section 16-244c, as amended by this act, and subsection (k) of section 16-245 and moneys deposited pursuant to subsection (f) of section 22a-232, as amended by this act. The Commissioner of Energy and Environmental Protection shall expend moneys from the account for the purposes of the program established under this section, provided the commissioner may also pledge such moneys for revenue bonds the proceeds of which shall be used to support waste infrastructure projects described in this section.

(b) On and after January 1, 2023, the Commissioner of Energy and Environmental Protection shall establish and administer a sustainable materials management program to support solid waste reduction in the state through the provision of funding from the sustainable materials management account for purposes, including, but not limited to, grants, revolving loans, technical assistance, consulting services and waste characterization studies, to support programs and projects implemented by entities, including, but not limited to, municipalities, nonprofits and regional waste authorities. Funding from such program may be used to support the development of infrastructure necessary for the management of solid waste materials at upgraded, expanded or

proposed facilities selected pursuant to section 2 of this act. Such programs and projects shall promote affordable, sustainable and self-sufficient management of waste within the state by reducing solid waste generation or diverting solid waste from disposal, consistent with the state-wide solid waste management plan established pursuant to section 22a-228.

Sec. 17. (NEW) (*Effective from passage*) Notwithstanding the provisions of sections 22a-228 and 22a-241a of the general statutes, respectively, any proposed revision to the state-wide solid waste management plan or the Comprehensive Materials Management Strategy shall be submitted by the Commissioner of Energy and Environmental Protection to the joint standing committee of the General Assembly having cognizance of matters relating to the environment for approval prior to implementation of any such revision. Upon receipt of any such proposed revision, said committee shall hold a public hearing on any such proposed revision not later than fifteen days after such receipt. Not later than thirty days after such receipt, said committee may meet to vote to approve, reject or amend such proposed revision. In the event the committee does not meet, the proposed revision shall be deemed approved. In the event said committee rejects any such proposed revision, the commissioner may file such rejected proposed revision with the clerks of the House of Representatives and the Senate for consideration of the approval, by resolution, of such rejected proposed revision by the members of the General Assembly. If the General Assembly is in session, it shall vote to approve or reject such rejected proposed revision not later than thirty days after the date of filing. If the General Assembly is not in session when such rejected proposed revision is filed, it shall be submitted to the General Assembly not later than ten days after the first day of the next regular session or special session called for such purpose. The rejected proposed revision shall be deemed rejected by the General Assembly if the General Assembly fails to vote to approve or reject such proposed revision not later than thirty

days after such filing.

Sec. 18. (NEW) (*Effective from passage*) Not later than October 1, 2023, the Commissioner of Energy and Environmental Protection shall issue a request for information to obtain information on systems for the processing of solid waste that is generated in the state and that is not otherwise diverted from the state's solid waste stream in accordance with the provisions of the state-wide solid waste management plan and the Comprehensive Materials Management Strategy. Such request for information shall seek information on such systems that include, but are not limited to, gasification systems that convert such solid waste into gas through a chemical reaction that does not consist of burning. Such request for information shall require the receipt of such information by the Department of Energy and Environmental Protection not later than November 15, 2023. Any presentation of materials in relation to such request for information shall be made to the commissioner not later than January 15, 2024. Not later than February 1, 2024, the commissioner shall submit a report, in accordance with the provisions of section 11-4a of the general statutes, to the joint standing committee of the General Assembly having cognizance of matters relating to the environment that includes recommendations for the issuance of a request for proposals concerning such systems that is based on the commissioner's review of all information received in connection with such request for information. In forming such recommendations, the commissioner shall additionally consider the: (1) Potential environmental impacts of any such system to the air, water and soils of the state, (2) consistency of any such system with the greenhouse gas emissions goals of the state, (3) municipal costs potentially associated with the utilization of any such system for the processing of solid waste in the state, (4) effectiveness of any such system to process all solid waste in the state that is not otherwise diverted from the state's solid waste stream, (5) ability to convert any existing state-owned or operated facility to utilize any such system without state subsidization of such conversion and while

substantially decreasing any environmental or public health impacts of such converted facility to any environmental justice community, and (6) reasonable likelihood of siting one or more facilities that utilize any such system in a community other than an environmental justice community.

Sec. 19. Subdivision (1) of subsection (h) of section 16-244c of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2024*):

(h) (1) Notwithstanding the provisions of subsection (b) of this section regarding an alternative standard service option, an electric distribution company providing standard service, supplier of last resort service or back-up electric generation service in accordance with this section shall contract with its wholesale suppliers to comply with the renewable portfolio standards. The Public Utilities Regulatory Authority shall annually conduct an uncontested proceeding in order to determine whether the electric distribution company's wholesale suppliers met the renewable portfolio standards during the preceding year. On or before December 31, 2013, the authority shall issue a decision on any such proceeding for calendar years up to and including 2012, for which a decision has not already been issued. Not later than December 31, 2014, and annually thereafter, the authority shall, following such proceeding, issue a decision as to whether the electric distribution company's wholesale suppliers met the renewable portfolio standards during the preceding year. An electric distribution company shall include a provision in its contract with each wholesale supplier that requires the wholesale supplier to pay the electric distribution company an amount of: (A) For calendar years up to and including calendar year 2017, five and one-half cents per kilowatt hour if the wholesale supplier fails to comply with the renewable portfolio standards during the subject annual period, (B) for calendar years commencing on January 1, 2018, up to and including the calendar year commencing on January 1, 2020, five and one-half cents per kilowatt hour if the wholesale supplier

fails to comply with the renewable portfolio standards during the subject annual period for Class I renewable energy sources, and two and one-half cents per kilowatt hour if the wholesale supplier fails to comply with the renewable portfolio standards during the subject annual period for Class II renewable energy sources, **[**and**]** (C) for calendar years commencing on and after January 1, 2021, four cents per kilowatt hour if the wholesale supplier fails to comply with the renewable portfolio standards during the subject annual period for Class I renewable energy sources, and two and one-half cents per kilowatt hour if the wholesale supplier fails to comply with the renewable portfolio standards during the subject annual period for Class II renewable energy sources, and (D) for calendar years commencing on and after January 1, 2024, three cents per kilowatt hour if the wholesale supplier fails to comply with the renewable portfolio standards during the subject annual period for Class II renewable energy sources. The electric distribution company shall promptly transfer any payment received from the wholesale supplier for the failure to meet the renewable portfolio standards to the Clean Energy Fund for the development of Class I renewable energy sources, provided, on and after June 5, 2013, any such payment shall be refunded to ratepayers by using such payment to offset the costs to all customers of electric distribution companies of the costs of contracts and tariffs entered into pursuant to sections 16-244r, 16-244t and 16-244z, except that, on or after January 1, 2023, any such payment that is attributable to a failure to comply with the Class II renewable portfolio standards shall be deposited in the sustainable materials management account established pursuant to section 16-244bb, as amended by this act. Any excess amount remaining from such payment shall be applied to reduce the costs of contracts entered into pursuant to subdivision (2) of this subsection, and if any excess amount remains, such amount shall be applied to reduce costs collected through nonbypassable, federally mandated congestion charges, as defined in section 16-1.

Sec. 20. Subdivision (2) of subsection (a) of section 16-245n of the

general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(2) "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;

Sec. 21. (NEW) (*Effective from passage*) For the purpose of financing any solid waste facility described in section 2 of this act, bonds may be issued by the Connecticut Green Bank as environmental infrastructure bonds pursuant to section 16-245n of the general statutes, as amended by this act, and sections 16-245kk to 16-245mm, inclusive, of the general statutes, as amended by this act. The Commissioner of Energy and Environmental Protection may enter agreements with the Connecticut Green Bank to effectuate the issuance of such bonds, including, but not

limited to, the pledge of moneys for revenue bonds to support the solid waste facilities described in section 2 of this act.

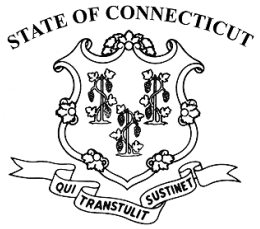
Sec. 22. Subsection (g) of section 16-245mm of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(g) Notwithstanding any other provision contained in this section, the aggregate amount of bonds secured by such special capital reserve fund authorized to be created and established by this section shall not exceed **[**two hundred fifty**]** five hundred million dollars.

Sec. 23. (*Effective from passage*) Not later than July 1, 2024, the Secretary of the Office of Policy and Management, in consultation with the Commissioner of Energy and Environmental Protection, shall submit recommendations to the joint standing committees of the General Assembly having cognizance of matters relating to the environment and energy and technology, in accordance with section 11-4a of the general statutes, regarding the feasibility and advisability of creating a new quasi-public state agency, state waste authority or other entity for purposes that include, but are not limited to, the development of new solid waste infrastructure and the operation and maintenance of new or existing solid waste infrastructure. Such recommendations shall be made in consultation with any municipalities, municipal authorities, regional waste authorities or private sector operators of solid waste companies participating in a request for proposals pursuant to section 2 of this act.

Sec. 24. Section 22a-265a of the general statutes is repealed. (*Effective July 1, 2023*)

Sec. 25. Sections 22a-260 to 22a-284, inclusive, of the general statutes and sections 8 and 9 of this act are repealed. (*Effective July 1, 2025*)



Substitute Senate Bill No. 1143

Public Act No. 23-177

AN ACT CONCERNING SOLID WASTE MANAGEMENT THROUGHOUT THE STATE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective from passage*) Notwithstanding the provisions of sections 22a-228 and 22a-241a of the general statutes, respectively, any proposed revision to the state-wide solid waste management plan or the Comprehensive Materials Management Strategy shall be submitted by the Commissioner of Energy and Environmental Protection to the joint standing committee of the General Assembly having cognizance of matters relating to the environment for approval prior to implementation of any such revision. Upon receipt of any such proposed revision, said committee shall hold a public hearing on any such proposed revision not later than fifteen days after such receipt. Not later than thirty days after such receipt, said committee may meet to vote to approve, reject or amend such proposed revision. In the event said committee rejects any such proposed revision, the commissioner may file such rejected proposed revision with the clerks of the House of Representatives and the Senate for consideration of the approval, by resolution, of such rejected proposed revision by the members of the General Assembly. If the General Assembly is in session, it shall vote to approve or reject such rejected proposed revision not later than thirty days after the date of filing. If the General Assembly is not in

session when such rejected proposed revision is filed, it shall be submitted to the General Assembly not later than ten days after the first day of the next regular session or special session called for such purpose. The rejected proposed revision shall be deemed rejected by the General Assembly if the General Assembly fails to vote to approve or reject such proposed revision not later than thirty days after such filing.

Sec. 2. (NEW) (*Effective July 1, 2023*) Any dealer may provide for the placement of a recycling receptacle at such dealer's place of business for the collection of any beverage container that is rejected by any reverse vending machine installed and maintained by such dealer. For the purposes of this section, "dealer", "beverage container" and "reverse vending machine" have the same meanings as provided in section 22a-243 of the general statutes.

Sec. 3. (NEW) (*Effective from passage*) Not later than October 1, 2023, the Commissioner of Energy and Environmental Protection shall issue a request for information to obtain information on systems for the processing of solid waste that is generated in the state and that is not otherwise diverted from the state's solid waste stream in accordance with the provisions of the state-wide solid waste management plan and the Comprehensive Materials Management Strategy. Such request for information shall seek information on such systems that include, but are not limited to, gasification systems that convert such solid waste into gas through a chemical reaction that does not consist of burning. Such request for information shall not seek information on systems that provide either for the incineration or combustion of solid waste or any form of landfilling of such solid waste. Such request for information shall require the receipt of such information by the Department of Energy and Environmental Protection not later than November 15, 2023. Any presentation of materials in relation to such request for information shall be made to the commissioner not later than January 15, 2024. Not later than February 1, 2024, the commissioner shall submit a report, in

accordance with the provisions of section 11-4a of the general statutes, to the joint standing committee of the General Assembly having cognizance of matters relating to the environment that includes recommendations for the issuance of a request for proposals concerning such systems that is based on the commissioner's review of all information received in connection with such request for information. In forming such recommendations, the commissioner shall additionally consider the: (1) Potential environmental impacts of any such system to the air, water and soils of the state, (2) consistency of any such system with the greenhouse gas emissions goals of the state, (3) municipal costs potentially associated with the utilization of any such system for the processing of solid waste in the state, (4) effectiveness of any such system to process all solid waste in the state that is not otherwise diverted from the state's solid waste stream, (5) ability to convert any existing state owned or operated facility to utilize any such system without state subsidization of such conversion and while substantially decreasing any environmental or public health impacts of such converted facility to any environmental justice community, and (6) reasonable likelihood of siting one or more facilities that utilize any such system in a community other than an environmental justice community.

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Line of Credit Renewal

A Funding Facility for Connecticut Green Bank
Revolving Line of Credit Warehouse Funding Facility
Secured by SHRECs
June 16, 2023

Document Purpose: This document contains background information and due diligence on a proposed revolving line of credit warehouse funding facility for the Connecticut Green Bank which is presently being provided by Webster Bank and Liberty Bank, but subject to renewal upon its existing expiration date of July 31, 2023. 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.

Memo

To: Connecticut Green Bank Board of Directors

From: Bert Hunter, EVP and CIO and Louise Della Pesca, Consultant, Clean Energy Finance

CC: Bryan Garcia, President and CEO; Brian Farnen, General Counsel and CLO; Eric Shrago, Vice President of Operations, Jane Murphy, Executive Vice President of Finance and Administration; Director, Sergio Carrillo, Director of Incentive Programs

Date: June 16, 2023

Re: SHREC Warehouse Funding Facility Renewal

Background

Connecticut Green Bank (the "Green Bank") commenced a green bond issuing program in 2019. The Green Bank made issuances in 2019, 2020, and 2021, each of which were secured by receivables from Eversource and United Illuminating in respect of the Solar Home Renewable Energy Credit ("SHREC") program. The SHREC receivables are grouped into tranches according to the vintage of the underlying SHRECs. The "asset backed security" green bond issuance of 2019 was secured by Tranche 1 and 2 SHREC receivables, the 2020 SCRF-backed inaugural Green Liberty Bond was secured by Tranche 3, and the second Green Liberty Bond issued on Earth Day in 2021 being secured by Tranche 4.

In the period between issuing green bonds, the Green Bank utilizes a short-term revolving credit warehouse facility (the "Warehouse"), which is secured by the Tranche(s) that will later be removed as collateral for the Warehouse and used instead to secure the green bonds. The Warehouse facility size ($M) has varied depending on the size of the Tranche(s) securing it in the period in question. For the year ended July 31st, 2023, it is a $5M facility (expandable to $10M at Green Bank request and subject to approval by the Warehouse Lenders (defined below), secured by Tranche 5 and Tranche 6 SHREC receivables.

The Warehouse, a joint financing facility with two Connecticut banks (Webster Bank and Liberty Bank, collectively "Warehouse Lenders") provided at the present time to a special purpose vehicle ("SPV") of the Green Bank, was originally approved by the Board at its June 28, 2018 meeting. It had a term of one year with interest-only payments (i.e., no required repayment of principal except at facility maturity). The Board approved renewal of the Warehouse, i.e., extension for an additional one year period, at its July 18th, 2019, July 24th, 2020, July 23rd, 2021 and June 24, 2022 meetings.

Warehouse Renewal

Staff recommends continued utilization of this Warehouse facility that (a) provides a bridge to the next bond issuance (expected to be in calendar year 2024) and (b) enhances liquidity and allows the Green Bank to meet its significant obligations in a flexible manner (e.g., can draw and repay as needed). Staff is bringing forward for approval a 1-year renewal of the Warehouse (to July 31st, 2024) on the terms identical in all material respects to the term sheet submitted to the Board for the existing Warehouse (Appendix A). The key terms that are being brought forward to this renewal facility are noted below:

Staff requests approval by the Board to move forward with renewing and amending the warehouse funding facility and approve resolutions in respect of approval by the Green Bank as well as separate resolutions in respect of approval by SHREC WAREHOUSE 1 LLC, the wholly-owned subsidiary of Green Bank, as borrower under the Warehouse facility.

Resolution

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, the Company intends to enter into a Fourth Amendment to Credit Agreement (the "**Fourth Amendment**"), which amends the Credit Agreement dated as of July 31, 2019, as amended by that certain First Amendment to Credit Agreement and Other Loan Documents dated July 28, 2020, and by that certain Second Amendment to the Credit Agreement and Other Loan Documents dated July 30, 2021, and by that certain Third Amendment to the Credit Agreement and Other Loan Documents dated August 24, 2022 (collectively, 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 Five Million and 00/100 Dollar ($5,000,000) secured revolving line of credit, with a Five Million and 00/100 Dollar ($5,000,000) uncommitted accordion feature ("**Loan**") for the purpose of financing the Tranche 5-2021 and Tranche 6-2022 (as defined in the Credit Agreement) Solar Home Renewable Energy Credit program ("**Tranche 5-2021 SHRECs**" and "**Tranche 6-2022 SHRECs**" respectively); and

WHEREAS, the Company and Green Bank have requested that Webster-Liberty and Agent modify the Loan and the terms of the Credit Agreement pursuant to the Fourth Amendment, in order to, among other things, extend the term of the Loan; and

WHEREAS, to induce Webster-Liberty to continue to extend the Loan to the Company, Green Bank shall continue to guarantee the Loan pursuant to the Guaranty Agreement dated as of July 31, 2019 made by Green Bank in favor of Agent (the "**Guaranty**"); 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 5-2021 SHRECs and Tranche 6-2022 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 further amended by those certain Second Amendments, dated April 1, 2020, (as further amended from time to time, the "**MPAs**"), which collateral assignment and security interest shall include any and all rights to payment of money under the MPAs with respect to Tranche 5-2021 and Tranche 6-2022 SHRECs and those other attributes and rights associated with the Tranche 5-2021 and Tranche 6-2022 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 of the closing of the Loan, including without limitation, any security interest created under 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 (the security interests listed in (i)-(iv) hereof, together, the "**SHREC Collateral**"); and

WHEREAS, Webster-Liberty has requested and the staff of Green Bank has recommended that the Board provide these resolutions approving the renewal and extension of the Loan and the Green Bank's guarantee thereof in accordance with the terms of the Fourth Amendment.

NOW, therefore be it:

RESOLVED, that the Board of the Green Bank hereby authorizes, ratifies and approves the Loan, as modified, from Webster-Liberty to the Company pursuant to the terms of the Fourth Amendment and any ancillary documentation and authorizes, ratifies, directs and approves the Company's and the Green Bank's entering into the Fourth Amendment and any ancillary documentation to which it is a party and of each other contract or instrument to be executed and delivered by the Company and the Green Bank in connection with the transactions contemplated by the Fourth Amendment; and be it further

RESOLVED, that the Board of the Green Bank hereby reauthorizes, ratifies and reaffirms the Green Bank's obligations under the Guaranty; and be it further

RESOLVED, that each of the Company and the Green Bank be and it hereby is, authorized to continue 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 the Company's property, including, without limitation the SHREC Collateral; and be it further

RESOLVED, that the Board hereby authorizes, directs, ratifies and approves Green Bank's and the Company's execution, delivery and performance of the Fourth Amendment and any ancillary documentation and all of the Green Bank's and the Company's obligations under the Fourth Amendment and any ancillary documentation; 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 Fourth Amendment and any ancillary documentation 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, acting singly, 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 Fourth Amendment and the other Modification 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.

Appendix A

Term Sheet - summary

SHREC Warehouse 1, LLC, (a special purpose vehicle wholly owned by the Connecticut Green Bank – hereinafter "**Company**" or "**Borrower**") has applied to Webster Bank, National Association ("**Webster**") and Liberty Bank ("**Liberty**" – each of Webster and Liberty a "**Bank**" and together the "**Banks**") for up to $5,000,000 of loans (the "**Loan**").

Borrower	SHREC Warehouse 1, LLC – a special purpose vehicle and direct wholly owned "single member" LLC subsidiary of the Connecticut Green Bank
Guarantor	The Connecticut Green Bank ("**Guarantor**")
Credit Facility	Revolving Line of Credit not the exceed $5,000,000 with uncommitted accordion feature for up to an additional $5,000,000. The accordion feature is subject to final approval review by the Banks, prior to the exercise of this feature.
Use of Proceeds	For working capital purposes of the Guarantor and to make incentive payments under the Guarantor's Residential Solar Investment Program (RSIP); and bridge finance the securitization of Tranches 5 & 6.
Facility Maturity	364 days from closing (the "**Maturity Date**").
Interest Rate	[redacted]
Payment	Monthly interest payments with any principal and remaining interest due at the earlier of the Maturity Date or sale of the collateral.
Unused Fee	[redacted]
Commitment Fee	
Security	First priority lien on all assets of the Borrower. Guarantor or Borrower shall collaterally assign to the Banks (i) its rights in respect of each SHREC Tranche 5 and 6; (ii) its rights in each SHREC MPA (shared with existing SHREC noteholders under the SHREC 2019-1 ABS securitization; (iii) full and unconditional guarantee of payment from Connecticut Green Bank and any rights of payment guarantee under state statutes; and (iv) assignment of the Guarantor's membership interest in the Borrower.
Debt Service Reserve	[redacted]
Deposit Accounts	The Borrower will maintain all of its primary operating accounts at the Agent Bank.
Loan Documents	The Loan Documents shall contain representations and warranties, conditions precedent to closing, affirmative and negative covenants, and events of default as are customary for loans of this size, type and purpose.
Financial Reporting	Audited financial statements of the Borrower and Guarantor to be submitted within 120 days of each fiscal year end and tax returns within 15 days of filing. All financial statements will be prepared in accordance with GAAP or GASB consistently applied and accompanied by an unqualified statement from an independent certified public accountant (such independent certified public accountant shall be acceptable to the Banks).

	Within 45 days after the close of the 1st, 2nd and 3rd fiscal quarters, unaudited financial statements of the Borrower and Guarantor. All financial statements shall be accompanied by a covenant compliance certificate.
Expenses	The Borrower agrees to reimburse each Bank for its reasonable attorneys' fees and expenses.
Governing Law	State of Connecticut

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CONNECTICUT
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Memo

To: Connecticut Green Bank Board of Directors

From: Mackey Dykes, VP of Financing Programs; Emily Basham, Associate Director; Mariana Trief, Associate Director; Alex Kovtunenko, Deputy General Counsel

Date: June 16, 2023

Re: Green Bank Solar Marketplace Assistance Program (Solar MAP) – Total Energies Term Sheet for State Projects – Round 1

Program and Overview and Approvals

The Green Bank's Solar Marketplace Assistance Program (Solar MAP or the Program) supports underserved municipal and state agency partners access clean energy and energy savings. The Program provides no-cost, turnkey project development support to identify optimal projects, access necessary incentives and financing, and shepherd the projects through construction. Projects on similar development timelines are bundled into project portfolios. The Program administers a competitive solicitation to bid project portfolios out to the market to select construction partner(s). The Program was approved by the Board at the July 22, 2023 meeting and included in the Comprehensive Plan. The Board has previously authorized funding, in a total not-to-exceed amount of $30 million, subject to budget constraints, for the continued development and financing of commercial-scale solar PV projects, such as those contemplated by the Program. State projects (known as "SAP") are also bid out to financing partners for the long term ownership of the Projects. The Green Bank is coming to the Board of Directors (Board) to provide an update on the first portfolio of SAP projects and request approval to enter into a binding term sheet for Green Bank debt for this portfolio of Projects with Total Energies Renewables (Total).

Background on the Projects

In October of 2019 the Green Bank issued a Request for Proposals (RFP) for Engineering, Procurement, and Construction (EPC) services for the first round of state projects (SAP Round 1 or the Projects). which was to awarded Sunpower, which has been acquired by TotalEnergies (Total). On May 5th, 2023 Green Bank awarded the RFP for PPAs to Total.

Project Information

SAP Round 1 portfolio originally consisted of 13 projects and 5 were removed due to infeasibility or experienced issues which moved them to a subsequent round of the Program. The final project list consists of 7 solar projects located at the following facilities owned and operated by the Department of Correction of the State:

1. Osborn Correctional Institute;
2. Mansion Youth Institute;

3. Maloney & Webster Correctional Institute;
4. Enfield Correctional Institute;
5. Willard Correctional Institute;
6. Robinson Correctional Institute (Robinson A); and
7. Robinson Correctional Institute (Robinson B).

The Projects are the first behind the meter solar projects of this scale to be installed at State agency properties and a significant portion of the development timeline has occurred during the COVID-19 pandemic. As a result, there have been many unprecedented and unforeseen circumstances resulting in unique challenges in the development and permitting of the Projects, including:

A. There was a lengthy process creating, negotiating, and finalizing the transaction documentation with the state, as this is the first behind the meter solar PPA on State agency property. The process took approximately two and a half years from the start of negotiations until final approval and execution due to the first of its kind nature of these ambitious projects. The documentation included a Master Power Purchase Agreement, Site Specific PPAs and License Agreements that required negotiation and contract review that involved the Department of Correction, the Department of Administrative Services, the Office of Policy and Management, and the Office of the Attorney General. These documents now serve as templates for all future project contracting with the State.

B. Certain Projects have to be reviewed by the State Historic Preservation Office, and by the State pursuant to the Connecticut Environmental Policy Act (CEPA). CEPA only applies to projects on State properties so there was no precedent for this being done for such solar projects. While performing surveys for the Projects, Green Bank encountered unexpected wetlands in certain Projects that had not been identified in the prefeasibility design phase due to the State parcels not having been surveyed in the past, resulting in the termination of projects on the original project list.

C. Delays in the project timeline derived from various development steps including finalizing the EPC contracts, security protocols accessing Department of Correction (DOC) facilities, supply chain disruptions and materials prices relating to the COVID-19 pandemic. These delays pushed the projected timelines beyond the deadlines for the ZREC incentive. Green Bank secured a one-year extension of these contracts from PURA and submitted an additional request for extension on June 16th, 2022.

D. Procurement orders and mobilizations plan were executed to safe harbor modules that secure the projects' federal Investment Tax Credit level and preserves the projects' economics.

E. Stormwater Pollution Control Plans were developed as part of the General Permit for the Osborn, Maloney & Webster, Manson Youth and Enfield project sites.

F. The Willard project had to be redesigned and converted from a behind the meter project to a virtually net metered project due to the unexpected closure of the Willard Correctional facility. The conversion allowed the solar generation to benefit other DOC electric accounts and enable the project to move forward. The project requires a new incentive which was applied for in February 2023.

Project Financing

In 2019, the Green Bank issued a Request for Information and Registration of Interest for Financing[1] (RFI) for the SAP Round 1 portfolio to pre-qualify interested investors for an RFP to be conducted at a later date once final EPC costs were known and most permits had been secured. The Green Bank received 16 responses. In 2020, the Green Bank issued the RFP to become the long term owner and seeking non-binding proposals from investors that were pre-qualified through the RFI. The RFP provided project information for the portfolio and solicited PPA pricing that was used to inform the Project's pricing that was offered to the State and ultimately execute the PPAs between Green Bank and the State. The Green Bank received 8 responses and 4 companies were shortlisted and were invited to participate in the final RFP to seeking binding proposals for the long term ownership of the Projects. All three solicitations offered the use of Green Bank debt funding with indicative debt terms for the Projects. We received responses from all 4 companies by the October 11th, 2022 deadline. On May 5th, 2023 Green Bank awarded the RFP for long term ownership to Total based on a number of criteria, including competitive PPA pricing. The most competitive pricing also incorporated the use of Green Bank debt.

Staff requests the authority to execute the documents which staff deems necessary for the successful long term ownership of the Projects, including authority to:

1) Enter into a binding term sheet with Total to offer debt for the Projects for an amount NTE $12,000,000 materially consistent with the draft term sheet presented in Exhibit A; and
2) To enter into contracts associated with the sale and assignment of the Projects to Total.

Resolutions

WHEREAS, Connecticut Green Bank ("Green Bank") staff has been working with State of Connecticut ("State") agencies to develop certain pilot solar projects ("Projects") identified in the Memorandums June 16, 2023 (the "Memo") and submitted to the Green Bank Board of Directors (the "Board");

WHEREAS, Green Bank has developed the State Pilot Projects to the point of construction mobilization and of awarding the long term ownership of the State Pilot Projects via a competitive process to Total Energies or a subsidiary thereof ("PPA Owner"), and

WHEREAS, Green Bank desires to sell and assign the State Pilot Projects and enter into a binding term sheet and subsequent long term debt financing with PPA Owner, as described in the Memo.

NOW, therefore be it:

RESOLVED, that the Board of Directors approves (1) long term debt funding to the PPA Owner for the State Pilot Projects, in a total not-to-exceed amount of $12,000,000, and (2) the sale and assignment of the Projects to the PPA Owner.

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 Projects materially consistent with the Memo; and

[1] https://www.ctgreenbank.com/wp-content/uploads/2019/10/CGB-State-Solar-Financing-RFI-v2.pdf

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.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Mackey Dykes, VP, Financing Program; Emily Basham, Associate Director, Programs; Mariana Trief, Associate Director, Investments

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PosiGen

Green Bank Term Loan Facility Modification Request

June 16, 2023

PosiGen
Solar Energy and Energy Efficiency

Document Contents: This document contains background information and due diligence on modification of existing credit facilities for PosiGen Inc. ("PosiGen") collateralized by residential solar PV facilities located within and outside of Connecticut and by the future performance-based incentive ("PBI") payments PosiGen will earn from various residential solar PV projects in Connecticut. 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.

Investment Modification Memo

To: Connecticut Green Bank Board of Directors
CC: Bryan Garcia, President and CEO; Jane Murphy, Executive Vice President of Accounting and Financial Reporting; Brian Farnen, General Counsel and CLO; Eric Shrago, Managing Director of Operations; Sergio Carrillo, Director of Incentive Programs
From: Bert Hunter, EVP and CIO
Date: June 16, 2023
Re: PosiGen Back Leverage Modification

Background

At its March 17, 2023 meeting, the Board of Directors (the "Board") of the Connecticut Green Bank (the "Green Bank") approved a loan modification for PosiGen, Inc. (together with its subsidiaries, "PosiGen"). That modification enabled PosiGen to transition its primary back-leverage loan provider from Forbright Bank ("Forbright") to Brookfield Asset Management ("Brookfield"), so as to both a) upsize the 1st lien debt capital available to the company from $140 million to $250 million and b) fix out its cost of capital at a lower interest rate, thus providing a significant savings versus the prior variable rate under Forbright. As part of its approvals (attached hereto as Exhibit A), the Board also authorized the Green Bank to increase its 2nd lien exposure to the company's asset-backed facility to $9.3 million, while maintaining all other material terms of the prior loan. Pursuant to a new intercreditor agreement between Brookfield and the Green Bank, that new 1st lien facility subsequently closed in April 2023.

However, missing from staff's request, and consequently the Board's recent approval, was a maturity extension necessary to align the 1st (Brookfield) and 2nd (Green Bank) lienholders under the new facility. As a consequence, the Green Bank has yet to close on its new 2nd lien commitment.

Green Bank staff is therefore returning to the Board for authorization to extend the facility's maturity until April 21, 2027, from its current maturity on September 28, 2024 (that is, an extension of approximately 30 months). This modification will ensure the 1st and 2nd lienholders' order of priority will be preserved through their respective maturity dates.

DOE LPO Update

In its March memo, staff previewed that PosiGen had applied to the US Department of Energy's Loan Programs Office ("DOE-LPO") for a term loan guarantee under the statutory carve-out for companies that receive financing from State Energy Financing Institutions, such as the Green Bank. Since then, PosiGen has continued to make significant progress on its application, and as of early June has now received an invitation to submit its "Part 2" application, a significant milestone and signifier of DOE-LPO's support for the company's proposal. Anticipating a July 2023 Part 2 submission date, the DOE-LPO has communicated a 60-90 day processing period for the application, after which it will proceed to confirmatory due diligence, term sheet negotiation, and ideally credit approvals and closing in turn. PosiGen expects to be in a position to close a DOE-LPO supported facility by the end of 2023 and intends to draw upon these funds from DOE-LPO to provide "term take-out" of the existing Brookfield / Green Bank back-leverage facility.

Recommendation

Given the continued performance of PosiGen against its existing obligations to the Green Bank, and the progress made towards securing long-term take-out via a DOE-LPO loan facility, Green Bank staff recommends extending the maturity of its 2nd lien commitment to PosiGen to align with the new Brookfield facility.

Resolutions

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

WHEREAS, the Green Bank Board of Directors (the "Board") previously authorized and later amended (in March 2023) approval for Green Bank's participation in a new back leverage credit facility (the "New BL Facility") collateralized by all of PosiGen's solar PV system and energy efficiency leases in the United States as part of PosiGen's strategic growth plan, as well as a facility to finance performance based incentives earned by PosiGen on its solar PV portfolio in Connecticut;

WHEREAS, PosiGen has now successfully closed on the New BL Facility;

WHEREAS, PosiGen has requested an extension of the maturity date associated with the Green Bank's participation as 2nd lien lender in the New BL Facility, as explained in the memo submitted to the Board on June 16, 2023 (the "Board Memo");

NOW, therefore be it:

RESOLVED, that the Board authorizes the Green Bank to amend its existing 2nd lien commitment as part of the New BL Facility to extend the maturity date of its position to April 21, 2027, to align with the new first lien lender, Brookfield Asset Management, as set forth in the Board Memo;

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.

Submitted by: Bert Hunter, EVP and CIO

Exhibit A-
March 10, 2023 Board Memo

(attached)

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CONNECTICUT GREEN BANK

PosiGen

Green Bank Term Loan Facility Modification Request

March 10, 2023

PosiGen
Solar Energy and Energy Efficiency

Document Purpose: This document contains background information and due diligence on modification of existing credit facilities for PosiGen Inc. ("***PosiGen***") collateralized by residential solar PV facilities located within and outside of Connecticut and by the future performance-based incentive ("***PBI***") payments PosiGen will earn from various residential solar PV projects in Connecticut. 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.

Investment Modification Memo

To: Connecticut Green Bank Board of Directors

CC: Bryan Garcia, President and CEO; Jane Murphy, Executive Vice President of Accounting and Financial Reporting; Brian Farnen, General Counsel and CLO; Eric Shrago, Managing Director of Operations; Sergio Carrillo, Director of Incentive Programs

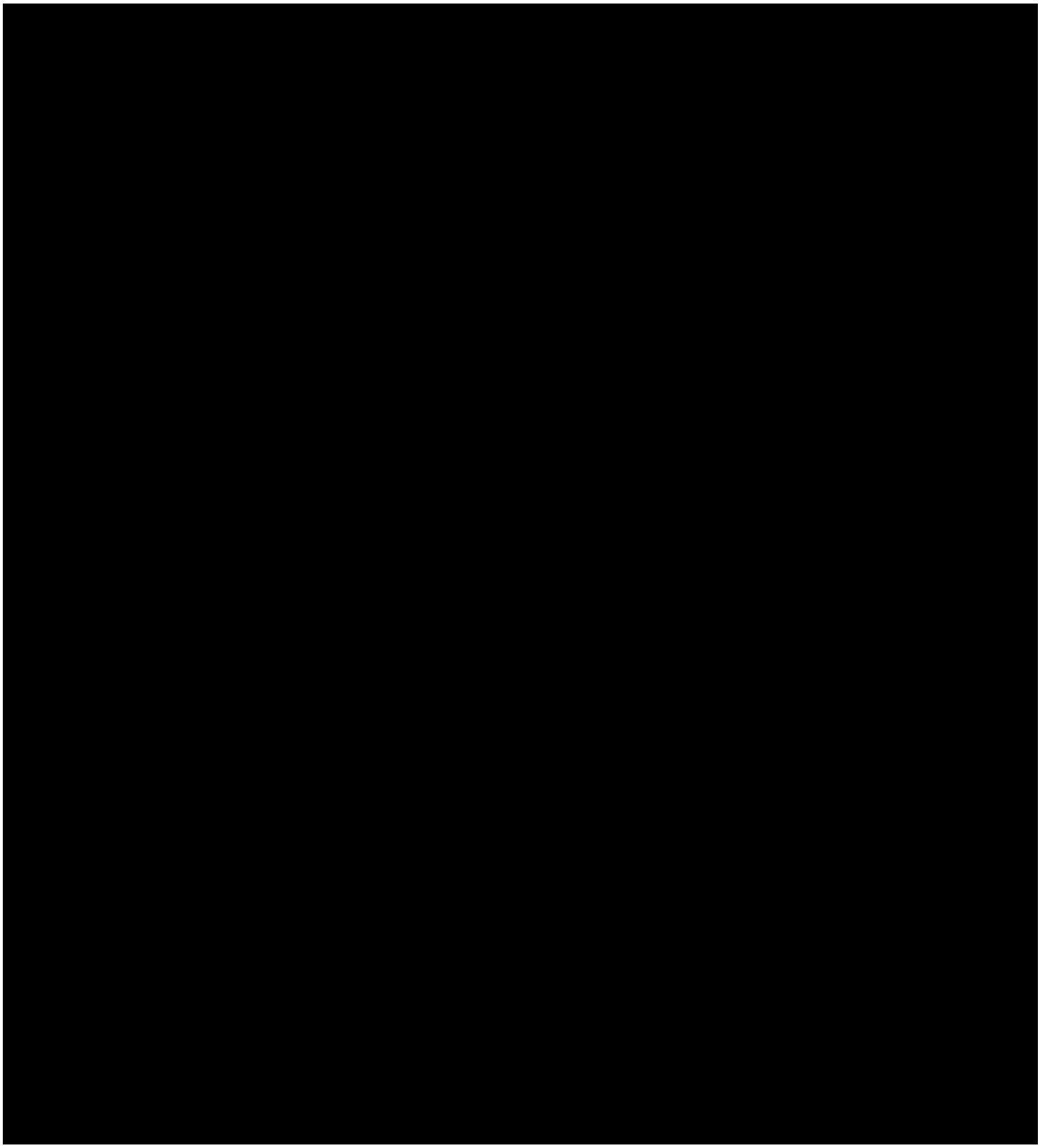
From: Bert Hunter, EVP and CIO

Date: March 10, 2023

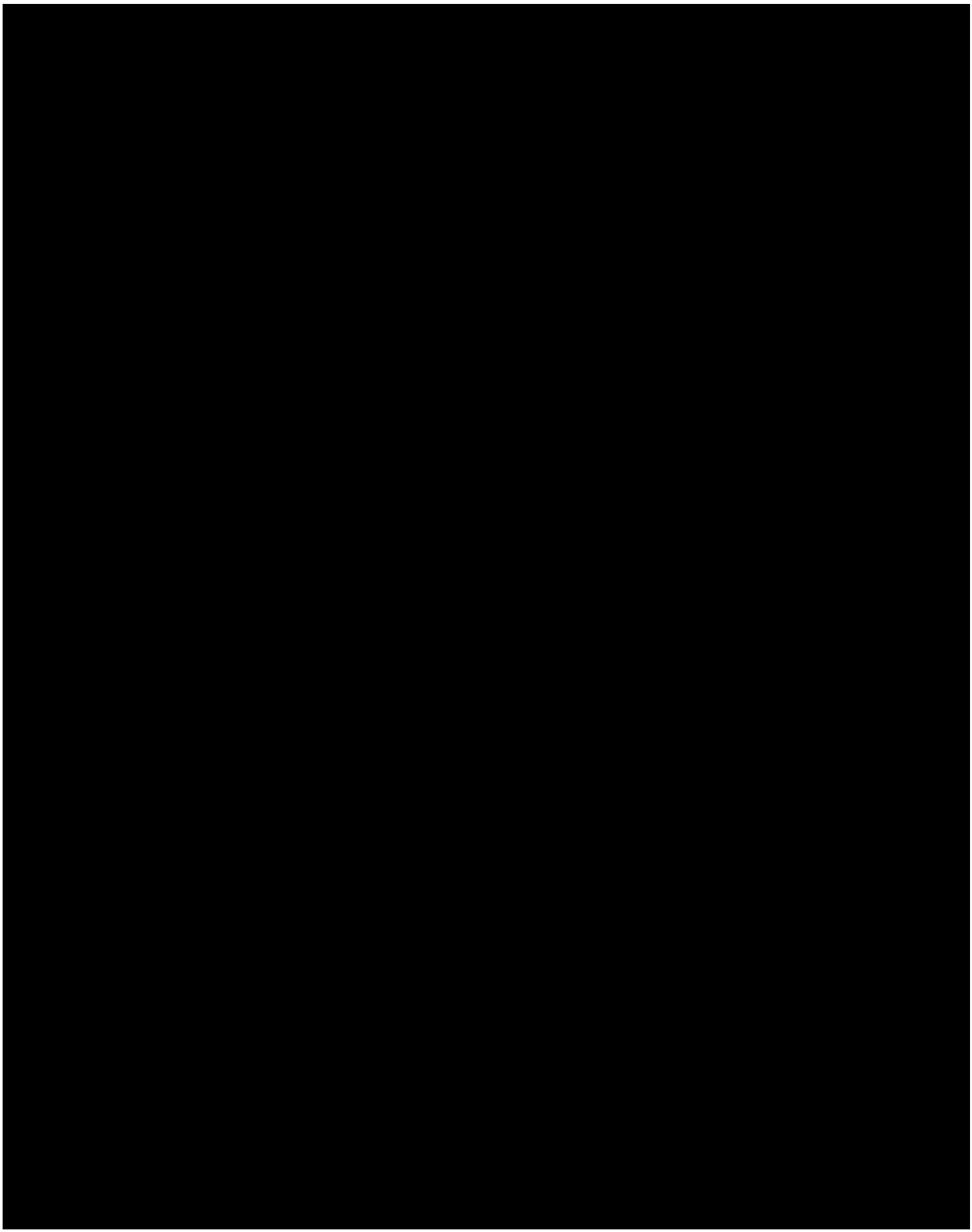
Re: PosiGen Back Leverage Modification

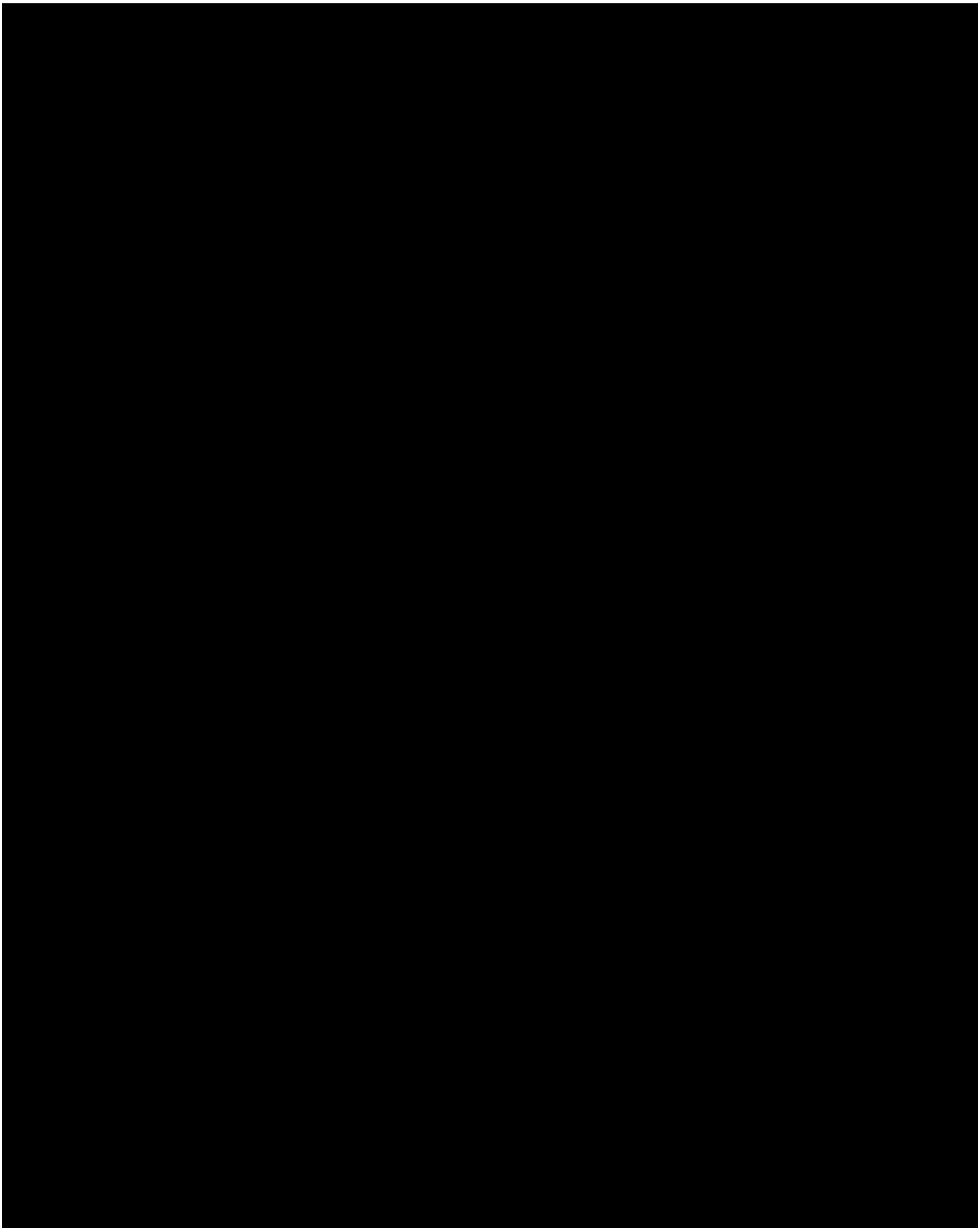
Background

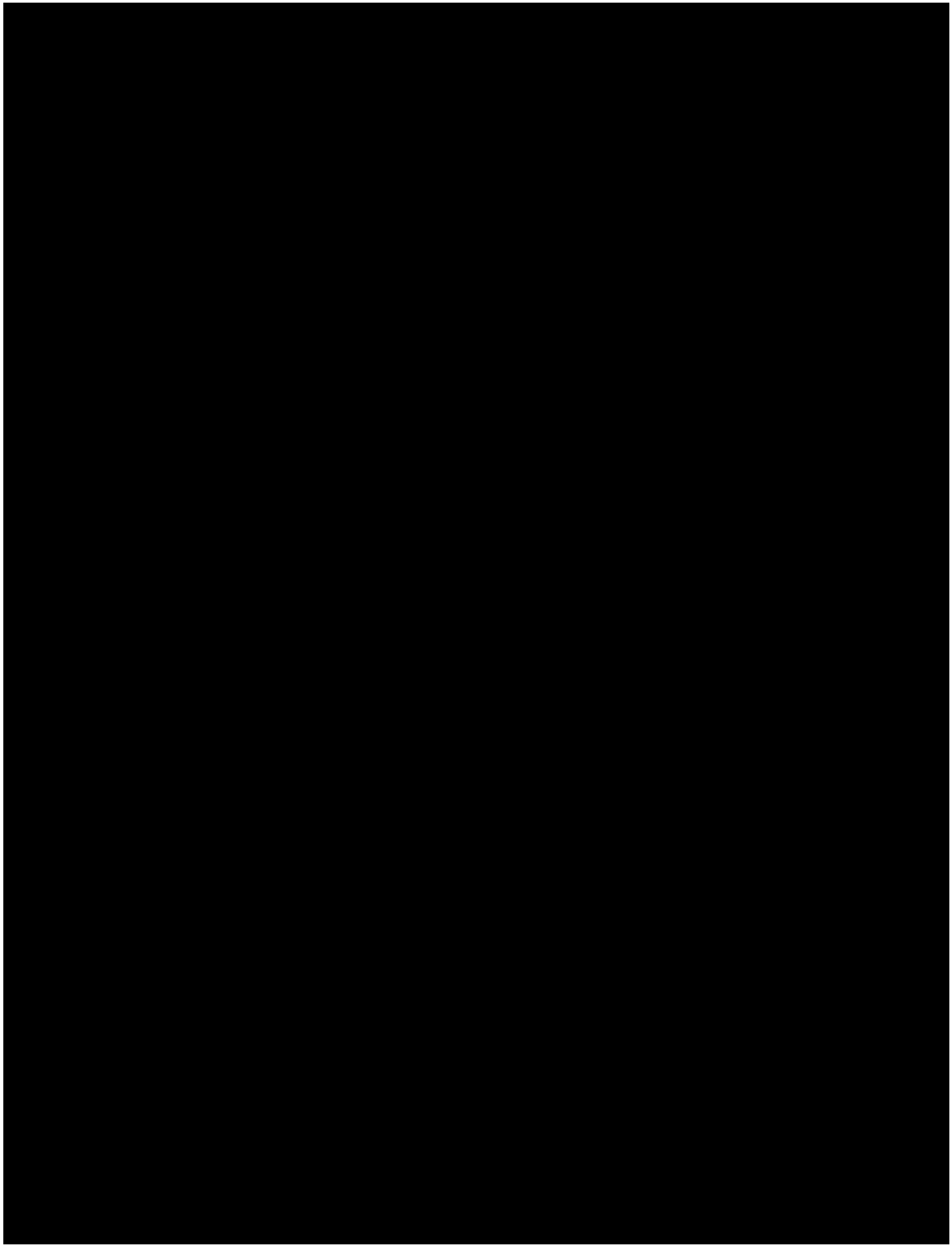
[redacted]



[1] Asset Management Savings for PosiGen customers within Green Bank's Power BI







Resolutions

WHEREAS, the Connecticut Green Bank ("***Green Bank***") has an existing partnership with PosiGen, Inc. (together with its affiliates and subsidiaries, "***PosiGen***") to support PosiGen in delivering a solar lease (including battery storage) and energy efficiency financing offering to low to moderate income households in Connecticut;

WHEREAS, the Green Bank Board of Directors (the "***Board***") previously authorized and later amended (in December 2022) approval for Green Bank's participation in a back leverage credit facility (the "***BL Facility***") collateralized by all of PosiGen's solar PV system and energy efficiency leases in the United States as part of PosiGen's strategic growth plan, as well as a facility to finance performance based incentives earned by PosiGen on its solar PV portfolio in Connecticut;

WHEREAS, PosiGen is now in the process of refinancing and upsizing its BL Facility (the "***New BL Facility***"), as explained in the memorandum to the Board dated March 10, 2023 (the "***Board Memo***"); and

WHEREAS, PosiGen repayment performance is satisfactory.

NOW, **THEREFORE BE IT:**

RESOLVED, that the Board confirms its authorizations granted in December 2022 for the Green Bank to amend its existing 2nd lien facility as part of the New BL Facility to allow for an upsized Green Bank position together with the new first lien lender, Brookfield Asset Management ("***Brookfield***"), as set forth in the Board Memo; and

RESOLVED, that the Board confirms its authorizations granted in December 2022 for the Green Bank to advance up to $9.3 million in 2nd lien financing associated with the New BL Facility, in addition to serving as an agent for third-party participation to increase those participations to reduce Green Bank's exposure as explained in the Board Memo; and

RESOLVED, that the Green Bank may enter into such additional amendments to, or amendments and restatements of, the second lien credit facility ~~SLCF~~ documents, instruments, and certificates as Brookfield may reasonably require or which are contemplated under the ~~SLCF~~ second lien credit facility as Green Bank's proper officers deem necessary in connection with Brookfield's refinancing of the first lien credit facility~~FLCF~~, including without limitation to the Second Lien Credit Agreement, as amended from time to time, and that certain Intercreditor Agreement, dated as of September 28, 2021, by and between Forbright Bank, Green Bank, the Green Finance Authority, PosiGen Backleverage, LLC, PosiGen Backleverage Holdco, LLC, and PosiGen, Inc., as amended from time to time; and

RESOLVED, that each of Green Bank's proper officers be, and each of them hereby is, acting alone, authorized, empowered and directed, for and on behalf of the Green Bank to: (i) do or cause to be done all such acts and things, (ii) pay or cause to be paid all such costs and expenses, (iii) execute and deliver in the name of and on behalf of the Green Bank, all instruments, documents and other documents, (iv) to make changes and amendments thereto or to waive any conditions to performance by the Green Bank, in each case, as may be deemed, in his or her sole discretion, to be appropriate, desirable or necessary in order to carry out and comply with the purposes and intent of the foregoing resolutions, to consummate all of the actions contemplated thereby and to fully perform and/or cause the Green Bank to fully perform its

obligations under the documents contemplated thereby, the execution and delivery of any such documents, or the taking of any such action, by such proper officer to be conclusive evidence of his or her approval thereof; and

RESOLVED, that each of Green Bank's proper officers, acting or signing singly, is hereby authorized and empowered on behalf of and in the name of the Green Bank to negotiate, execute and deliver all such other instruments and documents, to pay all fees and expenses and to do all such other acts and things as, in such proper officer's judgment, may be necessary or advisable to carry out the purposes and intent of the foregoing resolutions; and

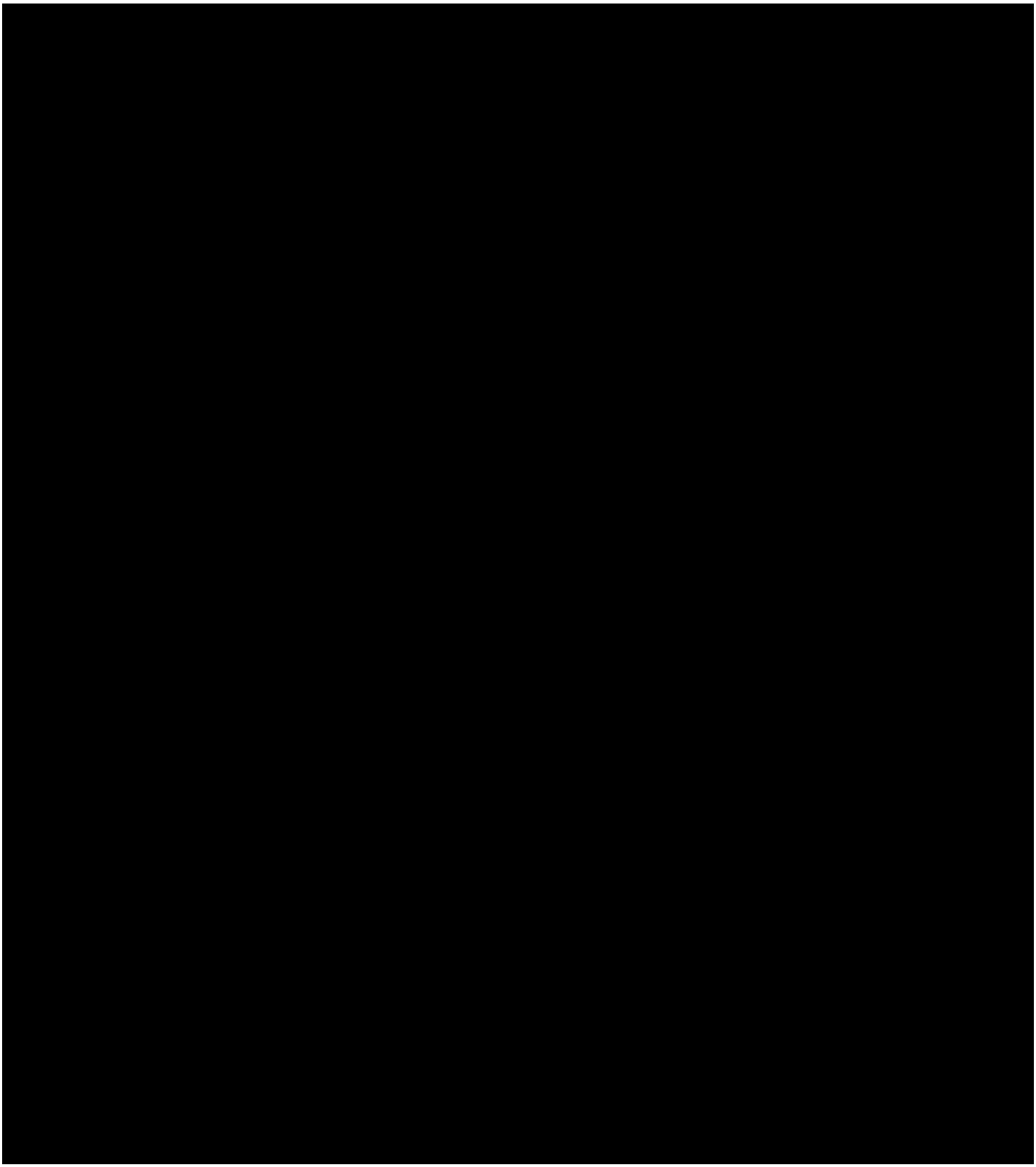
RESOLVED, that all actions taken and things done by each of the Green Bank's proper officers in connection with all actions taken and things done in contemplation of the foregoing resolutions, as the same appear of record or in the usual course of business to date, including all actions taken by any of them in good faith and in the reasonable belief that such actions were or would be in the best interests of the Green Bank are hereby approved, ratified and confirmed; and

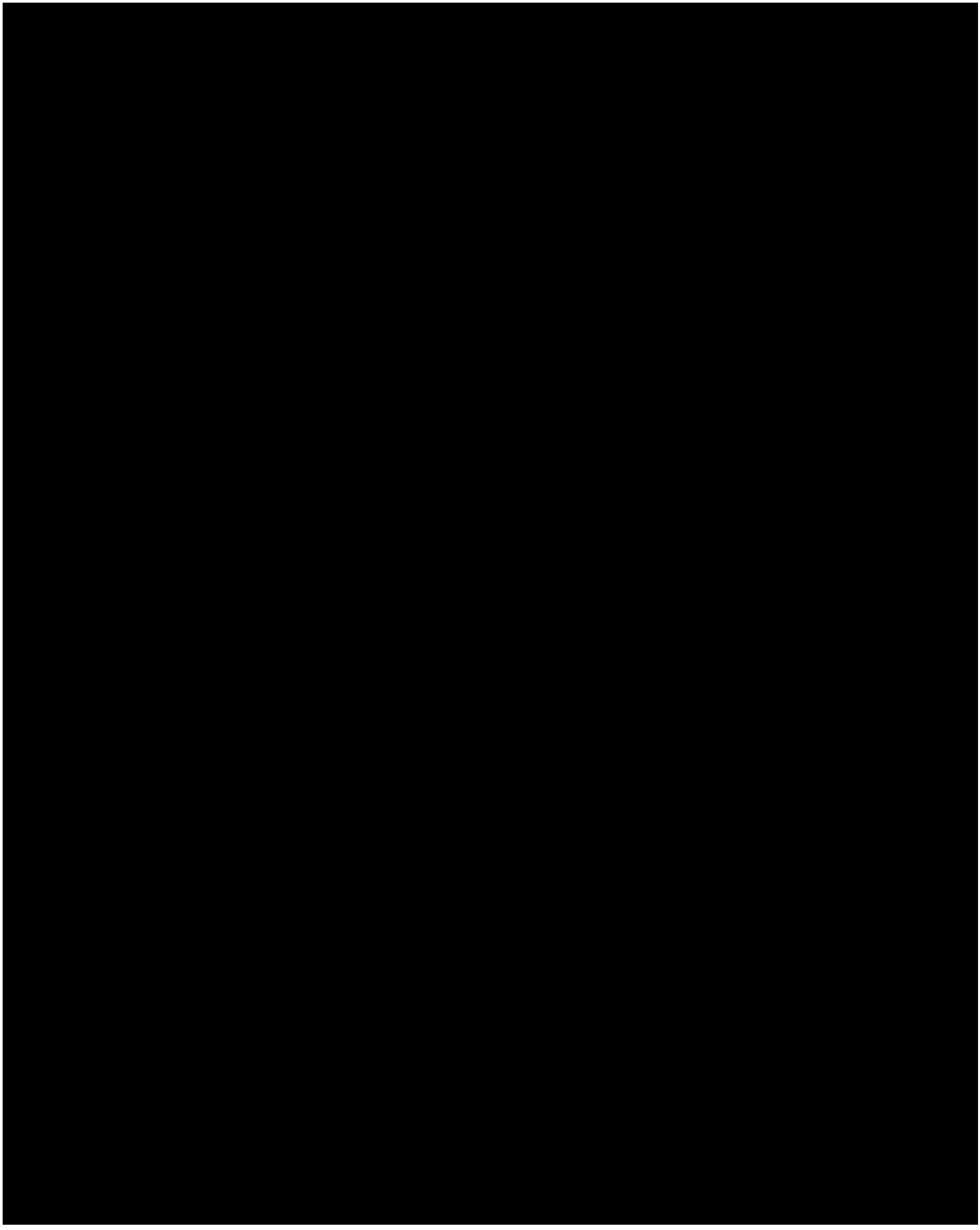
RESOLVED, that any and all actions heretofore or hereinafter taken on behalf of the Green Bank by any of said persons or entities within the terms of the foregoing are hereby approved, ratified and confirmed as the acts and deeds of the Green Bank.

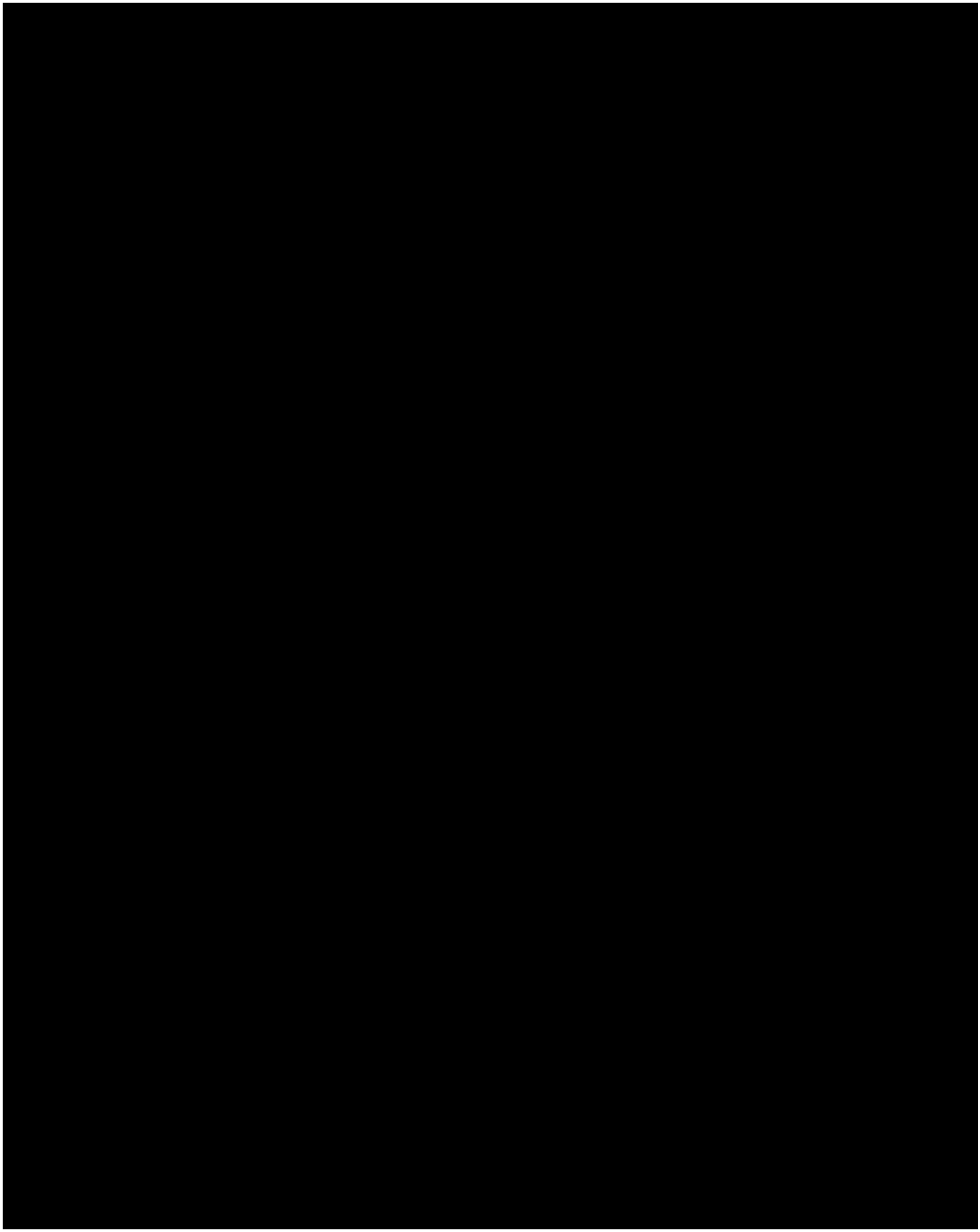
Submitted by: Bert Hunter, EVP and CIO

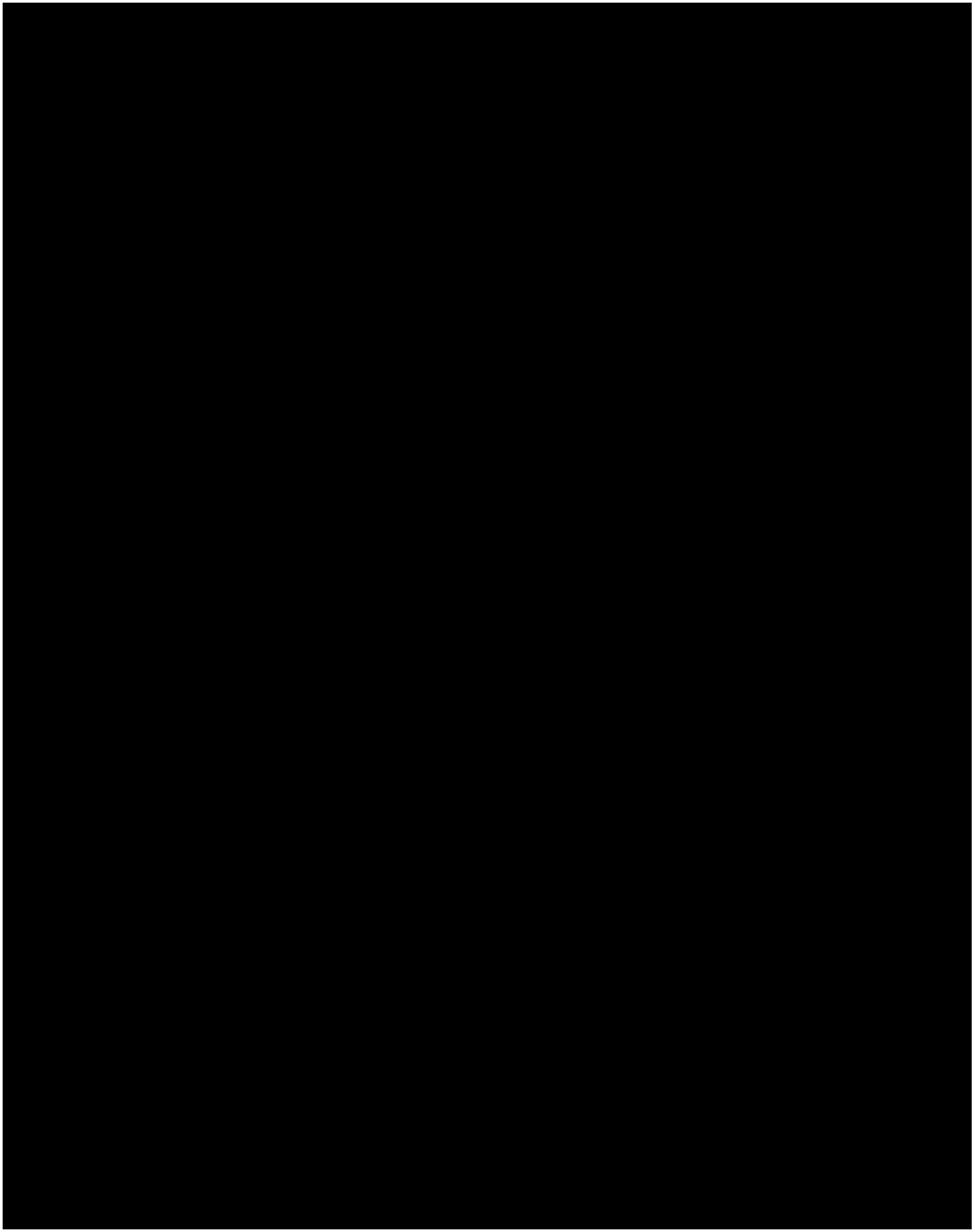
EXHIBIT A

Proposed Terms of the Refinanced 1st Lien Facility









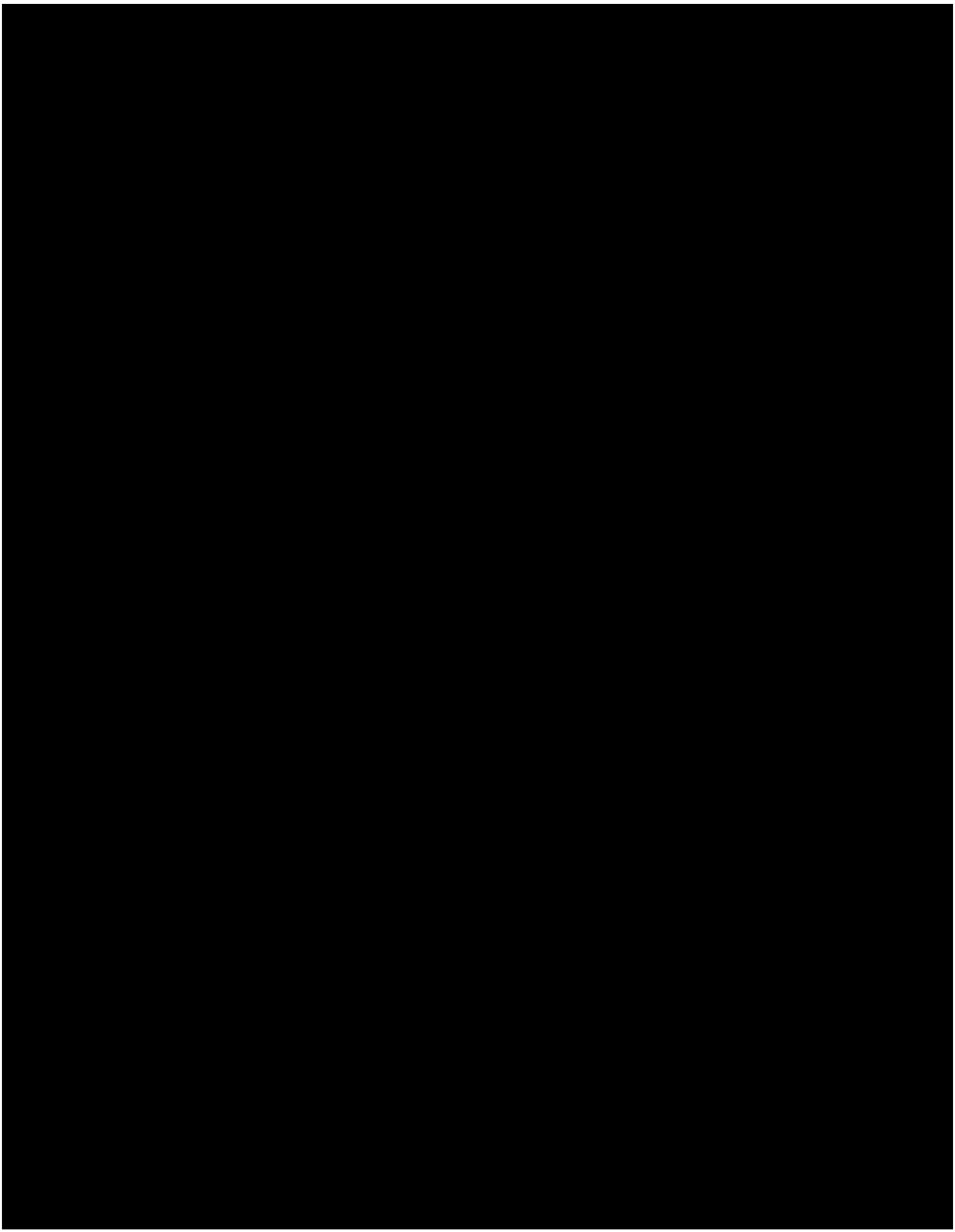


EXHIBIT B1
DOE-LPO Press Release

LPO Offers New Opportunities for Projects Funded by State Energy Financing Institutions (DECEMBER 8, 2022)

A new authority waives the innovative technology requirement in Title 17 for projects receiving financial support or credit enhancements from a **state energy financing institution (SEFI)**. Previously, all projects funded under Title 17 were required to employ technologies that were new or significantly improved compared to commercially available technologies. Now, projects that reduce greenhouse gas emissions without using an innovative technology may be eligible for loans under Title 17, so long as the projects receive qualifying funding from a SEFI (*e.g.*, a state green bank or other qualifying state entities) and fall into one of the categories of eligible projects under Title 17.

Congress **enacted this change** to Title 17 in part to provide access to debt for borrowers seeking to deploy already commercialized clean energy technologies. By providing loan guarantees to SEFI-supported projects (which can include guarantees of loans made by eligible private lenders), the Loan Programs Office (LPO) can now offer project financing to a wider range of borrowers under Title 17, including small, rural, and underserved communities.

The expanded authority was established by the Bipartisan Infrastructure Law and funded by the Inflation Reduction Act (IRA). The IRA provided an additional $40 billion of loan authority for projects eligible for loan guarantees under section 1703 of the Energy Policy Act of 2005, and that authority will remain available through September 30, 2026.

The SEFI-related authority broadens the scope of projects LPO can finance under **Title 17** and will further advance private sector-led, government-supported efforts to reduce greenhouse gas emissions.

HYPOTHETICAL PROJECT APPLICATIONS

The following scenarios represent example projects and funding structures that might be eligible for a loan from LPO under this authority.

Example 1: A private lender provides debt financing and servicing to small businesses that acquire, renovate, and rent or re-sell mid-market single-family homes. The small businesses use the proceeds to install on-site renewable energy generation, build EV infrastructure, and improve the overall energy efficiency of the homes. Several state energy offices provide subordinated debt capital or loan loss reserves for the project. The lender seeks a loan guarantee from LPO for senior debt used to originate or purchase the portfolio of small business loans.

Example 2: A community solar developer is constructing multiple solar facilities. The project portfolio has SEFI funding in the form of up-front state grants, which the developer receives for serving certain geographic areas of the state. The developer may be eligible to receive additional state grants if it serves lower- and moderate-income and disadvantaged communities. The developer applies for an LPO SEFI loan guarantee to support deployment of solar facilities. The developer repays the loans for facility construction through customer subscriptions. The

developer would like LPO to guarantee a multi-draw construction loan or similar facility used to finance the portfolio.

Example 3: A state has invested in a project to transport natural gas for use in production of blue ammonia. The developer secured SEFI support for electrolyzer facilities to complement existing state-backed blue ammonia infrastructure. Because the project receives SEFI support, the developer explores a guarantee for the new infrastructure under Title 17. In addition to providing financing for the electrolyzers, a loan guarantee from LPO would come with valuable technical expertise.

Example 4: A private developer builds residential housing projects to high energy efficiency standards. As a result, the state housing finance agency provides grants and credit enhancement for the construction, potentially making the developer's projects eligible for a loan from LPO under Title 17. The developer mentions this to the state housing finance authority, which also supports dozens of other developers. The SEFI decides to bundle projects from multiple developers into a single application to LPO. The SEFI seeks a loan guaranteed by LPO to further incentivize developers to prioritize energy efficiency in new buildings.

Example 5: A company finances the purchase of energy-efficient appliances through an online utility marketplace platform and provides point-of-sale rebates for customers throughout the United States. In several states, the company developed loan-loss reserve (LLR) programs with state energy offices. The LLR programs cover a significant portion of qualifying losses resulting from consumer loan defaults, which are infrequent. The company seeks a loan guaranteed by LPO to scale up its service offerings and make more loans available to consumers in states where it receives SEFI funding.

WHAT QUALIFIES AS A SEFI?

The provision defines a SEFI as a quasi-independent entity or an entity within a state agency or financing authority established by a State to satisfy two broad functions:

1. Provide financing support or credit enhancements, including loan guarantees and loan loss reserves, for eligible projects under Title 17.
2. Create liquid markets for eligible projects, including warehousing and securitization, or take other steps to reduce financial barriers to the deployment of existing and new eligible projects.

Examples of SEFIs may include, but are not limited to:

- Housing Finance Agencies.

- Economic Development Authorities.
- State Green Banks.
- State Energy Offices.

Note that for the provision to apply, the project must receive financing or credit enhancement from a SEFI.

WHAT QUALIFIES AS FINANCING OR CREDIT ENHANCEMENT FROM A SEFI?

Qualifying SEFI support can take many forms. Until a rulemaking and related guidance are issued, LPO will assess applications on a case-by-case basis to determine whether the project funding structure meets the criteria.

Examples of qualifying funding may include, but are not limited to:

- State providing equity/subordinate portion of capital stack.
- State providing loan loss reserve with respect to junior portion of capital stack.
- State or SEFI co-lending with LPO (pari passu or mezzanine).
- State backstop of specific key project elements that may be subject to regulatory or local market risk.

HOW TO APPLY

Potential applicants should become familiar with requirements applicable to all loans and loan guarantees issued under Title 17. These requirements can be found in the Title 17 Innovative Clean Energy (section 1703) solicitation **here**. Further guidance for potential applicants to apply under the SEFI authority will be provided in an upcoming Title 17 rulemaking and subsequent guidance.

To apply using the SEFI authority, potential applicants should follow these additional instructions for Part I:

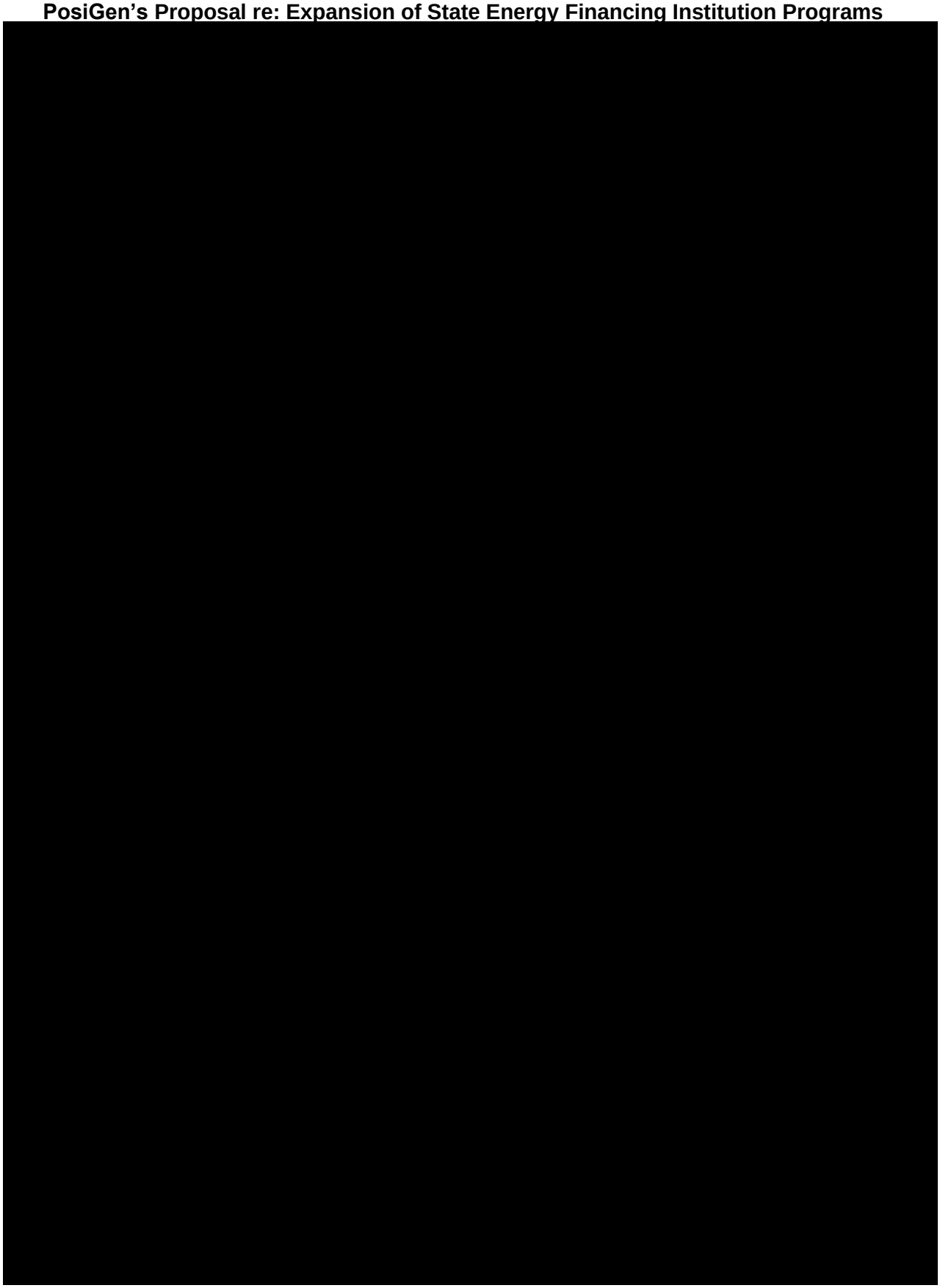
- Replace "Eligible Project" Condition 2 (New or Improved Technology) with "Receives qualifying support from a qualifying SEFI."
- Applicants **should** fill out Attachment A with the following two updates:
    - In addition to providing the information requested in Section C/Part 1 (Executive Summary), applicants **should also** explain how the proposed project meets the SEFI funding requirements defined in this provision.
    - In Section D/Part 2 (Description of New or Significantly Improved Technology), applicants **should** describe the technology being deployed but **are not required** to explain how it is new or significantly improved.

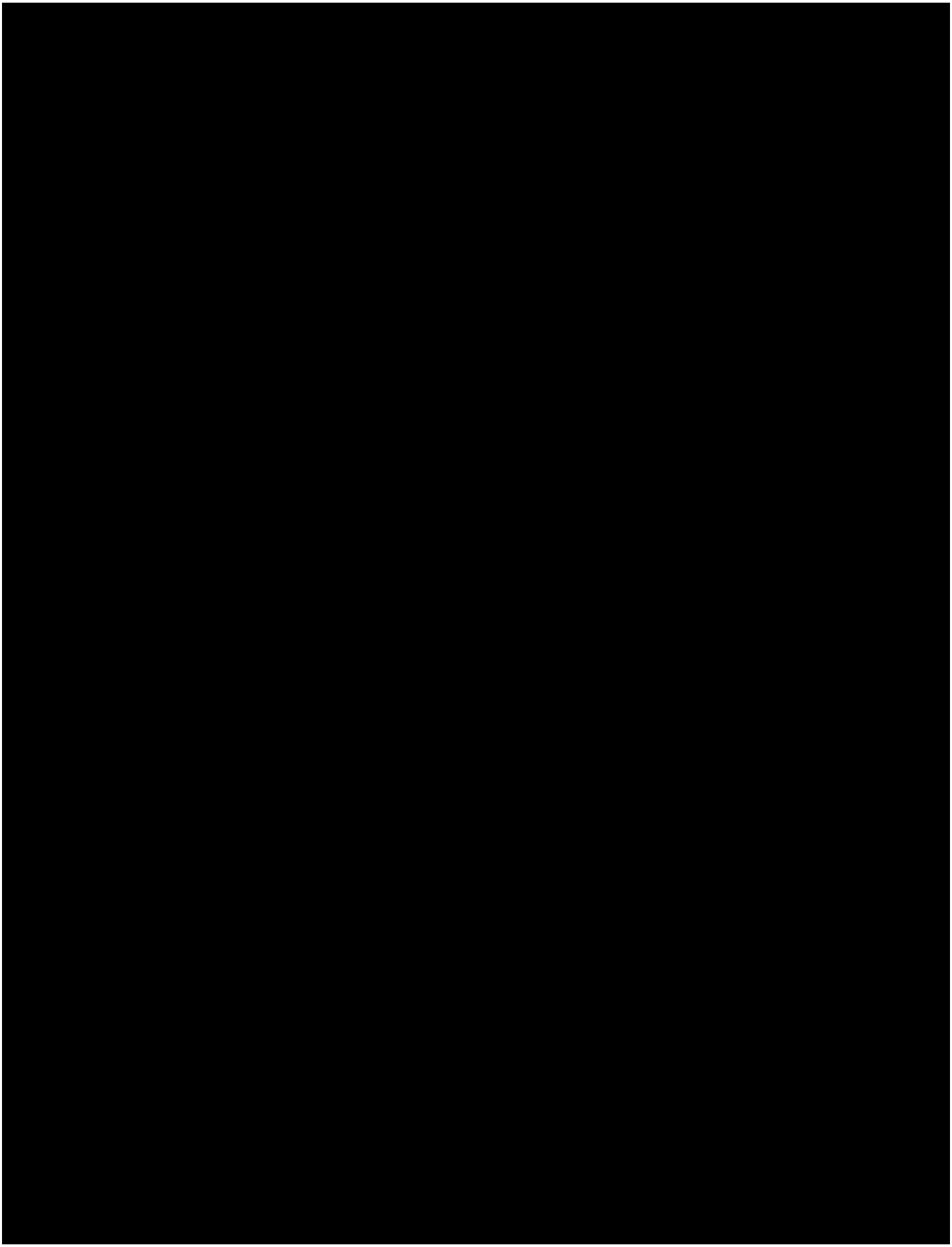
LPO's Outreach and Business Development team will provide guidance regarding potential eligibility and work with applicants to prepare applications. Applicants will have ample opportunity and support to refine their initial applications to ensure they comply with the requirements set forth in any rulemaking.

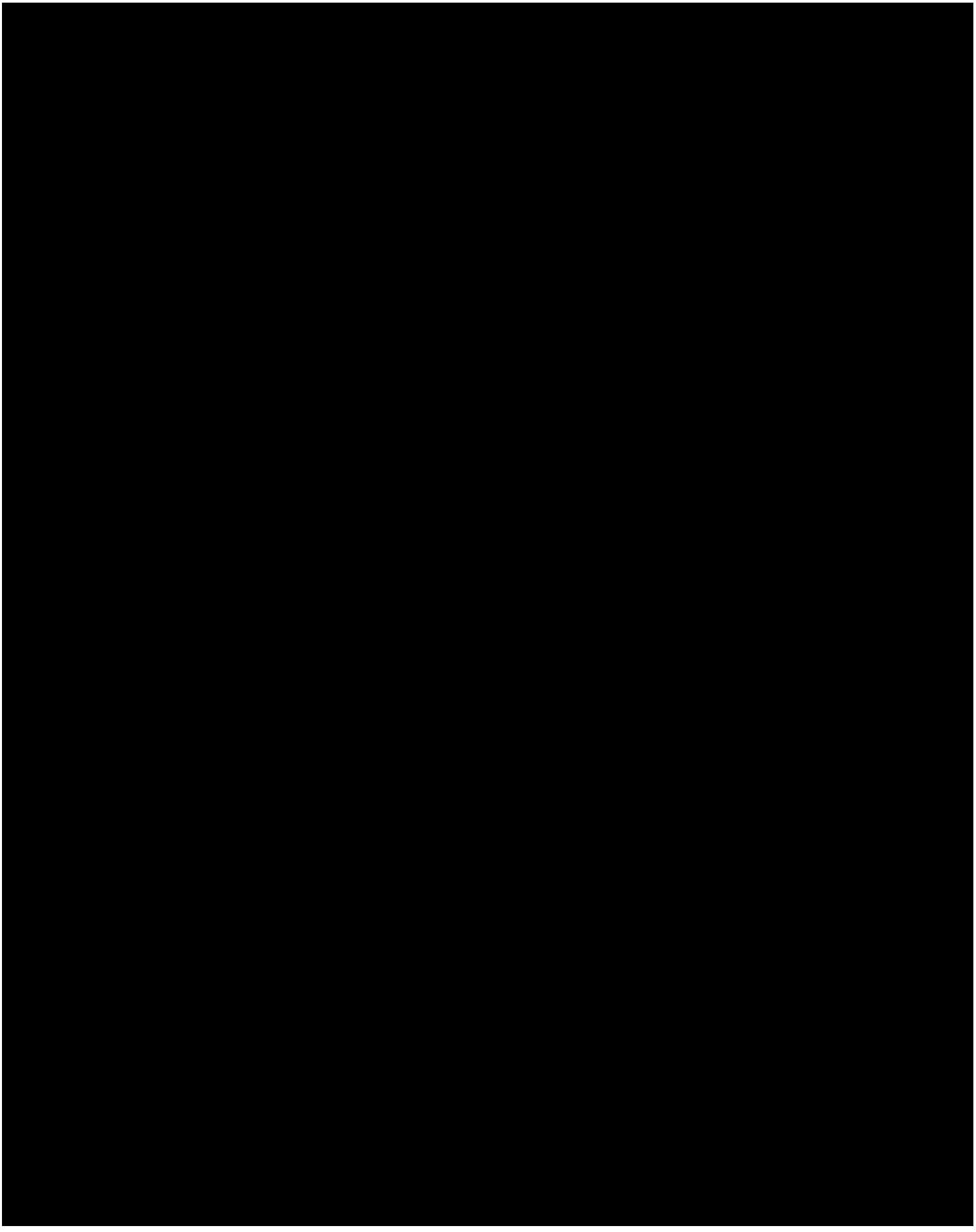
LPO encourages interested parties to begin the application process as soon as possible by calling 202-586-8336 or writing to **lpo@hq.doe.gov** to schedule a no-fee, pre-application consultation.

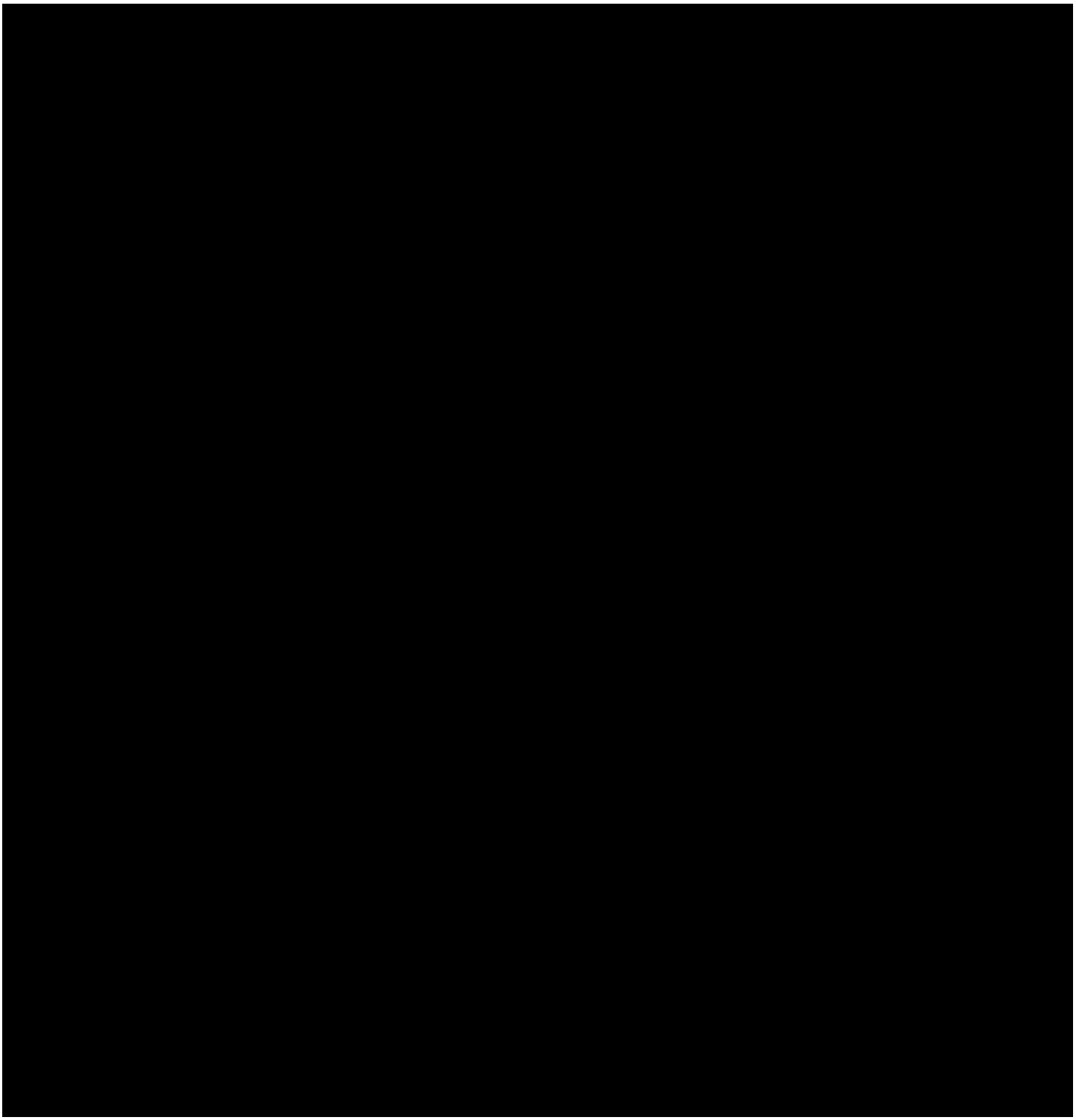
EXHIBIT B2

PosiGen's Proposal re: Expansion of State Energy Financing Institution Programs









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Capital Solutions RFP

A Funding Facility for Connecticut Green Bank

Issuance of Short Term Mini-Bonds

Via the Raise Green Crowd Investing Portal Expansion Request

June 16, 2023

Document Purpose: This document contains background information and due diligence on the expansion of the Green Liberty Notes funding facility for the Connecticut Green Bank via the Raise Green crowd investing portal. 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.

Memo

To: Connecticut Green Bank Board of Directors

From: David Beech, Senior Manager, Clean Energy Finance; Bert Hunter, EVP and CIO

Cc: Bryan Garcia, President and CEO; Brian Farnen, General Counsel and CLO; Mackey Dykes, VP Financing Programs and Officer, Jane Murphy, EVP Finance & Administration

Date: June 16, 2023

Re: Raise Green Capital Solutions RFP – Program Expansion

Program Update

At the July 2021 meeting of the Connecticut Green Bank ("Green Bank") Board of Directors (the "Board"), the Board authorized staff to enter into an agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the Securities and Exchange Commission (the "SEC") as a crowdfunding funding portal, to issue bonds in an amount not to exceed $2,000,000 under the SEC's Regulation Crowdfunding. This was the first project approved by the Board that was submitted via the Open RFP for Capital Solutions. It should be noted that the Green Bank's work with Raise Green and collaborations with Connecticut Innovations and Yale University, has enabled further investment in Raise Green and their becoming the inaugural tenant of Climate Haven in New Haven.[1]

In December of 2021, the Green Bank issued the country's first Green Bond Designated, one-year crowdfunded offering, named "Green Liberty Notes." In the year and half since, the Green Bank has issued 5 additional Green Liberty Note offerings. After the first two issuances successfully surpassed Green Bank's goal of $100,000, each successive raise has sold out, having received more than $250,000 of investment. Over 6 issuances, more than 350 unique investors have purchased $1,304,735 of Green Liberty Notes to support the Green Bank's fight against climate change. Of those investors, more than 50% live in Connecticut, and more than 50% invested $1,000 or less.

Issuance	Date of Launch	Amount Raised	GLNs Interest Rate	SBEA Tranche Interest Rate
1	December 14th, 2021	$190,400	1%	3.26% (average 12/20/18 – 11/17/21)
2	April 13th, 2022	$114,335	1.5%	2.36% (3/17/22)
3	July 7th, 2022	$250,000	2.5%	4.88% (6/14/22)
4	September 29th, 2022	$250,000	3.5%	4.88% (6/14/22)
5	January 9th, 2023	$250,000	4.75%	6.39% (10/29/22 and 12/22/22)
6	April 17th, 2023	$250,000	4.5%	6.03% (3/20/32)

[1] https://www.climatehaven.tech/

Reinvestment

For the fifth issuance (launched on January 9th of this year), the Green Bank introduced an option for investors in the issuance that was maturing, to automatically reinvest their principal and interest into the current issuance. In total 59 of the original 113 investors took advantage of this first of its kind opportunity. An even larger percentage of investors took advantage of the opportunity during the sixth issuance that closed on May 18th, 2023. To encourage continued investment in the program, the Green Bank offered a small interest rate "boost" to these investors and made sure that their reinvestment would be honored if the raise was oversubscribed.

The first two issuances of Green Liberty Notes (made up of the investors that had the opportunity to reinvest in the fifth and sixth issuances) did not receive the full $250,000 of investment available. This left room in the fifth and sixth issuances for new investors. However, the full $250,000 of investment will be available for reinvestment during the next issuance period. If reinvestment remains popular, that will leave little to no room for new investors, a detriment to the program goals.

Proposed Expansion

To continue building on the success of the program and to ensure new investors have access, staff is requesting approval of an increase in the quarterly raise amount to a maximum of $350,000, and four additional issuances to be closed over the next four issuances, totaling $1,400,000, for an overall issuance limit of $2,705,000.

Issuance Costs

[redacted]

Coverage Ratio

Staff has performed an analysis of expected SBEA revenues and the expanded investment size. Even if no additional SBEA loan tranches are purchased in FY 24. The expected loan repayments are enough to comfortably maintain the minimum 2.0x Debt Service Coverage Ratio for four fully subscribed $350,000 issuances.

Post Close Operations

Investor Relations and Communications – Green Bank staff will continue to manage communications with investors including messaging out impact, keeping them aware of Green Bank news, responding to requests, and answering questions.

Capitalization Table Management – The Green Bank will continue to maintain the list of investors and track transfers internally. There have been no investment transfers to date.

Taxes and Payments – The Green Bank has now repaid the investors of the first two Green Liberty Note issuances. Despite the success of those repayments, staff is actively pursuing other solutions to improve the repayment process for the Green Bank and investors. Starting in calendar year 2024, staff will need to issue 1099INT tax forms for investors that received interest payments in 2023. We are currently looking at several external providers to handle this on our behalf from a risk perspective.

Conclusion

The Green Liberty Note program has provided a unique opportunity for the Green Bank to achieve our goals of equity and market transformation. After four consecutive oversubscribed issuances, with most investments coming in increments of $1,000 or less, it is clear there is strong demand from retail investors for climate-related investments. This series of issuances would build off of that success and give more investors the opportunity to get involved. Approval is recommended.

Resolutions

Whereas, at the July 2021 meeting of the Connecticut Green Bank ("Green Bank") Board of Directors ("Board"), the Board authorized staff to enter into an agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the Securities and Exchange Commission (the "SEC") as a crowdfunding funding portal, to issue bonds in an amount not to exceed $2,000,000 under the SEC's Regulation Crowdfunding.

Whereas, subsequently, the Green Bank launched and closed 6 Crowdfunding issuances named "Green Liberty Notes".

Whereas, staff has cultivated investor demand and managed investor relations, principal and interest repayment and reinvestment, capitalization table management, accounting, and all other operational and legal requirements of the program.

Whereas, staff wishes to build on the successes of the program, which include four consecutive oversubscribed issuances, and ensure that new investors have the opportunity to invest in the Green Bank's efforts to fight climate change in Connecticut.

NOW, therefore be it:

BE IT RESOLVED, that the Green Bank is authorized to modify its existing agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the SEC as a crowdfunding funding portal, to issue bonds in an amount not to exceed $2,705,000, in quarterly issuances not to exceed $250,000 for the first six issuances and $350,000 for the subsequent four issuances (the "Bonds") under the SEC's Regulation Crowdfunding regulations. The Bonds shall be issued by a subsidiary of CEFIA Holdings and shall be issued by and for the sole purposes of the subsidiary, and shall not be issued by or on behalf of the Green Bank. The proceeds of the Bonds shall be used by the subsidiary to acquire certain loans under the Small Business Energy Advantage program (the "Loans"), and to pay the costs of issuance on the Bonds; and

RESOLVED, that the payment of debt service on the Bonds shall be made solely from the revenues from the Loans and other revenues available to the subsidiary. CEFIA Holdings and/the Green Bank are authorized to assign and transfer all or any portion of their rights in the Loans to the subsidiary as security for the payment of the Bonds and the interest thereon. The Green Bank shall not guarantee or pledge any other revenues for the payment of debt service on the Bonds; and

RESOLVED, that in connection with the Bonds, the President and any Officer of Green Bank (each, an "Authorized Representative") be, and each of them acting individually hereby is, authorized and directed in the name and on behalf of the Green Bank, to prepare and deliver, or cause to be prepared and delivered, the Issuer Agreement with Raise Green and any other documents required under the SEC's Regulation Crowdfunding, including a Form C, a Subscription Agreement, a Note and any other documents or instruments necessary to complete the Bond issuance, in such form and with such

changes, insertions and omissions as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds (collectively, the "Financing Documents") and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Resolution; and

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

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Historic Cargill Falls Mill
A C-PACE Project in Putnam, CT

Green Bank C-PACE Loan Payment Deferral Request

June 16, 2023

Document Purpose: This document contains background information and due diligence on a proposed modification of a credit facility for the hydroelectric ("hydro") repowering and gut rehabilitation financing for energy efficiency measures using C-PACE for this project located in Putnam, 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.

Memo

To: Connecticut Green Bank Board of Directors

From: Bert Hunter, EVP and CIO and Mariana Trief, Associate Director, Investments

Cc: Bryan Garcia, President and CEO; Brian Farnen, General Counsel and CLO; Mackey Dykes, VP Financing Programs; Alex Kovtunenko, Associate General Counsel

Date: June 16, 2023

Re: Historic Cargill Falls Mill Redevelopment Project: Update & Request for Loan Payment Deferral

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General Update & Proposed Investment Summary
Staff of the Connecticut Green Bank ("Green Bank") returns to the Green Bank's Board of Directors (the "Board") to report on progress for the C-PACE project at 58 Pomfret Street, Putnam, CT (the "Historic Cargill Falls Mill", "HCFM" or "Project") and to recommend a deferral of the upcoming loan payment of the outstanding C-PACE financing, due to delays in finalizing the hydro installation and issues with lead as further explained in this memo.

Building Update
On December 14, 2022, the property was made aware of a lead concern in one of the apartments at Cargill Falls. The Northeast District Department of Health ("NDDH") confirmed that an apartment had been tested, excessive levels of lead were found, and would require abatement. In addition, NDDH required the inspection, testing and abatement of 8 additional units with children under the age of six (6). All of the apartments were abated, in accordance with abatement plans approved by NDDH. Complaints about mold were received by the management for 15 units and these were addressed by performing a third-party inspection to visually examine and test. If mold was found, the units were abated/remediated. Gutters and masonry work were also repaired to avoid leaks, which were leading to mold. There were complaints about fleas in 2 units, which were addressed through pest control. Residents were relocated to hotels or apartments during abatement and reasonable expenses associated with relocation were covered by the property. All the costs to inspect, test, remediate or abate, and relocate residents of the 19 units (5 units requiring both lead and mold abatement, 4 units requiring only lead abatement and 10 units requiring only mold abatement) were covered using cash available from the property, including reserves.

During this time, 15 units have either participated in a lawsuit or housing action suit and 13 units are paying rent to escrow. The total estimated funds in escrow is ~$69,000. There are also 16 vacant units, four of the vacant units have been abated and remediated. At this time residents will be moving in to three vacant and remediated units (the additional remediated vacant unit is the "hotel" unit used to relocate people if abatement work is required), but the other units are not being leased up until there is further clarity about testing and abatement going forward. Disclosure forms communicating the status and presence of lead in the building have been provided to current and new tenants.

All the items discussed herein have affected the cash position of the property and its ability to make debt payments to both Green Bank and Haynes Construction Company ("Haynes"), the only two lenders to the Project who currently have required debt service payment obligations..

Hydro Project Update
The Project consists of two turbines. The larger 600 kW turbine ("Turbine 1") was placed in service in May 2017 but was then taken offline during the construction work associated with the redevelopment. Construction work associated with the bifurcation to enable the smaller 300 kW unit ("Turbine 2") to come online was anticipated as part of the mill redevelopment and was finalized at the end of December of 2022. In January 2023, as the Project started watering up the tunnel to begin testing of the two turbines, the following issues and challenges were identified which resulted in delays:

Turbine 1: The wicket gates for the 600 kW unit were not functional and required cleaning of the bearings. In addition, the high-pressure unit had been damaged and required testing to determine issues that were later fixed. New issues with control design function to open and close gates were uncovered. This was fixed and now the gates can run automatically while maintaining the water elevation, as required by FERC. This unit has been continuously running since May 26, 2023 with some days of downtime given the limited amount of rain/flow in May. We are expecting to see the impact to the building in the way of energy savings and ZREC payment for energy that has been generated in upcoming utility bills and the ZREC payment for Q2 of 2023.

Turbine 2: The Programmable logic controller (PLC) control relay was found to be defective; it had corroded (from being wet during construction). Also, a portion of the temperature indicator controls had not been installed. Both had to be purchased and installed. One of the controls is still showing issues and until that is resolved in the coming weeks, engineer does not feel comfortable running the turbine. Once these are resolved, we can continue operation until Turbine 2 is running continuously.

Given the nature of the Project and the refurbished equipment, as well as the amount of time equipment was in storage during the construction delays, there have been issues which required trial and error to fix. In addition, as the team runs into these issues, they need to get experts on site, which can take up to 5-7 days to coordinate. However, the team is optimistic about most hurdles having been cleared and Turbine 1 is operating well. That said, it is still early to quantify the impact to the utility bills and payment for the ZREC will not be received until mid-August.

Recommended Deferral to C-PACE Payment
On January 20, 2023 the Board approved a deferral on the loan payment to the Green Bank associated with the First Benefit Assessment Lien (as defined in the Financing Agreement) until there was more clarity about the environmental abatement and hydro. Since the January 2023 Board meeting, the Project has complied with all the abatement requirements mandated by NDDH (including covering testing, abatement and relocation) and has done so with funds available from cash flow and reserves. Other items that have affected the cash flow position are the delays associated with hydro, vacancies and rent being paid into escrow. As a result, Staff request a further deferral of both the First and Second Benefit Assessment Lien payments due in June 2023[1] until December 31, 2023. Prior to the expiration of this requested deferral, staff will come back to the Board with further updates. The same loan deferral accommodation has already been granted by Haynes, the other lender to the Project (letter provided in Exhibit A) to allow for the property to recover and stabilize. The Project is also working with the Department of Housing who

[1] The amount of payment due in June 2023 is $295,144.51 with the breakdown as follows: Second Benefit Assessment Lien Interest Only amount of $31,550.26; First Benefit Assessment Lien Principal amount of $49,898.28 and Interest amount of $213,695.97.

is fully informed and working with all parties involved with the end goal of re-stabilizing the property.

Resolutions

WHEREAS, pursuant to Conn. Gen. Stat. 16a-40g, the Connecticut Green Bank ("Green Bank") has established a commercial sustainable energy program for Connecticut, known as Commercial Property Assessed Clean Energy ("C-PACE");

WHEREAS, the Board of Directors ("Board") of the Green Bank previously approved a construction and term financing, secured by a C-PACE benefit assessment lien, not-to-exceed amount of $8,100,000 (the "Current Lien") to Historic Cargill Falls Mill, LLC ("HCFM"), the property owner of 52 and 58 Pomfret Street, Putnam, Connecticut, to finance the construction of specified clean energy measures (the "Project") in line with the State's Comprehensive Energy Strategy and the Green Bank's Strategic Plan;

WHEREAS, the Project includes numerous energy conservation measures that align with the goals and priorities of the Green Bank's multifamily housing program;

WHEREAS, Green Bank staff now seeks approval to defer C-PACE loan payments from HCFM ("Loan Deferral") until December 31, 2023 as explained in the memorandum in respect of this matter submitted to the Board on June 16, 2023 (the "Board Memo").

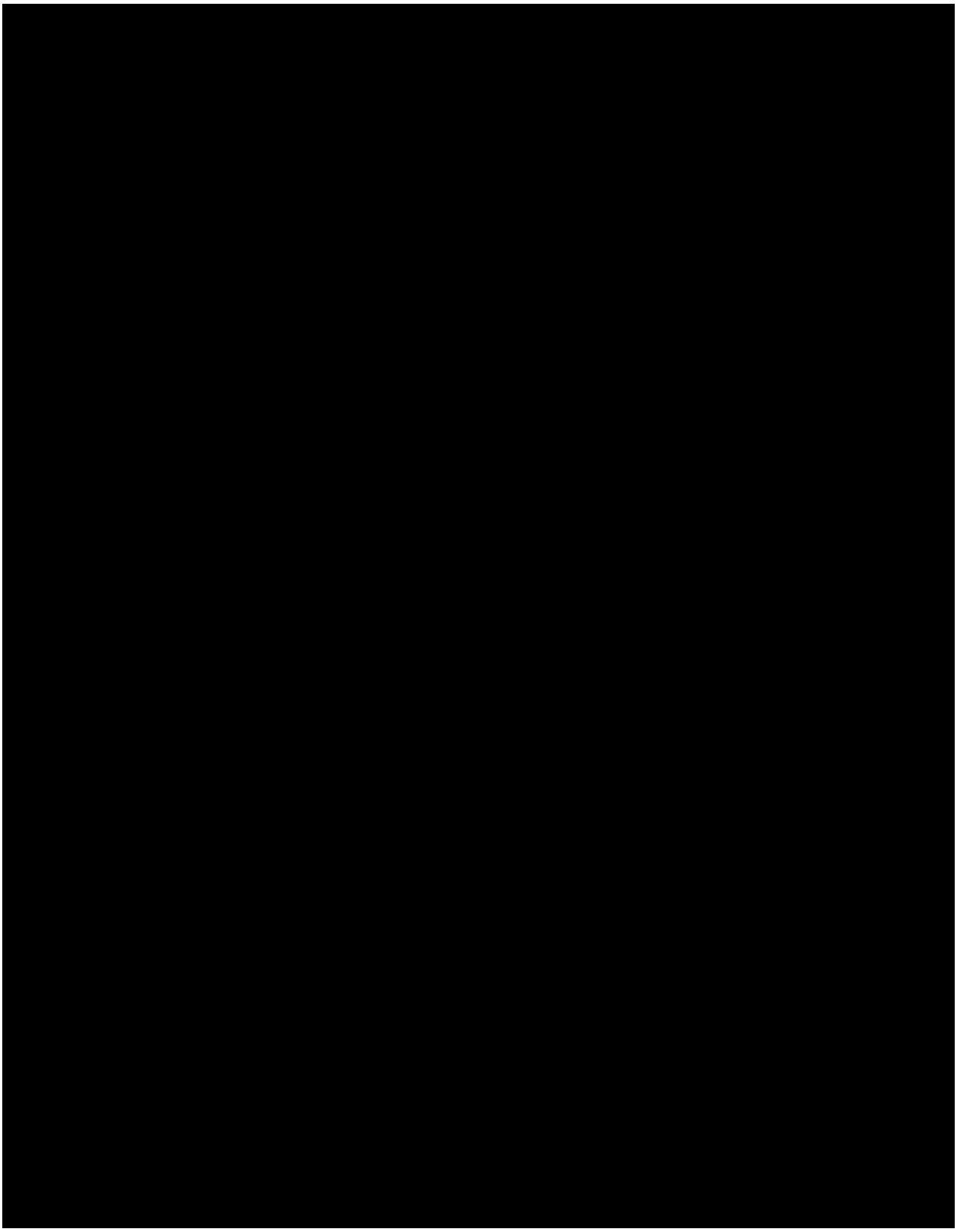
NOW, therefore be it:

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 Deferral consistent with the Board Memo; 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 legal instrument.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Mariana Trief, Associate Director, Investments; Mackey Dykes, VP Financing Programs

Exhibit A – Haynes Loan Deferral



CONNECTICUT GREEN BANK
COMMUNITY SOLUTIONS

environmental infrastructure primer

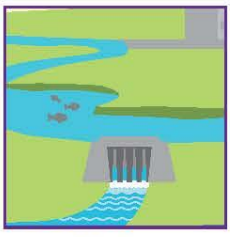
environmental markets guide


Environmental Markets


Land Conservation


Parks and Recreation


Agriculture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Guide

Prepared with Support From

Contents

ENVIRONMENTAL MARKETS

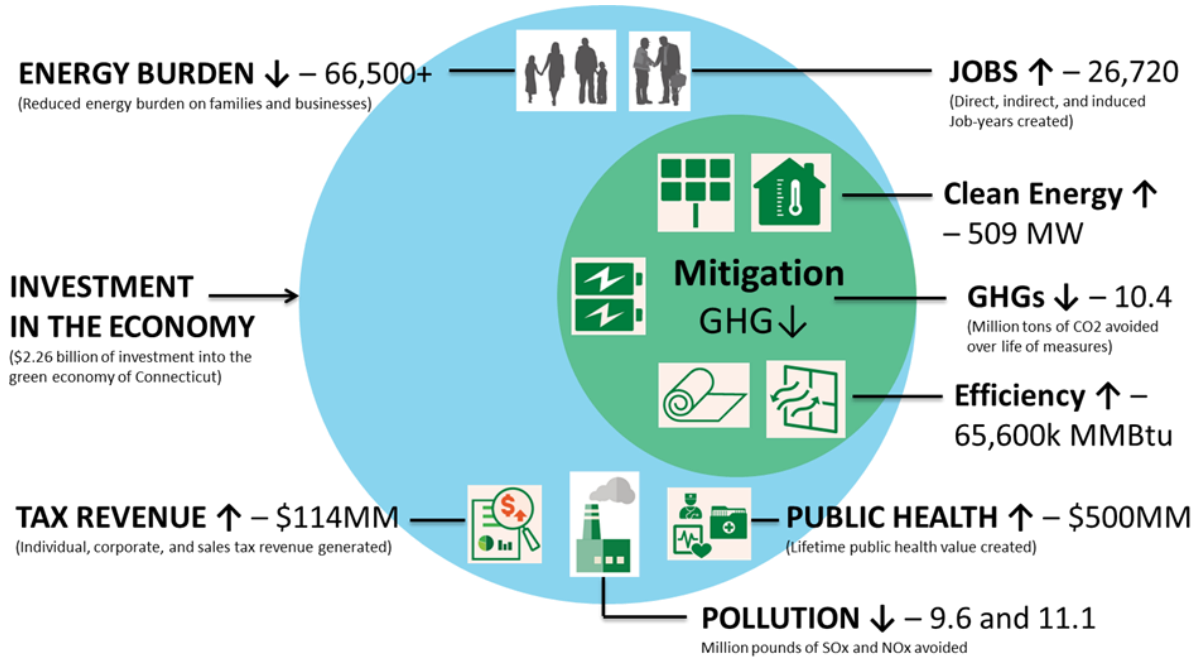
RESEARCH ON ENVIRONMENTAL INFRASTRUCTURE

1. Overview

On July 6, 2021, Governor Ned Lamont signed Public Act 21-115 "An Act Concerning Climate Change Adaptation" ("the Act") into law. The bipartisan-supported public policy was among the sixty-one (61) recommendations made by the Governor's Council on Climate Change ("GC3"), including a recommendation to expand the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure" (i.e., Recommendation #57).

Since its founding over a decade ago, the Green Bank has focused its efforts on using a limited amount of public resources to mobilize multiples of private investment in Connecticut to increase and accelerate the deployment of "clean energy" to deliver social and environmental impact – see Figure 1.

Figure 1. Impact of the Green Bank with focus on "Clean Energy" Deployment and Mitigation of GHG Emissions (FY12-FY22)



Given its mission, the Green Bank helps the State of Connecticut achieve its ambitious public policy objectives (e.g., GHG emission reductions targets, renewable portfolio standards). In so

doing, by 2025, no less than 40 percent of investment and benefits from its programs are to be directed to vulnerable communities.[1]

The Act, expands the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure," and includes the following key provisions:

- **Definition** – "environmental infrastructure" means structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services;

- **Comprehensive Plan** – requirement for the Green Bank to develop a Comprehensive Plan[2] prior to implementing any programs or initiatives related to "environmental infrastructure";

- **Reporting** – inclusion of the Banks Committee and the Environment Committee, alongside the Energy and Technology Committee and Commerce Committee in terms of reporting; and

- **Bonding** – the ability to issue 25-year bonds for "clean energy" and 50-year bonds for "environmental infrastructure" (i.e., no more than the useful life of the projects), supported by the Special Capital Reserve Fund ("SCRF"), for up to 25 years to improve the rating of the bonds issued.

This document focuses on the cross-cutting nature of "environmental markets" within the "environmental infrastructure" definition, with a focus on "carbon offsets and ecosystem services". It is intended to provide readers with a common language, and appropriate expectations for the of the markets for carbon offsets and ecosystem services[3].

[1] "Vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by DEEP in consultation with community representatives.

[2] https://www.ctgreenbank.com/wp-content/uploads/2022/08/Comprehensive-Plan_FY-2023_FINAL_080122-1.pdf

[3] Ecosystem services are the "benefits people obtain from ecosystems". https://www.fs.fed.us/ecosystemservices/About_ES/

2. Introducing Carbon Offsets and Ecosystem Services

Background

Markets for carbon offsets and ecosystem services were designed to embed the positive benefits and negative impacts (called externalities) of individuals on natural resources into market-based systems which financially incentivize environmental stewardship, conservation, and rehabilitation of natural ecosystems.

Projects can generate a variety of benefits, which may or may not be monetizable through existing markets. For example, some projects, such as urban green stormwater infrastructure, may result in both water quantity and water quality benefits. Water quality tends to focus on regulatory municipal stormwater to address Clean Water Act requirements and is fundable under the Clean Water State Revolving Fund (CWSRF). Water quantity, however, is most directly related to flooding during high rain events. Water quantity efforts are often, though not always voluntary and not a priority of CWSRF funding.

The past few years have seen monumental shifts in commodity supply chains and the global economy. One of the more encouraging shifts has been the mainstreaming of ecosystem services markets related to carbon and water. These markets are quickly becoming recognized as ubiquitous and necessary tools for facilitating a transition to a green economy.

State Action to Advance Environmental Markets[4]

In April 2022, Governor Hogan of Maryland signed into law SB0348/HB0653: The Conservation Finance Act of 2022. This is the first state law in the country that will codify the importance of leveraging private finance to advance environmental restoration efforts. A significant step is the adoption of "Pay for Success" contracts as an acceptable form of state contract under state procurement law. Pay for Success contracts can shift project risk by ensuring that contractors are only being paid when projects deliver the outcomes established in a contract. This law is a novel example of how states can modernize procurement procedures to catalyze environmental markets by allowing the state to directly purchase environmental outcomes such as water quality and carbon sequestration. This law impacts a wide range of sectors, with some highlights including:

Agriculture: Allows the Department of Agriculture to negotiate partnerships with experienced organizations who can assist private landowners with voluntary participation in carbon offset markets.

Water: Allows Maryland to purchase environmental outcomes from long-term or permanent green or blue infrastructure projects in the Susquehanna River watershed that provide water quality benefits to Maryland

Forestry: Allows the state to pay for the afforestation of state lands

[4] 2022 Regular Session - Senate Bill 348 Chapter (maryland.gov)

Structuring Markets

Successful carbon and ecosystem service markets share some common design elements which influence and create the underlying market conditions required to align financial incentives with positive environmental outcomes. If any one of these design elements is absent, flawed, or not accurately accounted for, market failures (increased polluted air, water, and habitat) are likely to occur. These critical design elements include[5]:

- **Non-Localized Environmental Impacts** – the environmental impacts being addressed by the market need to be looked at from a regional, national, or global perspective, account for the scale of their impacts even if the activities or projects implemented are conducted at the local scale. For example, greenhouse gas (GHG) emissions for a power plant in California increase the GHG emissions across the globe. Polluted water discharged in public waterways impacts the water quality of everyone downstream.

- **Reliable and Accurate Data** – data and the ability to accurately measure and monitor environmental impacts is paramount to effectively implementing a market-based system. Data should be verified by an independent third-party service to validate the integrity of the service and remove conflicts of interest. Without good data practices, there is no way to accurately determine supply and demand or enforce the rules of the market.

- **Target** – a target can be in the form of a cap (i.e., the upper limit of emissions or load in the water context) allowed in a regulatory system, or a reduction goal (i.e., a voluntary pledge to reduce a particular quantity of emissions or water use by a set date) in a voluntary system. Targets are usually set by policy and regulation, rather than economics, and they often become more ambitious over time. Ideally, a target is binding and carries penalties that incentivize compliance.

- **Clearly Defined Market Participants** – to establish market liquidity it is important to have a sufficiently large scope of coverage of the market, comprised of many entities with differing costs of compliance and reduction. This encourages investment in reduction strategies by some and trading to meet targets by others. To reduce transaction costs between parties, it is critical to have a standardized set of terms, definitions, operating rules, boundaries for activities, scientifically grounded methodologies, and units of.

- **Cost Containment** – since the typical laws of supply and demand do not always underpin price, it is often a good idea for proponents of ecosystem service markets to enable cost containment and risk reduction by supporting a floor price or other price volatility controls. These measures protect market participants and encourage investment in reductions strategies and projects that create a supply of credits for others in the system to buy or trade.

[5] https://www.theoutcomesfund.com/in-the-news/swof-original-introduction-to-ecosystem-services-markets-why-do-ecosystem-services-markets-exist-part-1-of-3

- **Enforcement** – effective enforcement is one of the most critical aspects of a successful ecosystem services market. While this can be a daunting task, without it, the market often lacks incentives to operate efficiently and effectively. For this reason, most regulated (i.e., legally enforceable compliance) markets carry a premium price compared to voluntary markets.

Improving Public Health Outcomes through Carbon Offsets and Ecosystem Services

Projects that deliver carbon offsets and/or ecosystem services are based on the foundation that there are positive human health outcomes (both quantitative and qualitative) from a healthy environment. Some examples of these impacts include:

- **Clean Air**: The connection between clean air and public health is well-established, as evidenced by the passage of the Clean Air Act of 1970. The EPA has concluded that in 2020, the Clean Air Act Amendments would prevent over 230,000 early deaths by reducing ambient particulate matter.[6] Low-income communities are more likely to be surrounded by polluted air and suffer from commensurately higher rates of asthma and other illnesses.

- **Clean Water:** Excess nutrients from fertilizer, wastewater, and stormwater runoff can cause harmful algal blooms. The EPA found that these algal blooms can cause a variety of adverse health effects (in humans and animals) through direct contact with skin during recreation, consumption through drinking water, or consumption of contaminated shellfish, which can result in neurotoxic shellfish poisoning and other effects.[7] The EPA estimated that the health impacts on Florida's coast from high bloom levels was nearly $140,000.

- **Urban Tree Canopy:** One study showed that the relationship between the urban tree canopy, temperature, and health is estimated to reduce heat mortality and valued tree canopy heat reduction services between $5.3 billion and $12.1 billion annually across the entire country, estimating that the urban tree canopy helped avoid 19 percent to 27 percent of heat-related deaths annually.[8] Heat-related illnesses (HRIs) disproportionately affect low-income communities, with estimates showing that those suffering from HRIs are 3x more likely to be hospitalized if they are from the bottom income quartile compared to the top income quartile.

- **Public Parks:** Parks are appealing venues for physical activity that can help combat the sedentary lifestyle that produces some chronic diseases, including diabetes, heart disease, cancer, hypertension, arthritis, stroke, depression, and sleep disorders - which account for more than 20% of total US health care costs.[9] In addition to physical activity benefits,

[6] https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act-1990-2020-second-prospective-study
[7] https://www.epa.gov/sites/default/files/2015-04/documents/nutrient-economics-report-2015.pdf
[8] https://www.tpl.org/sites/default/files/030822_Economic%20Benefits%20NYC_FinalE.pdf
[9] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3993093/

well-maintained parks may promote mental health, social cohesion, and general well-being.

Health outcomes are generally much more difficult to quantify and commoditize in a market structure. Because of this, key stakeholders in the health industry, such as insurers, are more likely to simply provide grant funding for green spaces and green infrastructure rather than trying to finance projects and tying the financing terms to specific outcomes. For example, the case study below demonstrates how health care funding can support green infrastructure – even if insurers are not participating in an ecosystem services market.

Health Insurers Investing in Nature Based Solutions[10]

In 2021, Blue Cross Blue Shield ("BCBS") of Massachusetts announced that it would provide $10.6M in funding over five years to address inequalities in environmental, food, and racial justice. BCBS acknowledged in their annual report that "that our health is directly linked to our environment". In particular, they acknowledged that many communities suffer from health disparities due to proximity to highly polluted areas. To address this, they undertook several actions:

- BCBS partnered with GreenRoots, a resident-led, grassroots, community-based organization in Chelsea and East Boston, to help fund their work to advance food justice through urban agriculture, address indoor air quality while sharing data on outdoor air quality in easily accessible, multilingual formats, and implement climate justice through the creation of new green spaces.
- In Boston, BCBS partnered with the Department of Parks and Recreation to offer free, in-person classes in local parks across the city and virtual workouts for every age and fitness ability
- BCBS provided funding support to Eastie Farm, which is dedicated to pursuing climate justice, improving food access, and fostering community resilience through the development of interactive urban agricultural spaces and environmental education programs.

3. Carbon Markets

Carbon markets are among the most long-established environmental markets and typically include projects that provide carbon sequestration or emissions reduction. Projects participating in these markets can be designed to explicitly provide carbon sequestration, or the carbon sequestration benefits can be an externality (or ecosystem service) of a project designed for other purposes. Carbon sequestration benefits can be quantified and sold in an environmental market as *"carbon offsets"*. A carbon "offset" or "credit" is the verified avoidance or capture of one metric ton of carbon dioxide (usually denoted as mtCO2) from the atmosphere.

Market Structure

Carbon offsets operate in both compliance and voluntary markets.

[10] https://www.bluecrossma.org/sites/g/files/csphws1866/files/acquiadam-assets/2021-Corporate-Citizenship-Report.pdf

Compliance markets are regulated by regional, national, or international carbon reduction regimes. In these markets, the price per credit can fluctuate[11] but will apply to all buyers & sellers and price changes can be tracked in real time.

Conversely, the *voluntary market* allows for entities conducting activities that result in a reduction of carbon in the atmosphere to quantify and sell those benefits to businesses, governments, nonprofit organizations, universities, municipalities, and/or individuals looking to purchase carbon offsets to meet their own emissions reduction objectives. In those transactions, the price per credit can be negotiated on a case-by-case basis. Quantifying the market price for the voluntary market requires averaging out available information to create an estimate.

Connecticut Green Bank's Electric Vehicle Carbon Credit Pilot Program

The Green Bank is enabled through CGS Sec. 16-245n (as amended by Public Act 21-115) to engage carbon offset markets using its "environmental infrastructure" authorization,[12] and also through its "clean energy"[13] authorization as applicable.

High-quality and credible carbon offsets are created under administrative bodies that operate developed certification protocols, determining the emissions reduction activity, scope, verifiability, and measurement procedures. At present, the Green Bank has one offsets project, using methodology VM0038[14] and VMD0049[15] published under the Verified Carbon Standard ("VCS") Program[i], administered by the nonprofit Verra. This methodology allows those with the rights to electric vehicle charging infrastructure to earn carbon credits based on vehicle charging activity. This project is a third-party aggregation, with the Green Bank as the sole project proponent, and all partners assigning to the Green Bank the rights and title to the environmental attributes of electric vehicle ("EV") charging transactions, so that the associated data sets may be converted into carbon offsets to make verifiable, permanent and liquid (tradable) claims of emissions avoidance.

Market Sizing

Compliance Markets

Globally, the financial data firm Refinitiv estimated that the value of the compliance offset market hit €760 billion in 2021[16]. In most cases, compliance programs exist as regional or national cap-and-trade emission trading schemes, such as the Regional Greenhouse Gas Initiative, the

[11] Live Carbon Prices Today, Carbon Price Charts • Carbon Credits

[12] Per Public Act 21-115, "environmental infrastructure" means "…and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services." "Carbon offsets, means any activity that compensates for the emission or carbon dioxide or other greenhouse gases by providing for an emission reduction elsewhere."

[13] Per CGS 16-245n, "clean energy" includes "…projects that seek to deploy electric, electric hybrid, natural gas or alternative fuel vehicles and associated infrastructure…"

[14] https://verra.org/methodologies/vm0038-methodology-for-electric-vehicle-charging-systems-v1-0/

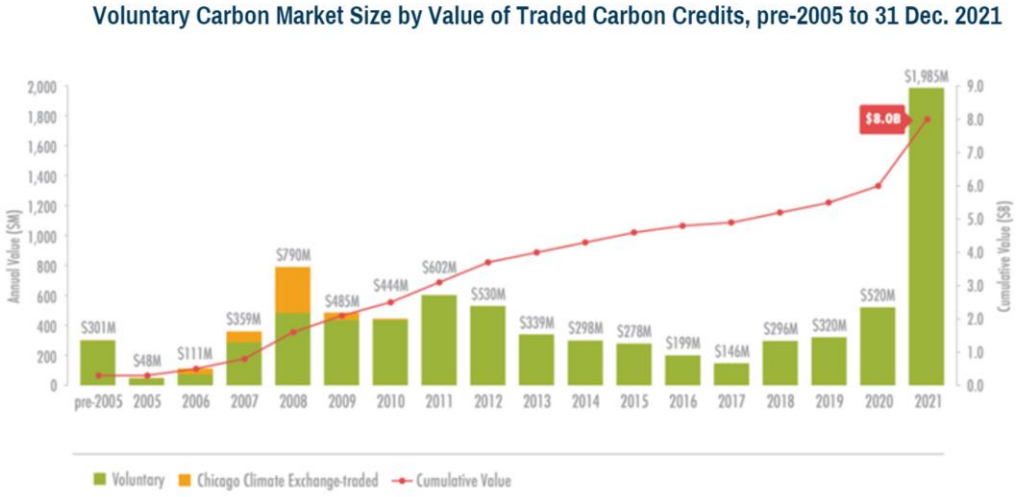
[15] https://verra.org/methodologies/vmd0049-activity-method-for-determining-additionality-of-electric-vehicle-charging-systems-v1-0/

[16] carbon-market-year-in-review-2022.pdf (refinitiv.com)

California Air Resources Board Offset Credit program[17], or the European Union Emissions Trading Scheme (ETS) [18]. The ETS is the largest compliance market in the world by a significant margin, garnering an estimated €23 billion of annual revenue in 2021. Domestically, California's cap-and-trade program generates $1.7B in annual revenue while RGGI generates ~$0.5 billion in annual revenue.

Voluntary Markets

In 2019, corporate carbon-neutral pledges fueled a record transaction volume in the voluntary offset market of at least 104 MtCO2e, with a value of $282.3M[19]. Between 2019 and 2020, the number of companies with net-zero pledges doubled, from 500 to more than 1,000.[20] This explosive growth continued in 2021, with the total market value for voluntary carbon markets increasing to nearly $2B – a nearly four-fold increase from 2020 transactions ($520 million)[21].



Market Registries

Carbon offset registries track offset projects and issue credits for each unit of emission reduction or removal verified and certified. All credits need to meet criteria for measurability, verifiability, sustainability, and additionality, but different registries have different criteria and definitions of a "carbon unit". After a registry issues offset credits, project developers are able to sell those credits in a marketplace.

Compliance Markets

As mentioned in Section 3.2, the Regional Greenhouse Gas Initiative (RGGI) is a regional carbon market. RGGI is a cooperative effort among eleven Eastern states to reduce carbon dioxide (CO2)

[17] See Appendix for additional detail
[18] See Appendix for additional detail
[19] Forest Trends Ecosystem Marketplace State of the Voluntary Carbon Markets 2020
[20] Value Of Carbon Market Update 2020 - Carbon Credit Capital
[21] Ecosystem Marketplace's State of the Voluntary Carbon Markets 2022 Q3

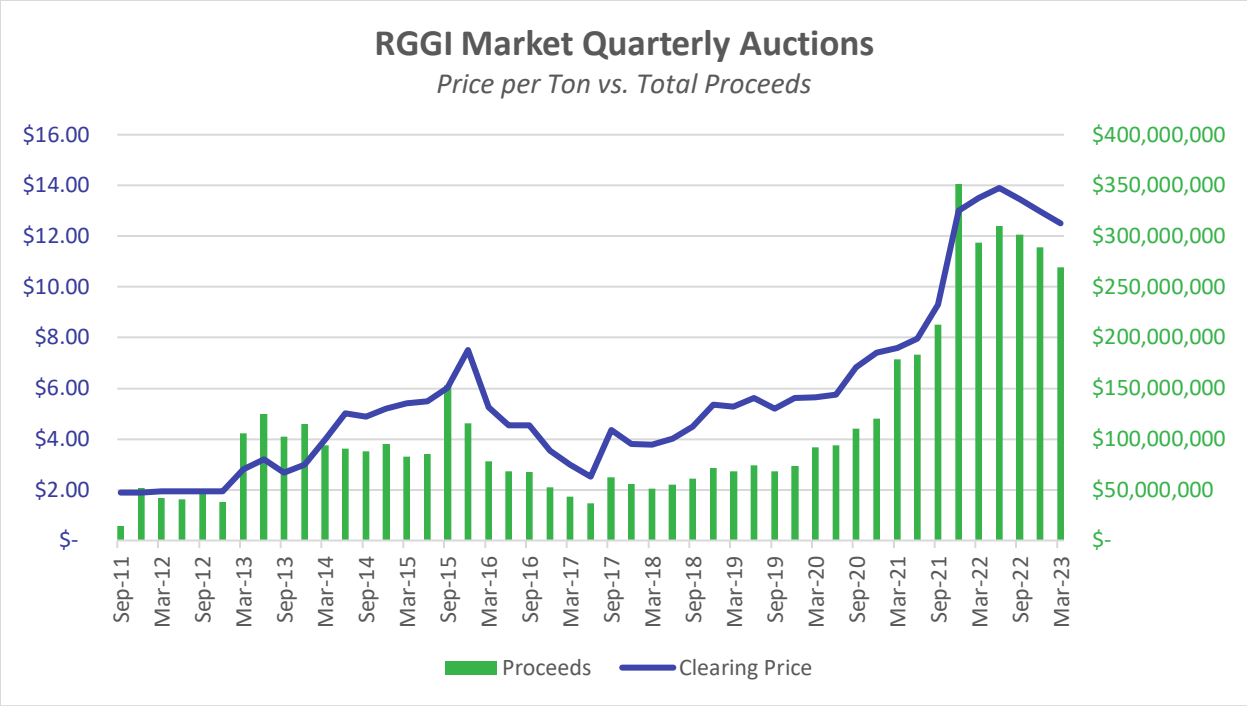
emissions from power plants within each participating state. The participating RGGI states include Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Virginia.[22]

RGGI is a market-based cap-and-invest initiative. Together, the participating states have established a regional cap on CO2 emissions, which sets a limit on the emissions from regulated power plants within the RGGI states. Within the RGGI states, regulated power plants must acquire one RGGI CO2 allowance for every short ton of CO2 they emit. The RGGI states distribute allowances at quarterly auctions, where they can be purchased by power plants and other entities. Over time, the regional cap declines, so that CO2 emissions decrease in a planned and predictable way.

Predictability is key because cap-and-trade markets are designed to give firms efficient incentives to reduce or offset emissions. In the short-term, high-emitting generators operate less frequently in favor of low emitting generators. In the long-term, the market will affect the decisions of firms to develop offset projects, to retire old inefficient generation, to retain existing zero-emissions generation, and to perform maintenance that increases fuel efficiency and lowers carbon-intensity. Predictable CO2 allowance prices decrease the risks associated with making long-term investments in reducing CO2 emissions.

The market for RGGI CO2 allowances consists primarily of purchases in the quarterly auctions that provide public information about the market value of CO2. However, there is also a secondary market that includes trading of allowances and allowance futures and options contracts in the secondary market. Since CO2 allowance prices can be volatile, the availability of futures and options contracts allows firms to protect themselves from the risks of such investments. RGGI prices have fluctuated over time[23]:

[22] RGGI_101_Factsheet.pdf
[23] Auction Results | RGGI, Inc.



Offset allowances are transferable and may be used by regulated power plants to meet up to 3.3% of compliance obligations in RGGI. CO2 offset allowances account for less than 0.01% of the total number of allowances issued by the program since its inception in 2009. Eligible project types include Reforestation, Improved Forest Management, and Avoided Conversion[24]. In Connecticut, afforestation is an eligible activity to generate carbon offset credits that can be traded on the RGGI market.

Voluntary Markets

The voluntary carbon offset registries track offset projects and issue credits for each unit of emission reduction or removal verified and certified. There are four leading voluntary carbon registries:

- **The Verified Carbon Standard** is used by most of the market, approximately 76%, and includes Agriculture Forestry and Land Use, Manufacturing, and Waste Management and Disposal as permitted practice areas, among others.

- **The Gold Standard** is the next most frequently used registry, used by approximately 11% of the market. The Gold Standard is used for renewable energy projects, including Biomass and Solar Power as permitted practice areas.

[24] https://www.rggi.org/allowance-tracking/offsets/offset-categories/forestry-afforestation

- **The Climate Action Reserve** is used by approximately 8% of the market and includes Conservation-Based Forest Management and Improved Forest Management as practice areas, among others.

- **The American Carbon Registry** is the leading offset project registry for California's cap-and-trade program but due to its U.S. focus, it has the smallest international market share of the carbon registries.

The different carbon registries have different practices that qualify for permit distributions, with each activity having a specific methodology needed to comply with the registry's qualifications. Below is a list of permitted practices by carbon registry.

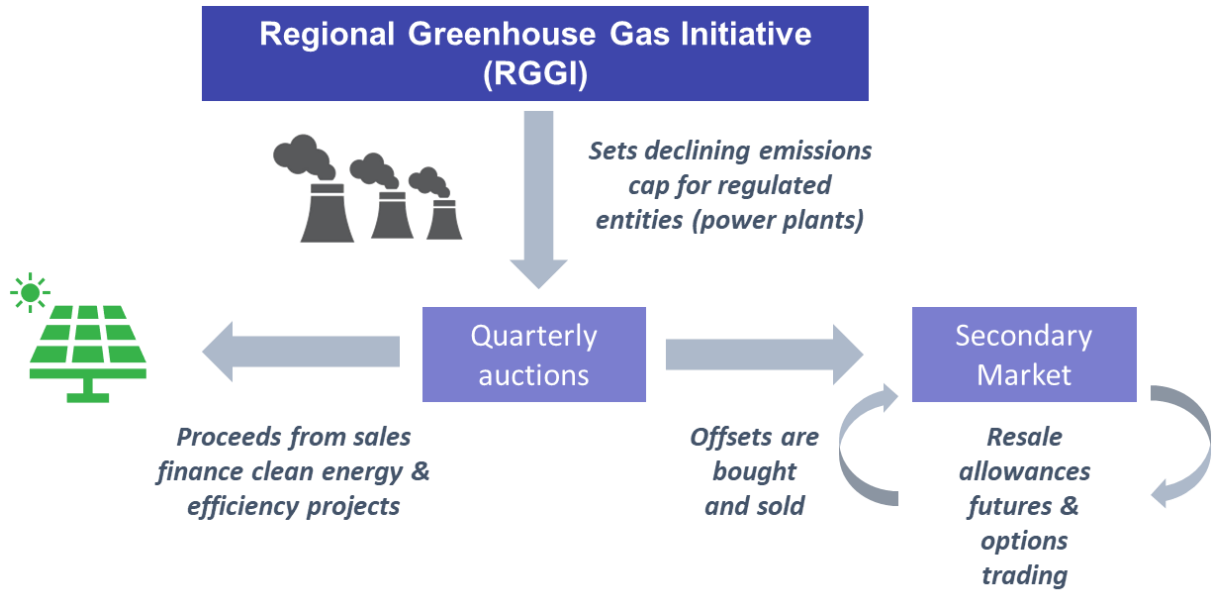
Standard[25]	**Verified Carbon Standard**	**Gold Standard**	**Climate Action Reserve**
Relevant Environmental Markets *Permitted Practices*	**Agriculture / Land Conservation** • Agriculture Forestry and Land Use • Livestock, Enteric Fermentation, and Manure Management **Energy** • Energy Demand • Energy Distribution • Energy Industries (Renewable/Non-Renewable) • Fugitive Emissions from Fuels (Solid, Oil and Gas) **Waste / Recycling** • Waste Handling and Disposal **Other** • Chemical Industry • Manufacturing Industries • Metal Production • Mining/Mineral Production • Transport	**Energy** • Biogas • Biomass or Liquid Biofuel • Energy Efficiency • Geothermal • Hydropower • Solar Power • Wind Power	**Agriculture / Land Conservation** • Avoided Conversion • Conservation-based Forest Management • Improved Forest Management **Energy** • Coal Mine Methane • Landfill Gas Capture/Combustion • Livestock Gas Capture/Combustion • Nitric Acid N20 **Waste / Recycling** • Organic Waste Composting • Ozone Depleting Substances

[25] Voluntary Registry Offsets Database | Berkeley Carbon Trading Project

Marketplace Buyers & Sellers

Compliance Markets

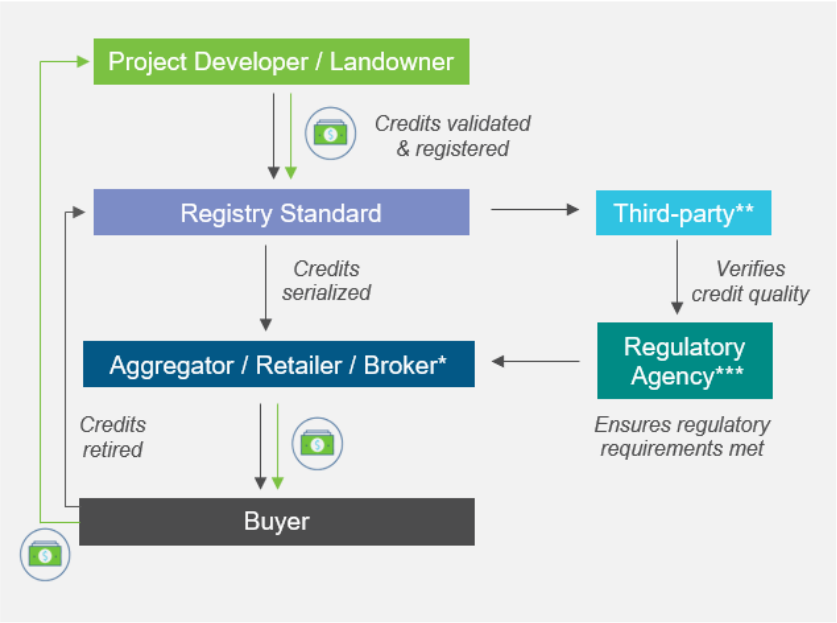
Participants in compliance markets include private companies and governments, depending on the regulatory structure. Compliance market buyers are companies and governments legally mandated to offset their carbon emissions. Sellers are public or private entities conducting activities more than any required level. Participants in compliance markets are motivated by regulations, selling carbon credits when activities have resulted in less carbon emissions than allowed and purchasing carbon credits when activities have resulted in more. In some instances, individuals that do not fall under compliance regulations may choose to purchase credits in compliance markets.



Voluntary Markets

In voluntary markets, corporations, airlines, and governments with emissions-reduction goals are buyers of carbon offsets. Sellers are entities conducting activities to a sufficient measurable level. Participants in voluntary markets are primarily motivated by Corporate Social Responsibility (CSR) goals, public relations, and environmental and social benefits. Once a registry issues offset credits, the project developer can sell them. But with no centralized voluntary marketplace, finding a buyer can be a multi-step, challenging process. Some project developers sell their offsets directly to end buyers. Others sell their offsets through a broker or an exchange, which provide platforms for buyers and sellers to meet; still others may sell to a retailer, who then resells offsets to an end buyer. Retailers take temporary ownership of an offset, while brokers and exchanges do not. Retailers are more likely to walk companies through the process of offsetting and provide more tailored, customized advice. The transaction phase includes any time an offset is sold. Yet once an end buyer is ready to claim that offset against their own emissions, s/he should retire it.

Retired offsets are no longer able to be traded in the market and represent emissions that are permanently "removed" from the atmosphere.



Market Pricing

Prices for voluntary offsets are generally lower than the prices for compliance offsets. One reason for this is that there is a much larger supply of voluntary carbon offsets on the market, which drives the price downward. Pricing for voluntary offsets is also more difficult to track because most voluntary offsets are transacted bilaterally and over the counter, without a

2021 Compliance Offset Market[26]	$ per MtC02e
California Carbon Allowances (CCAs) Futures (12/21)	$22.35
California Carbon Allowances Non-Exchange Cleared (SPOT) (12/21)	$22.35
California Carbon Offsets – Golden CCO	$15.00
Low Carbon Fuel Standard (LCFS)	$182.00
RGGI (12/21)	$8.90

2021 Voluntary Offset Market[1]	$ per MtC02e
Verified Carbon Standard	$4.17
Gold Standard	$3.94
Climate Action Reserve	$2.12
American Carbon Registry	$11.37

[26] Emissions Trading | Carbon Trading | BGC Environmental Brokerage Services (bgcebs.com)

centralized repository for price and volume data.[27] Because compliance program offset credits are generated and traded for regulatory compliance, they typically experience commodity pricing, where all offset credits in a particular program are priced similarly based on the dynamics of supply-and-demand, regardless of project type and other characteristics.

Voluntary offsets, on the other hand, have a wide variation in offset price and volume transacted, which reflects project type, region, co-benefits, standard, as well as buyer preference. Note – co-benefits are any positive impacts other than direct GHG emissions mitigation (such as improved air quality or soil health) resulting from carbon offset projects. Additionally, the heterogeneity of carbon credits means that many credits are being traded in volumes too small to generate reliable daily price signals.

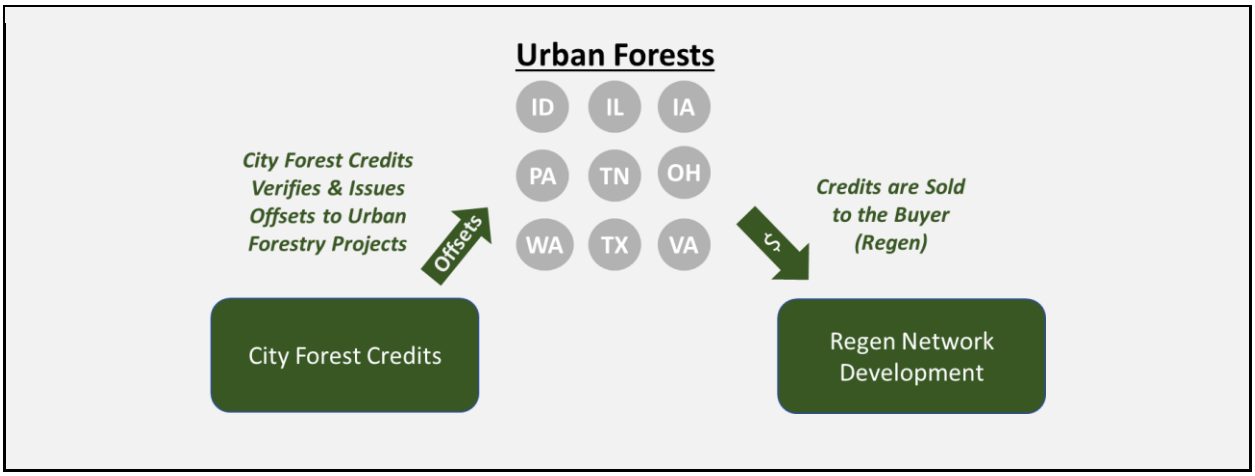
Case Study

Due to the subjective nature of pricing for voluntary carbon credits and the range of quality for voluntary credits, there can be an opportunity for high quality voluntary carbon offset to secure offset prices higher than the market average. For example, in April 2022 the nonprofit City Forest Credits issued offsets to 13 urban forestry projects across the country, and then sold the credits to a blockchain software development company for $31 per credit – 6 times the average voluntary offset credit price.[28] With the offsets amounting to 31,533 credits, the total transaction was $1M.

Carbon Offsets Example: City Forestry Credits

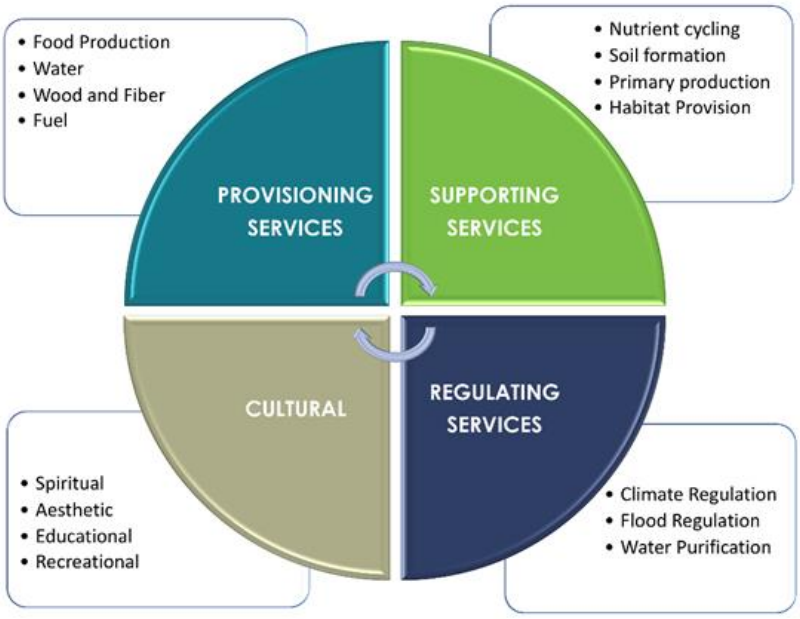
In 2022 City Forest Credits, a nonprofit carbon registry and project certifier, issued offsets to 13 urban forestry projects across the country. The projects then sold the credits to Regen Network Development, a blockchain software development company that says it's developing "a global marketplace for the Earth's ecosystem assets. The forests are located in Idaho, Illinois, Iowa, Ohio, Pennsylvania, Tennessee, Texas, Virginia and Washington, in cities such as Boise, Chattanooga, Cleveland, Pittsburgh and Richmond. For example, in Cleveland City Forests Credits is partnering with the Western Reserve Land Conservancy on a 27-acre site that will generate 4,139 credits[29]. Across all thirteen states, the offsets amount to 31,533 carbon credits, representing 31,533 metric tons of CO2. At a cumulative price of ~$1M, each credit was worth ~$32. The credits are being retired after the purchase, meaning they can't be resold. The planting projects will include workforce-training programs and focus tree-planting efforts in underserved communities. The purchase is expected to propel further interest in carbon credits from urban forests — both from tree-planting organizations looking for new ways to fund their work, and buyers searching for credits that help mitigate skepticism about the true impact of offset programs.

[27] State of the Voluntary Carbon Markets 2020 (forest-trends.org)
[28] Cities net $1M in carbon credit sale (axios.com)
[29] https://www.cityforestcredits.org/carbon-credits/carbon-registry/cleveland-forest-carbon-offsets/


Urban Forests
ID
IL
IA
PA
TN
OH
WA
TX
VA
City Forest Credits Verifies & Issues Offsets to Urban Forestry Projects
Offsets
Credits are Sold to the Buyer (Regen)
City Forest Credits
Regen Network Development

4. Ecosystem Services

Ecosystem services are the "benefits people obtain from ecosystems".[30] While scientists and environmentalists have discussed ecosystem services implicitly for decades, the Millennium Ecosystem Assessment (MEA) in the early 2000s popularized this concept. Below is conceptual diagram of ecosystem services as defined by the Millennium Ecosystem Assessment:



Source

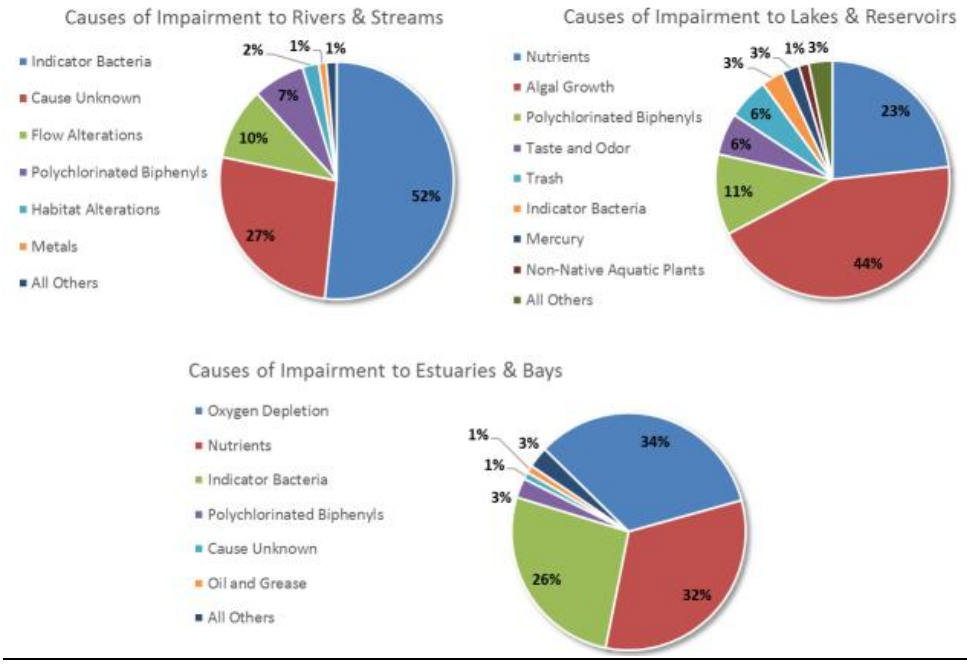
Many of these categories (ex. cultural-spiritual) are not well-suited for commercial markets. However, several of these ecosystem services can be broken down into categories that align with traditional financing mechanisms and innovative new approaches.

4.1. Water Quality

The cause of water quality impairment can vary across watershed, region of the state, or type of water body. The Connecticut State Water Plan lists the types of impairments across the state and the associated cause of the impairment. Lead and Copper are some of the primary drinking water quality concerns, but there are other contaminants (e.g., bacteria, nutrients, and the lack of oxygen) that are possible market opportunities to support efforts that improve the State's drinking water and surface water quality.

[30] https://www.fs.fed.us/ecosystemservices/About_ES/

Causes of Impairment Summary for Connecticut's Assessed Waters (2014)



Market Structure

Water quality markets typically result from the federal Clean Water Act or other legal requirements to reduce pollution. Buyers are usually regulated facilities operating under federal permits that limit their discharges—generally National Pollutant Discharge Elimination System (NPDES) permits. Deals may be made through one-on-one negotiations or via market structures such as clearinghouses and banks. Many programs incorporate credit aggregators or banks to collect credits from nonpoint sources and re-sell them to regulated facilities, and some have held reverse auctions to solicit credits from nonpoint sources.

Reverse auctions are another common structure. A Reverse auction is similar to an RFP in which a buyer requests bids from prospective sellers for specific types of credits and chooses from among the bids based on price, terms, or other factors. While many markets are for individual watersheds, they can also cover entire river basins. Over 50 formal water quality trading programs exist in the United States, including Connecticut's Nitrogen Credit Exchange Program[31] that identifies the maximum amount, or the Total Maximum Daily Load (TMDL), of nitrogen that can be discharged to the Long Island Sound. Water quality trading allows these permitted facilities to meet their discharge requirements by purchasing credits from credit providers instead of making more costly improvements to their own treatment facilities.[32]

[31] Nitrogen Control Program for Long Island Sound (ct.gov)
[32] GuidetoEnvironmentalMarketsforFarmersandRanchers.pdf (landcan.org)

Water quality impacts can come from a range of sources, including:

- **Municipalities** – The EPA's Municipal Separate Storm Sewer Systems (MS4s) program requires each municipality to take steps to keep the stormwater entering its storm sewer systems clean before that stormwater enters water bodies.[33] Additionally, wastewater treatment facilities may have to comply with TMDL requirements related to their discharge to waterways.

- **Agriculture** – Farmers must monitor their use of fertilizers and pesticides and soil runoff, both of which can negatively impact water quality and put a farmer under regulatory scrutiny.

- **Forests** – Demand for water quality credits can be driven by forestry operations, as operators pursue best management practices (BMPs) to reduce soil erosion and prevent or control pollution.

Market Activities

Municipalities:

The EPA's MS4 Stormwater Management Plan identifies measurable goals in each of the following six control measures: Public Education and Outreach; Public Participation and Involvement; Illicit Discharge Detection and Elimination; Construction Site Runoff Control; Post-Construction Runoff Control; and Pollution Prevention/Good Housekeeping. Wastewater treatment facilities that do not meet the state TMDL requirements have mandatory compliance schedule incorporated into their permit. Both MS4 Plan and the wastewater treatment facility permit can be drivers for water investment.

Agriculture:

Eligible credit generating agriculture and farmland BMPs commonly include tillage and nutrient management projects. The BMPs that are eligible for generating credits vary by program, but commonly include practices that reduce erosion, increase water infiltration into the soil, filter run-off, and provide a buffer between farming activities and environmentally sensitive areas. The Natural Resource Conservation Service (NRCS), an agency within the U.S. Department of Agriculture, lists close to 100 practices that reduce nutrients in surface water, such as installing filter strips, using nutrient management strategies, planting riparian buffers, or adopting reduced or no-till agriculture.

Forestry:

In the forestry sector, water quality enhancing BMPs include limiting stream crossing, preventing the construction of additional roads on the property, establishing wide stream buffers, restricting disturbance to stream buffers, and avoiding or limiting fertilizer application when possible. When

[33] Municipal Stormwater (ct.gov)

operating forest management on the property, additional BMPs include using low-ground-pressure equipment, using alternatives to bladed or plowed lines, and minimizing soil disruption during site prep.[34]

Market Buyers & Sellers

Buyers are point source pollution facilities, such as public wastewater treatment plants or private industrial sites. Sellers are nonpoint sources in the same watershed as the point source, such as farmers, ranchers, and foresters. Nonpoint sources do not operate under NPDES permits and can sell credits by undertaking voluntary pollution reduction actions. Farmers, ranchers, and foresters can often implement BMPs that achieve the amount of water quality improvement needed for a watershed at a cost much lower than installing point source infrastructure upgrades.

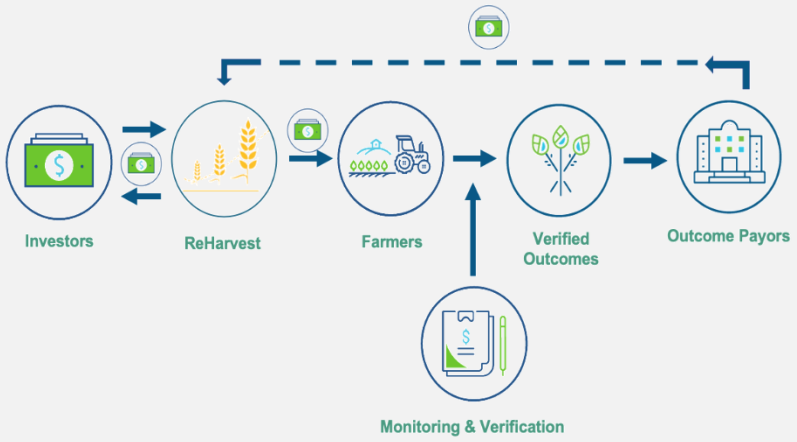
[34] WQ0115.pdf (ncforestservice.gov)

Case Study

Pay-for-Success: Soil & Water Outcomes Fund (SWOF)

The Soil and Water Outcomes Fund (SWOF) is a joint venture of AgOutcomes (a subsidiary of the Iowa Soybean Association) and ReHarvest Partners (a subsidiary of Quantified Ventures) which meets demand for verified environmental outcomes from a range of stakeholders by financing improved environmental outcomes on cropland in Midwestern states and with a recent expansion into New York. Investing entities finance loans put out by ReHarvest Partners. These loans are backed by revenue from sales contracts for environmental outcomes.

The SWOF works with farmers to identify best management practices and then uses its revolving loan funds to pay farmers to make the practice changes. Practices are not prescribed, and payments are tied to verified outcomes in carbon sequestration, nitrogen runoff reductions, or phosphorus sequestration. After verification, the environmental outcomes are sold to beneficiary customers via service contracts or procurement agreements. Customers include municipal governments, water and wastewater utilities, state departments of agriculture, USDA-NRCS and companies with sustainability goals. For private companies, they are specifically focused on scope three "inset" carbon credits, e.g., they sell carbon to the companies that buy from those farmers in order to offset the carbon emissions of those companies. They have designed their credit program so that it can be stackable with other incentive programs, because the prices that companies are paying for carbon credits are not enough to cover practice changes. The fund works with the EPA and state regulators to ensure that water credits can be applied towards Clean Water Act permits or banked for future use. Sales revenue is used to repay investors and scale the program.

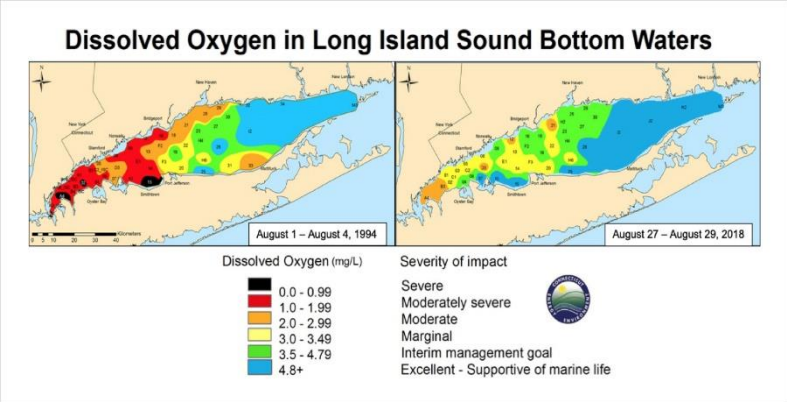


Credit Market Example: Connecticut Nitrogen Credit Exchange Program[35, 36, 37, 38, 39]

In order to combat hypoxia in the Long Island Sound, which resulted from excessive nitrogen discharge from human activities, DEEP developed an innovative nitrogen-trading program, the Connecticut Nitrogen Credit Exchange Program, among 79 sewage treatment plants located throughout the state. This program identifies the "Total Maximum Daily Load" of nitrogen that can discharged into the Sound without impairing its health. Between 2002-2014, the Nitrogen Credit Exchange has reduced the nitrogen load from that source by nearly 65%.

The program encouraged denitrification at WPCFs with increased Clean Water Fund (CWF) grants, spread nitrogen removal upgrades over thirteen years (thereby reducing the financial impact on the CWF), and provided a fiscal alternative to the immediate expenditure of capital funds. The trading program is estimated to have saved $300-400 million by targeting facility upgrades that will have the greatest water quality benefits.

The trading program is governed by a general permit and is centrally managed by the Nitrogen Credit Advisory Board, which also sets prices. In 2017, the NCAB established the value of an equalized nitrogen credit for buyers at $6.61 per equalized pound and sellers at $2.59 pound for trading. Also in 2017, thirty-three facilities were required to purchase credits equivalent to 979 lbs in order to remain in compliance with the NGP. Those payments totaled $2,361,356 and were shared amongst the forty-six facilities selling credits equivalent to 2499 lbs.



[35] Clean Water Solutions to Reduce Nitrogen Pollution - Long Island Sound Study
[36] AN ACT CONCERNING THE SUSTAINABILITY OF THE NITROGEN CREDIT EXCHANGE PROGRAM.
[37] Public Act No. 01-180 for Substitute Senate Bill No. 1012
[38] Connecticut's Nitrogen Trading Program
[39] NitrogenReport2017pdf.pdf (ct.gov)

4.2. Water Quantity

Communities pursue water quantity projects to enhance resilience to flooding and sea level rise and are of increasing importance with more intense rainfall and hurricanes as a result of climate change. Stormwater is the water quantity challenge that is most often targeted by municipalities and is managed through green and grey infrastructure.

Stormwater runoff refers to water that is not absorbed by soil (because the surface is saturated or sealed), and flows on impermeable land cover, such as roads. In natural settings, the surface is usually permeable and can absorb large amounts water, resulting in minimal stormwater runoff.[40] Urban areas experience high amounts of stormwater runoff due to the large amount of impermeable surface (e.g., roads, sidewalks, parking spaces, housing properties) which results in inhibited infiltration, interrupted hydrological cycles, and thus significantly higher surface runoff volumes and peak flows.

Urban conditions cause stormwater to reach receiving streams and sewage systems quickly and in large volumes, resulting in higher peak flows. This is a particularly challenging issue for older cities with combined sewage systems. These systems collect sewage and stormwater and channel it to wastewater treatment facilities. During heavy precipitation events, these systems do not have sufficient capacity to handle the excess water (and resulting overflow) and discharge the mixed, untreated wastewater and stormwater directly into streams and rivers, causing pollution and further negative environmental impacts for these water bodies.

Flooding from tidal systems, riverine overflow, and sea level rise are additional water quality challenges that can impact both urban and rural communities. Impermeable surfaces, as well as low elevation of roads, buildings, sea walls and berms, increase community vulnerability to flooding and can result in stormwater system overwhelm, putting people and property at risk.

Unlike carbon offsets or water quality markets, there is no commoditized external market for avoided stormwater runoff and flood risk reduction. For example, an individual couldn't purchase a credit for gallons of stormwater reduced the same way one could purchase carbon offset credits through a verified marketplace. Instead, any agreements for 3rd parties to pay for water "quantity" benefits need to be agreed upon on an ad hoc basis. Therefore, private individuals and organizations have few external incentives to pursue costly activities such as green roofs or permeable pavements.

[40] Stormwater Markets: Concepts and applications (iisd.org)

Market Structure

Municipalities tend to select water quantity projects to implement that are projected to save money, often in a 1-to-1 ratio of dollars invested to dollars saved, due to tight municipal budgets. Market mechanisms can result in more ambitious or numerous projects being implemented because a greater number of stakeholders are investing, with the benefits also being at a greater scale.

Below are some of the financial tools used in the stormwater market:

- **Credit Trading** – Stormwater retention credits are a common option for the trading of allowances. One example is Washington D.C.'s specific credit for property developers. Since projects are required by the municipality to meet a 1.2-inch runoff retention standard, developers are allowed to buy credits when their projects do not comply with the limit.

- **Environmental Impact Bonds** – Environmental Impact Bonds (EIBs) represent innovative financing mechanisms aimed at mobilizing private capital investors to supplement public investment. A distinctive feature of this kind of public-private partnership is that the investors are only repaid if the desired social outcomes are achieved. Quantified Ventures worked with Washington D.C. to issue the first "Pay-for-Success" EIB in September 2016. The 30-year tax-exempt municipal bond (with a mandatory tender in year five) foresees payments by either the municipal water utility or investors based on predetermined performance requirements.

- **In-Lieu Fees** – In-lieu fee programs are designed to allow developers that are not able to meet the runoff regulation requirements, to pay a fee for the expected runoff volume that their projects could generate. These fees are used by governments for the construction of runoff mitigation facilities like the ones implemented in Park Ridge, Illinois; Aspen, Colorado; and San Antonio, Texas.

- **Permittee-Responsible Mitigation (Offsets)** – Also known as payment for performance (P4P), the offset or voluntary action compensation is implemented after benefits are accrued (regardless of the focus of the intervention). The metrics used can vary. For example, MS4 activities in Maryland are quantified based on acres of impervious surfaces while Pennsylvania looks at the volume of sediment.

Market Activities

Communities typically consider a mix of green and grey infrastructure when exploring projects to address water quantity challenges. Green infrastructure in the context of stormwater comprises natural and/or man-made elements that provide, improve, or restore ecological and hydrological functions and processes to manage wet weather impacts.[41] According to the U.S. Environmental Protection Agency, green infrastructure "uses vegetation, soils, and natural processes to manage water and create healthier urban environments".[42] Other terms in the literature that are commonly used to refer to green infrastructure are low-impact development, rainwater management or natural stormwater management.

There are numerous green infrastructure activities that can help reduce the risks of stormwater and flooding, for example:

- **Green Roofs** – Green roofs – a roof of a building that is covered with layers of vegetation – usually consist of four layers: waterproof membrane, drainage layer, growing medium, and vegetative cover layer.

- **Rainwater Harvesting** – Capture of runoff generated from impermeable areas in a storage facility (wide range of sizes available). Shared and integrated rainwater harvesting systems are two common types.

- **Rain Gardens/Bioretention** – Relatively small, ground-level spaces consisting of a mixture of sand, vegetation, and organic filter media to treat polluted runoff.

- **Bioswales** – Narrow, below-ground-level sloped drainage areas with grass or vegetation. These can continue over long distances. Located next to roads and walking paths, at roadway medians, shoulders, and parking lots.

- **Planter Boxes** – Bio-infiltration-based structures with vertical walls. Located in transportation corridors or parking areas.

- **Permeable Pavements** – There are different types including porous asphalt, permeable concrete, permeable pavers, open-matrix pavement.

- **Constructed Wetlands** – Relatively large, natural ponds to collect rainwater. Detention ponds stay dry during times of no rainfall whereas retention ponds hold a constant amount of water.

- **Urban Tree Canopy** – Trees can be planted on private and public properties and can promote stormwater absorption and soil stabilization.

[41] Stormwater Markets: Concepts and applications (iisd.org)
[42] Stormwater Markets: Concepts and applications (iisd.org)

- **Land Conservation** – Protection of natural open spaces and sensitive areas within and adjacent to urban areas, such as riparian areas, wetlands, and steep hillsides. Land conservation measures take place on a neighborhood or city scale.

In the stormwater management context, grey infrastructure refers to the typical built infrastructure solutions employed to manage water, including gutters, sewers, and tunnels, among other project types. Incorporating green infrastructure solutions alongside grey infrastructure to manage water quantity can result in lower costs to municipalities and more resilient utility systems.[43]

Market Buyers & Sellers

Participants in the stormwater market are dependent on the implementation tool used.

There is no centralized market for buyers and sellers in this market because the risks and benefits of these investments are confined to discrete geographic areas. Generally, investments in utility-scale green infrastructure are made by municipalities and other government actors rather than private organizations. However, there is an opportunity to include private actors in the market.

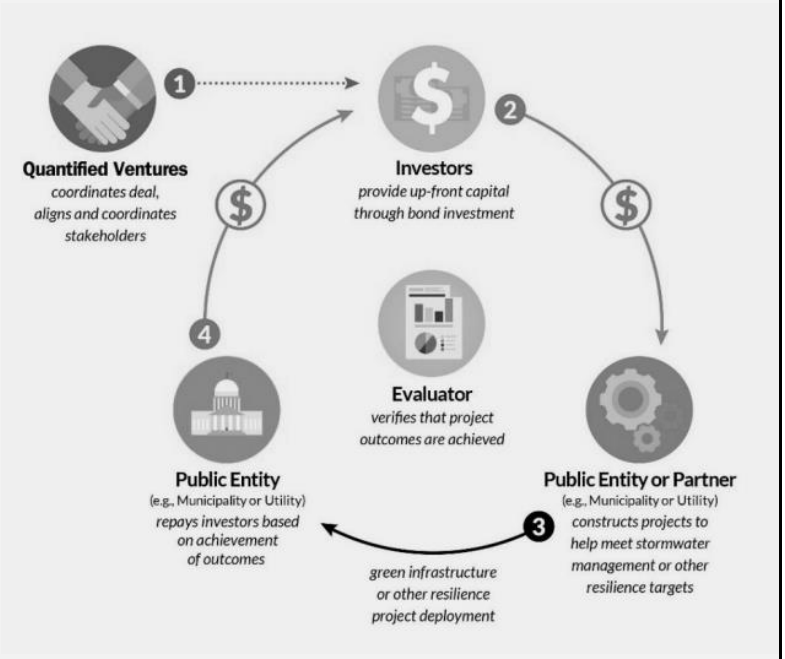
[43] Integrating Green and Gray: Creating Next Generation Infrastructure

Case Study

Environmental Impact Bond Example: Hampton Virginia

Quantified Ventures partnered with the Chesapeake Bay Foundation and the City of Hampton, VA to design and issue a $12M EIB. Hampton's three critical nature-based projects are expected to add more than 8.6 million gallons of storage capacity for stormwater that would otherwise contribute to flooding and polluted runoff in the Newmarket Creek watershed, a key environmental, economic, and transportation corridor. Water equity in the City will be enhanced as low- to moderate-income communities that have suffered the most from chronic flooding will see improved conditions.

The City attracted the usual mainstream municipal bond investors based on Hampton's excellent credit rating as well large ESG-oriented bond investors, who were attracted by the bond's enhanced impact measurement. The increased investor demand led to the bond being well oversubscribed – with the majority bought by ESG funds – putting downward pressure on interest costs. The project is still under construction and has no outcomes to report as of June 2022.

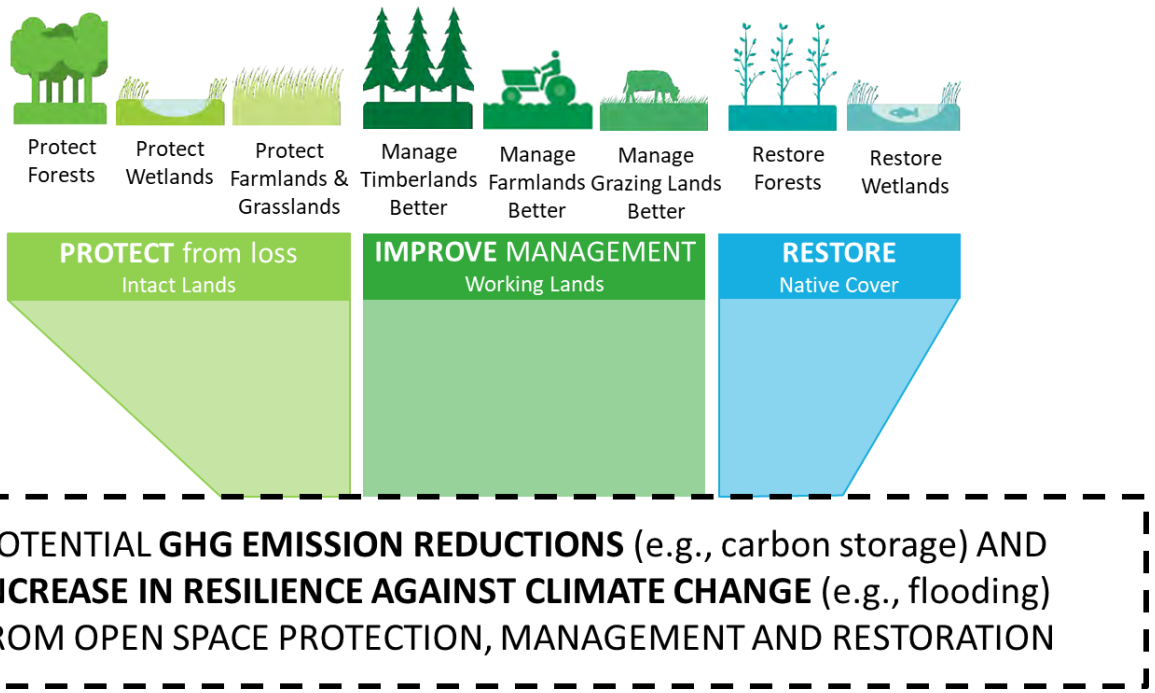


4.3. Wetland and Habitat Restoration

There are approximately 220,000 acres of wetlands in Connecticut representing about 7% of land within the state, which includes tidal and inland wetlands. Of the 91 miles of coastline, tidal wetlands are the most vulnerable natural resource in the face of climate change and rising sea levels.[44] These resources are among the most biologically productive resources in the world, provide habitat for wildlife, improve water quality by trapping sediments and filtering contaminants, protect shorelines, and are a source of carbon sinks. Inland wetlands, including the 5,800 miles of rivers and 65,000 acres of lakes,[45] are key resources in terms of stormwater retention and rivers and ponds provide water retention to mitigate flooding, and they are essential to surface and underground fresh water, provide critical habitat to wildlife, and are a source of

[44] "Wetlands Sub-Group Report 2020" of the Working & Natural Lands Working Group of the Governor's Council on Climate Change (p. 6)
[45] "Rivers Sub-Group Report 2020" of the Working & Natural Lands Working Group of the Governor's Council on Climate Change (p. 4)

carbon sinks. Wetlands provide a number of ecosystem services, including provision services (e.g., food, water), regulating services (e.g., carbon sequestration, moderation of extreme storms), support services (e.g., habitat, biodiversity), and cultural services (e.g., recreation, tourism, physical and mental health).



Market Structure

Wetland, habitat, and biodiversity markets focus on the replacement of wetlands, habitat, vegetation, and other natural features that are damaged by development or land use actions. Credits are generally produced through restoration of specific habitat types, although occasionally credits can be achieved through protection of intact habitats. Wetland mitigation banking is commonly used to compensate for wetland impacts from development, but it is also used for impacts from agriculture.

A wetlands mitigation bank is a wetland area that has been restored, established, enhanced or preserved, which is then set aside to compensate for future conversions of wetlands for development activities[46]. Once they've secured the approval of regulatory agencies, permittees can purchase credits from a mitigation bank to meet their mitigation requirements. Given they are the ones selling the credits, the mitigation bank sponsor is ultimately responsible for the success of any mitigation activities. These mitigation banking activities are performed "off-site," meaning it is at a location not on or immediately adjacent to the site of impacts, but within the

46 https://www.epa.gov/sites/default/files/2015-08/documents/compensatory_mitigation_factsheet.pdf

same watershed. The value of the credits is determined by quantifying increases in wetland acres or improved wetland functions.

There are two types of mitigation banks. Wetland or stream mitigation banks offer mitigation credits to offset permitted ecological damages that impact wetlands and streams. These are regulated and approved by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA). Conservation banks offer mitigation credits to offset permitted project activities that negatively impact endangered species and/or their habitats. These are regulated and approved by U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS).

The market is constrained by the complex and time-consuming process for certifying mitigation and conservation banks. While formal banks provide the most dependable way to supply wetland and habitat credits, it is difficult to navigate the extensive review and approval process for new banks in Washington. This option will appeal to only the most dedicated farmers and ranchers.

The Environmental Protection Agency[47] has defined four distinct components of a mitigation bank:

1. **Bank site** – the physical acreage that is restored, established, enhanced, or preserved.
2. **Bank instrument** – the formal agreement between the bank owners and regulators establishing liability, performance standards, management and monitoring requirements, and the terms of bank credit approval.
3. **Interagency Review Team (IRT)** – the interagency team that provides regulatory review, approval, and oversight of the bank.
4. **Service area** – the geographic area within which permitted impacts can be compensated for at a given bank. Regulatory agencies determine service areas based on physical and ecological attributes such as watersheds, soil types, species recovery units, or species and population distributions.

Market Activities

Mitigation can come in one of four forms: restoration, creation, enhancement, or preservation[48]. Restoration is the rehabilitation of a wetland or stream with the goal of returning it to its original state – often resulting in the net gain of wetland function or acres. A wetland can also be created by manipulating the physical, chemical and/or biological characteristics of the site – which also results in a net gain in wetland acres and function. Enhancement focuses specifically on improving one or more wetland functions, such as water quality, and results in a net gain of wetland function but not acreage. Preservation entails the permanent protection of wetlands through legal mechanisms such as conservation easements but does not result in the net gain of wetland acreage and can only be used in certain circumstances. While projects may vary across each of

47 https://www.epa.gov/cwa-404/mitigation-banks-under-cwa-section-404
48 https://www.epa.gov/sites/default/files/2015-08/documents/compensatory_mitigation_factsheet.pdf

these four types of mitigation, broadly speaking restoration activities include restoring the hydrology, removing invasive species, planting native species, prescribed fires, and more.

Market Buyers & Sellers

Buyers are typically public and private entities with development projects that result in damages to wetlands and other habitats and who must offset these damages in order to secure permits for their projects. If a development project has wetland impacts, local, state and federal laws require that these impacts be mitigated through restoration of wetlands on the development site or, in areas with mitigation banks, by buying credits from the bank. The largest buyers are typically utilities and road and highway agencies that have limited opportunities to avoid wetland impacts for their large, linear projects. Other buyers can include wind development projects and oil and gas pipeline projects. While impacts to other habitats and biodiversity are just as common, there are fewer buyers because the regulation of these resources is not as stringent as for wetlands. Farmers and ranchers could do wetland or habitat restoration on their land, which generates credits that a broker could sell.

Mitigation Banks involve three different parties[49]:

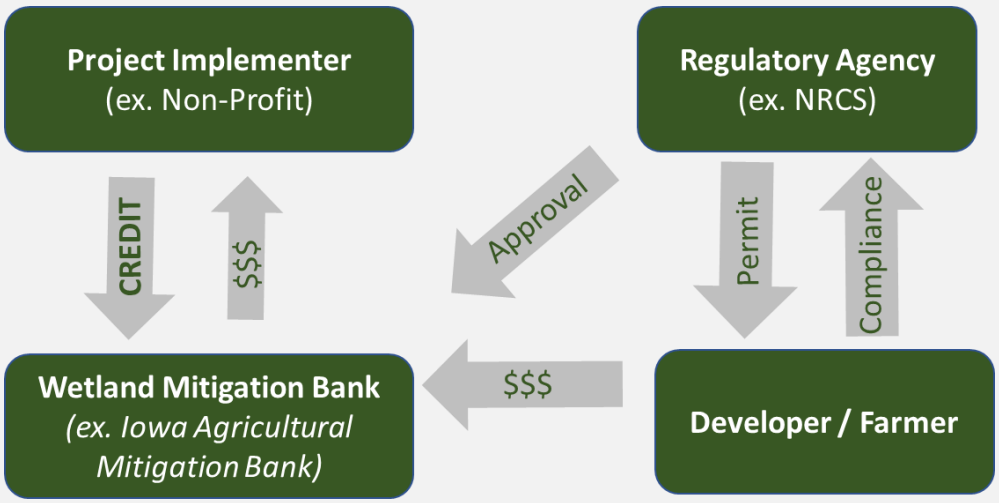
1. **Mitigation Bank Owner –** completes environmental restoration on a specific site to sell mitigation credits
2. **Regulatory agencies and inter-agency review team –** approves mitigation project and require mitigation for infrastructure and development projects
3. **Client/Permittee –** needs to offset environmental impacts from infrastructure projects ranging from a new housing development to a transportation expansion

[49] Mitigation Banking 101 - WES (wesmitigation.com)

Case Study

Mitigation Banking Example: Iowa Agricultural Mitigation

Iowa Agricultural Mitigation is a non-profit wetland mitigation bank for Iowa. Farmers, while exempted from Section 404 of the Clean Water Act, must comply with the Food Security Act and offset any wetland converted for commodity production through mitigation. IAM creates credits through investing in large-scale mitigation projects, and then sells them to farmers who need mitigation. IAM typically sells ~35 credits per year but this fluctuates depending on economic conditions. IAM is currently the only provider of agricultural-specific wetland mitigation credits in Iowa and has received $1.7M in NRCS funding. Current price is $15,000 per credit. Most buyers typically only require a single credit.



4.4. Parks & Recreation and Brownfields

Public parks and recreation facilities are typically provided as a public good and are offered for free or low cost and maintained by local municipalities or state agencies. The facilities often lack an adequate revenue streams to directly fund maintenance and improvements and operate at a loss despite providing valuable services to a community.

Nationwide, outdoor recreation is a massive economic driver which generates $689 billion in annual consumer spending and is responsible for 4.3 million jobs[50], $65.3 billion in federal tax revenue, and $59.2 billion[51] in state and local tax revenues. This represents 1.8% of the United States GDP, five times bigger than the United States film industry. Demand has also increased dramatically due to the COVID-19 pandemic, with the percentage of the population that participated in outdoor recreation rising to 52.9% in 2020 - up from 50.7% in 2019 - the largest one-year jump on record. Outdoor recreation added $3.3 billion in value to Connecticut's economy in 2020.[52]

Brownfield & Community Rejuvenation in Meriden

The City of Meriden, Connecticut, has layered ecosystem services projects to revitalize its downtown. The City's "Meriden Green" project began in 2007 and included brownfield site repair, the construction of large urban park, flood mitigation and stormwater management, and housing redevelopment. The project leveraged private, local, state, and federal investment to complete the project.

Source

Across the country, land managers of outdoor recreation assets in rural communities are facing increasing strain from the impacts of overuse and climate change. Due to stagnant or declining budgets, land managers have neither the resources to properly mitigate climate impacts nor to strategically capitalize on increased visitation. Instead, land managers become locked in a pattern of deferred maintenance and siloed decision-making. When land managers are only able to fund necessary maintenance rather than investing in projects of strategic importance, opportunities for the surrounding communities to benefit from the public lands are diminished. This is an area where innovative financing can provide upfront capital for strategic projects and unite land managers and stakeholders around a common vision.

Environmental Justice and Brownfields

In urban areas, safe and vibrant outdoor recreation is a critical component of public health and community wellbeing. Neighborhood parks can provide space for respite, athletic pursuits, and interaction with nature. Parks and other urban green spaces can also provide environmental benefits, by absorbing stormwater, reducing extreme heat, sequestering carbon, and providing cleaner air and a reduction in asthma rates. However, low-income and communities of color have not received the same level of investment for recreation amenities, leading to significant

[50] https://www.bea.gov/Bureau of Economic Affairs 2021; U.S. Bureau of Economic Analysis (BEA)
[51] Outdoor Recreation Roundtable 2020; Outdoor Recreation Satellite Account
[52] Outdoor Recreation Satellite Account, U.S. and States, 2020 | U.S. Bureau of Economic Analysis (BEA)

disparities in access to parks and open space. Additionally, the loss in benefits from these green assets can be compounded by other environmental injustices.

Not only are many low-income and communities of color lacking in beneficial recreation amenities, they have also historically been targeted for the siting of harmful activities or industries. Communities that experience disproportionate public health effects from fossil fuels, transportation emissions, and other forms of pollution are referred to as "environmental justice communities". Studies have connected harms including asthma, low birth weights, and lead poisoning to the disproportionate exposure to air pollution and toxic chemicals in low-income neighborhoods.[53] Environmental justice communities face increased exposure to the harms of climate change. In urban areas, environmental justice communities are more likely to be impacted by the effects of extreme heat waves, and less likely to have reliable or affordable ways to cool down. When they face extreme weather impacts in the form of fire or flooding, environmental justice communities are more likely to experience longer outages and less likely to be able to afford to start a new life elsewhere. The Fourth National Climate Assessment found that low-income communities in urban and rural areas face disproportionate harms.[54] In June 2022, the Department of Health and Human Services announced the establishment of the Office of Environmental Justice in the Office of Climate Change and Health Equity to coordinate the Department's efforts to protect the health and wellbeing of vulnerable populations and disadvantaged communities.[55]

Low-income communities and communities of color are also more likely to live in fence-line communities that are near polluting fossil fuel infrastructure. These communities have long fought for regulatory interventions to mitigate the harms caused by fossil fuel infrastructure, including heavy industrial manufacturing, and are increasingly forcing the decommissioning of this infrastructure. However, once the polluting facilities are closed, capital is required to rebuild, repair, and renew damaged community infrastructure. Currently, communities depend on scarce philanthropy and governmental grants to undertake these rebuilding efforts.

In some cases, the land where the now-closed facility operated has suffered such strong environmental degradation that it will be classified as a brownfield site. A *brownfield* is a property where the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. It is estimated that there are more than 450,000 brownfields in the United States, with over 500 in Connecticut.[56] Cleaning up and reinvesting in these properties increases local tax bases, facilitates job growth, utilizes existing infrastructure, takes development pressures from undeveloped, open land, and both improves and protects the environment.

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[53] DOI: Socioeconomic Disparities and Air Pollution Exposure; Urban green space, public health, and environmental justice

[54] Fourth National Climate Assessment (globalchange.gov)

[55] Department of Health and Human Services: Establishment of the Office of Environmental Justice

[56] Brownfields Site Inventory (ct.gov)

Private investors are often wary of the high costs and regulatory burden associated with redeveloping a brownfield property, which results in these sites being undervalued on the market. Financial mechanisms that can incentivize brownfield remediation and address the market inequities can make it possible for investment and revenue to flow into the surrounding communities.

Market Structure

Funding is only a single part of holistic approach to parks and recreation-based economic development that leverages and connects existing tools and agencies to integrate conservation, recreation, and economic development goals so that all parties are working toward the same vision. Because stakeholders involved in rural economic development tend to be fragmented across multiple programs and departments, bridging the disconnect between land managers and local communities requires a collective approach that intentionally integrates these players into a formal structure. This approach will require changing the way projects are funded and the types of agencies that are considered in the parks and recreation ecosystem. At the federal and state level, there is a need to connect public works, health, and economic development agencies on projects whose benefits span across their portfolios, while at the local level there is a need to provide innovative financial solutions to support local, under-funded governments that need it. The long-term goal is to adapt stakeholders' definition of community development to link parks and recreation and adjacent economies.

Market Activities

There is an enormous range of potential parks and recreation activities that public lands can be used for, including:

- **Public parks** – Public parks that are well maintained, facilitate multi-season activities, and are accessible to a wide number of nearby residents can provide a much-needed recreation and relaxation site for a community. Amenities such as playgrounds, picnic shelters, game areas, and walking paths can add to the utility and appeal of the park and the installation of green infrastructure can enhance the park's ecosystem services.

- **Game Areas** (ex. tennis, basketball) – The establishment of game areas can benefit a community by providing unstructured recreation and facilities for youth or adult sports leagues that will benefit residents, attract visitors, and promote the local economy.

- **Walking and Hiking Trails** – Walking and hiking trails can provide a recreation activity that improves public health and can attract visitors who partake in the activity elsewhere.

- **Mountain Biking Trails** – Mountain biking trails require limited construction and maintenance and can facilitate recreation for mountain biking sport enthusiasts, which can lead to increased tourism for rural areas and contribute to the local economy.

- **Camping** – In rural areas, campgrounds can allow for increased use of a recreation area, allowing for individuals to spend more time in the natural space and providing lodging that caters to different interests.

- **Hunting** – In rural areas, hunting can provide a recreation opportunity in a variety of landscapes.

- **Boating/Fishing** – In waterfront communities, a boating and/or fishing recreation service can utilize natural outdoor features to support economic growth in an area. The inclusion of blue infrastructure in site planning can enhance the ecosystem services of the amenity.

Parks and recreation facilities can be categorized as "active" or "passive", tend to have different stakeholder ownership and management.[57]

- **Active Recreation:** Municipalities tend to be the lead stakeholder for active outdoor recreation sites and the highest use frequency index is for swimming

- **Passive Recreation:**
  - Statewide – hunting
  - Municipalities – boating, fishing, passive park use, beach use, trails
  - Other – camping

In instances where the public land is a brownfield site, there are required steps to remediate the degradation of the land that must occur before it transitions to being a place of outdoor recreation. These steps include an analysis of the proposed cleanup process, a codified community relations plan, and ongoing assessment of the cleanup activities. These activities can be expensive and time consuming, often disincentivizing private investments and forcing interested parties to rely on grant opportunities.

Market Buyers & Sellers

The "buyers" of outdoor recreation services are the users, but often they are not purchasing outdoor recreation outcomes directly. Rather, the benefit of this market is captured in the environmental and public health outcomes or the money that recreation users spend offsite but as a direct result of partaking in the recreation. For example, if a family decides to go camping, while they may pay a nominal campground fee, the economic value generated is primarily focused on what they are spending on food, equipment, gas, and other goods and services that support that activity.

Conversely, the "sellers" of outdoor recreation services are often public land managers who do not generate revenue directly from the users of their land. The outdoor recreation "buyers" and

[57] Information is pulled from the Connecticut Green Bank's Environmental Infrastructure Parks and Recreation Observations from January 2022 Stakeholder Outreach

"sellers" can consider a pay-for-success model, whereby the benefits of the project are quantified and trigger investment repayment from the revenue-collecting "buyer", to bridge the disconnect.

When the land being developed for parks and recreation or commercial purposes is a brownfield site, the costs of clean-up and redevelopment are higher, disincentivizing buyers. This often results in the property being left in limbo because the existing owners may have little use for the sites while its condition is discouraging potential buyers. However, if those costs can be overcome and brownfield sites can be redeveloped, there are likely to be significant economic benefits. In addition to the economic benefits, brownfield remediation and urban parks can have significant health benefits. In fact, many health providers have begun supporting investments in urban parks because improved community health translates to lower costs for those payors.

More than 400 studies have shown the numerous health benefits from spending time in nature. Over the past decade, medical professionals have begun to prescribe time in nature as a treatment and strategy for improved health outcomes.[58] Research has demonstrated that there are fewer opportunities to experience nature in a safe and healthy way in socioeconomically disadvantaged communities. In urban areas, robust and healthy tree canopies are most often found in wealthy and white neighborhoods, emphasizing the importance of centering environmental justice when considering where to invest in public green space.[59]

[58] Health Benefits | Parkrx
[59] Tree Equity Score - American Forests

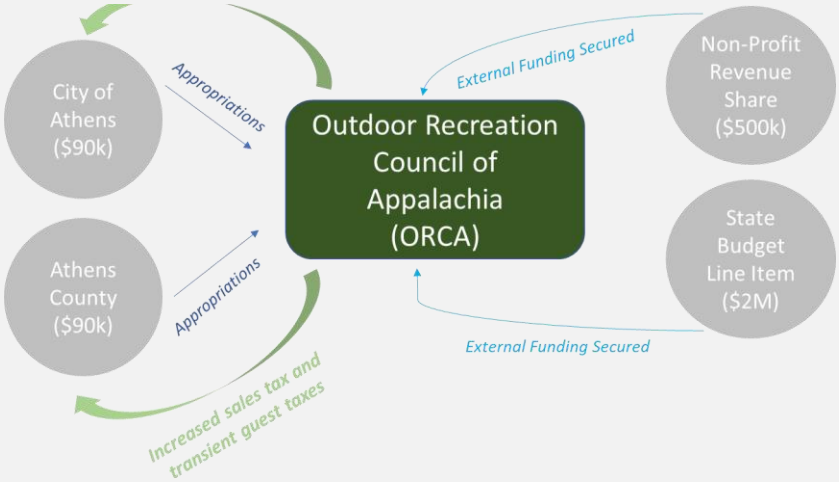
Case Study

Revenue-Sharing Example: Baileys Trail System

Quantified Ventures structured an outcomes-based transaction to fully fund the construction and operations of the Baileys Trail System, an 88-mile, premier mountain biking trail system in Athens County, Ohio, on the Wayne National Forest. The upfront cost of building the Baileys Trail System was paid for through a mix of state funding and $500k in private financing, with repayment tied to the successful achievement of the economic development outcomes, in this case increased sales tax and transient guest taxes.

Athens County, the City of Athens, the City of Nelsonville, the Village of Chauncey, and York Township formed the Outdoor Recreation Council of Appalachia (ORCA) to manage the cross-boundary infrastructure. This innovative governance structure unlocked federal & state funding, and led effort to raise financing from local impact investors.

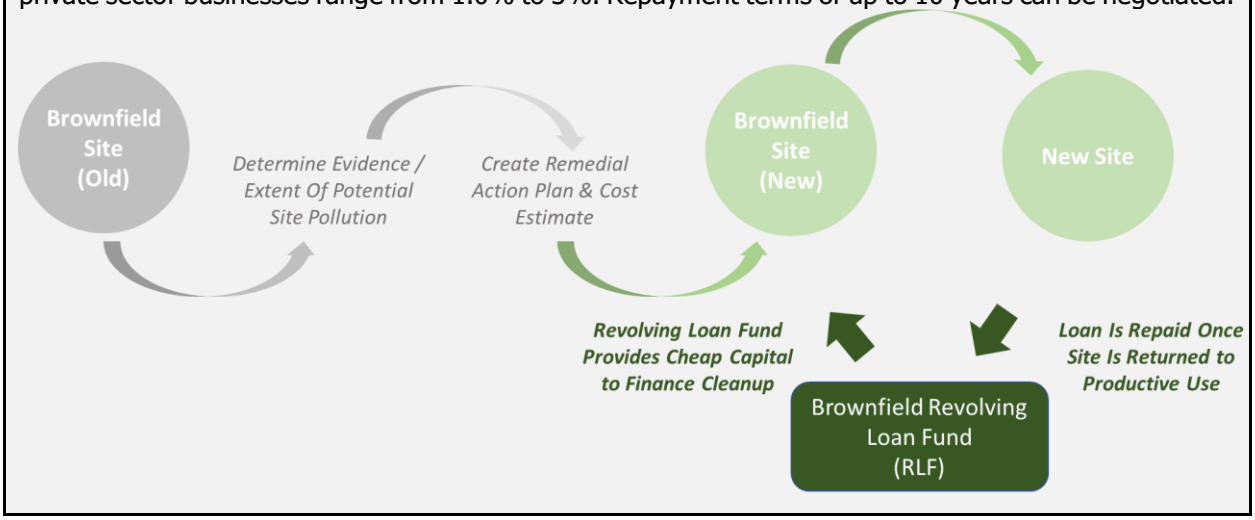
The City of Athens and Athens County will provide $90,000 each, or $180,000 total annually for twenty years. The City and County have committed to additional tax increment payments based on increases in hotel and sales taxes respectively. Those funds are projected to increase over time as visitation increases.



Revolving Loan Fund Example: West Virginia Brownfields RLF

The Brownfields Revolving Loan Fund makes financing available to public, private and non-profit borrowers for the remediation of properties contaminated with hazardous substances. Conducting environmental cleanups enables these properties to be redeveloped and returned to productive use. Not only will the removal of hazardous substances improve community health, but the remediation of these properties can make them desirable for development and will improve the property values of the surrounding properties.

Brownfields RLF can offer low-interest loans to eligible local government entities, nonprofits, and private sector businesses to assist them in the cleanup of properties contaminated with petroleum or hazardous substances. Interest rates for government and non-profit borrowers range from 0% to 1.5%. Rates for private sector businesses range from 1.0% to 3%. Repayment terms of up to 10 years can be negotiated.



5. Key Terms and Acronyms

- **Externality:** the positive and negative impacts of actions beyond their primary goal

- **Ecosystem Service:** the benefits people obtain from ecosystems.[60]

- **Environmental infrastructure:** means structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services.[61]

- **Carbon Offsets:** Carbon Offsets are measurable outcomes from carbon sequestration activities, traded in voluntary and compliance markets, whereby regulations, sustainability priorities, and public relations are motivators for buyers and sellers.

- **Carbon Registry:** entities that track offset projects and issue credits for each unit of emission reduction or removal verified and certified.

- **National Pollutant Discharge Elimination System (NPDES) permits:** A program that addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by EPA to perform many permitting, administrative, and enforcement aspects of the program.[62]

- **Municipal Separate Storm Sewer Systems (MS4s) program:** A program administered by the U.S. Environmental Protection Agency that requires each municipality to take steps to keep the stormwater entering its storm sewer systems clean before that stormwater enters water bodies.[63]

- **Total Maximum Daily Load (TMDL):** the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that pollutant.[64]

- **Environmental Impact Bonds (EIBs):** A bond whereby the payment terms are linked to agreed-upon environmental outcomes.

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[60] https://www.fs.usda.gov/ecosystemservices/About_ES/index.shtml
[61] Governor Lamont Signs Executive Order Directing Connecticut State Agencies To Implement Actions That Reduce Carbon Emissions and Adapt to Climate Crisis
[62] National Pollutant Discharge Elimination System (NPDES) | US EPA
[63] Municipal Stormwater (ct.gov)
[64] Overview of Total Maximum Daily Loads (TMDLs) | US EPA

- **Pay-for-Success:** A contracting and financing mechanism in which investors provide upfront capital for a program or intervention, with payments tied to the achievement of specific measurable outcomes.

- **Environmental Justice Communities:** Communities that experience disproportionate public health effects from fossil fuels, transportation emissions, and other forms of pollution. Studies have connected harms including asthma, low birth weights, and lead poisoning to the disproportionate exposure to air pollution and toxic chemicals in low-income neighborhoods.[65]

- **Brownfield:** a property where the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. It is estimated that there are more than 450,000 brownfields in the United States, with over 500 in Connecticut.[66]

- **In-Lieu Fee:** In-lieu fee programs are designed to allow developers that are not able to meet the runoff regulation requirements, to pay a fee for the expected runoff volume that their projects could generate.

[65] DOI: Socioeconomic Disparities and Air Pollution Exposure; Urban green space, public health, and environmental justice

[66] Brownfields Site Inventory (ct.gov)

6. Appendix

European Union Emissions Trading System (ETS)

The EU ETS[67] follows a cap-and-trade approach: the EU sets a cap on the amount of greenhouse gases that can be emitted within one calendar year for companies in particular sectors, and those companies need to hold an European Emission Allowance (EUA) for every ton of CO2 they emit within one calendar year. They receive or buy these permits – and they can trade them. Companies must hold allowances corresponding to their CO2 emissions, making power production from burning coal and other fossil fuels more expensive and clean power sources more attractive. The system incentivizes firms to become more energy efficient because they can then sell their emissions permits on the market.

California Air Resources Board (CARB) Offset Credit Program

The Cap-and-Trade Regulation establishes a declining limit on major sources of GHG emissions throughout California, incentivizing investment in cleaner, more efficient technologies. The Regulation applies to emissions that cover approximately 80 percent of the State's GHG emissions. CARB creates allowances equal to the total amount of permissible emissions (i.e., the "cap). One allowance equals one metric ton of carbon dioxide equivalent emissions (using the 100-year global warming potential). Each year, fewer allowances are created and the annual cap declines. The Compliance Offsets Program[68] is an important cost-containment element within the broader Cap-and-Trade Program. Offset Credits are issued to qualifying projects that reduce or sequester greenhouse gases (GHG) within the program's protocols, and those credits represent verified GHG emissions reductions from sources not subject to a compliance obligation in the Cap-and-Trade Program. In addition to their climate and other environmental benefits, offset credits provide important cost containment and compliance flexibility for covered entities.

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[i] The VCS Program is the world's most widely used greenhouse gas (GHG) crediting program.

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[67] https://www.cleanenergywire.org/factsheets/understanding-european-unions-emissions-trading-system
[68] https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/about

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environmental infrastructure primer

water


Environmental Markets


Land Conservation


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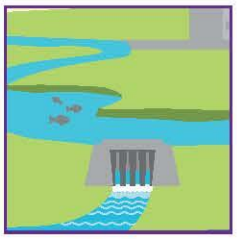
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Water

Primer

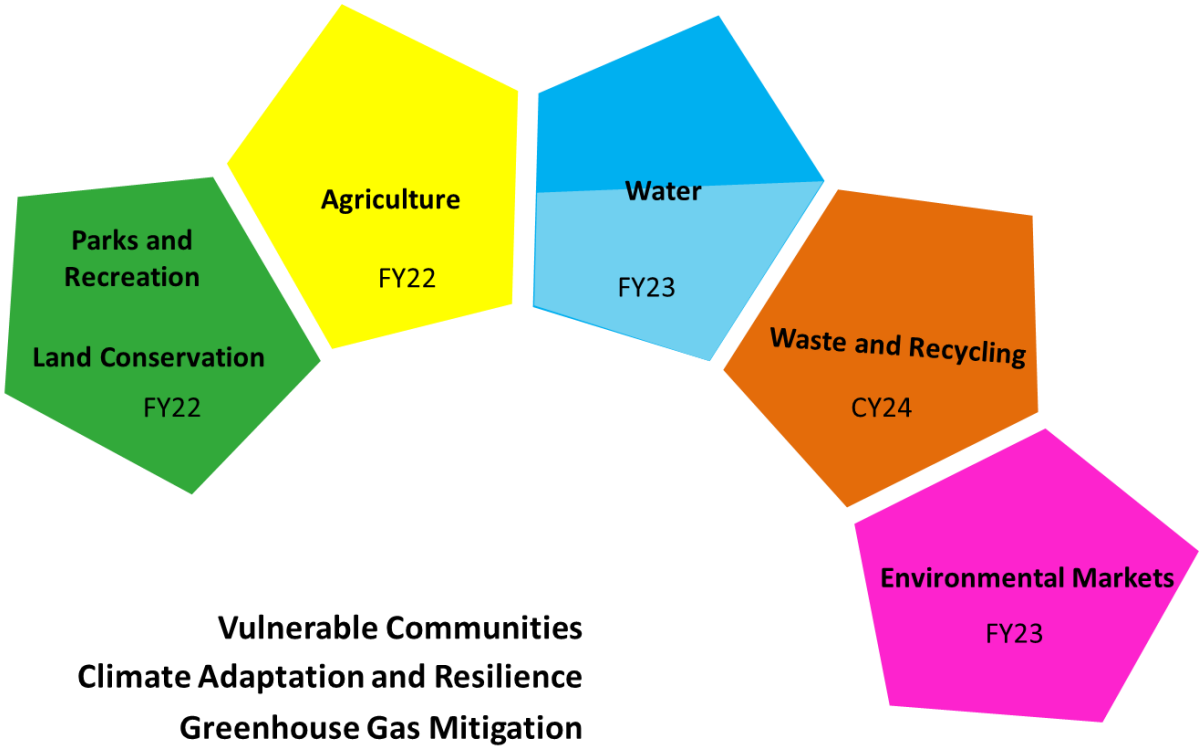
Contents

WATER
RESEARCH ON ENVIRONMENTAL INFRASTRUCTURE

1. Introduction

In October of 2021, the Connecticut Green Bank ("Green Bank") developed a plan upon which it was going to engage stakeholders to understand the various components of "environmental infrastructure" – see Figure 1. With its mission to "confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities," within each component of "environmental infrastructure," the crosscutting issues of reducing greenhouse gas emissions ("GHG"), increasing climate adaptation and resilience, and enabling investment in vulnerable communities was explored.

Figure 1. Process to Understand Components of Environmental Infrastructure



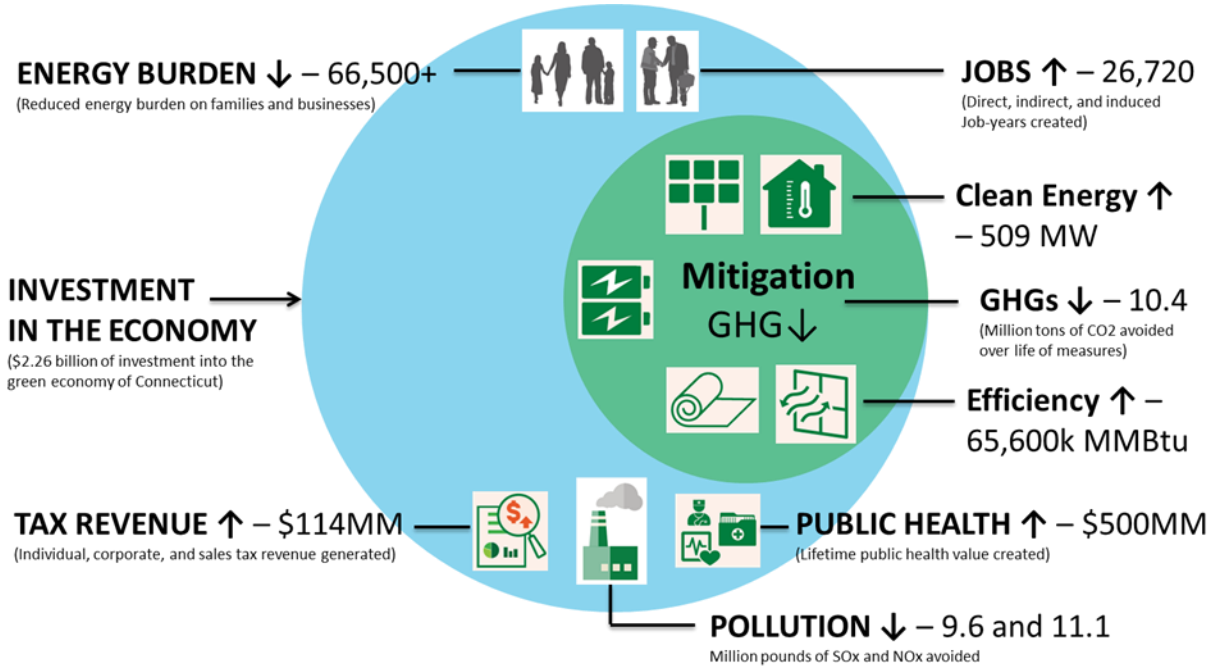
This primer reflects the observations, findings, and initial recommendations from the conversations with stakeholders and research conducted on water.

2. Overview

On July 6, 2021, Governor Ned Lamont signed Public Act 21-115 "An Act Concerning Climate Change Adaptation" ("the Act") into law. The bipartisan-supported public policy was among the sixty-one (61) recommendations made by the Governor's Council on Climate Change ("GC3"), including a recommendation to expand the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure" (i.e., Recommendation #57).

Since its founding over a decade ago, the Green Bank has focused its efforts on using a limited amount of public resources to mobilize multiples of private investment in Connecticut to increase and accelerate the deployment of "clean energy" to deliver social and environmental impact – see Figure 2.

Figure 2. Impact of the Green Bank with focus on "Clean Energy" Deployment and Mitigation of GHG Emissions (FY12-FY22)



Given its mission, the Green Bank helps the State of Connecticut achieve its ambitious public policy objectives (e.g., GHG emission reductions targets, renewable portfolio standards). In so doing, by 2025, no less than 40 percent of investment and benefits from its programs are to be directed to vulnerable communities.[1]

The Act, expands the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure," and includes the following key provisions:

[1] "Vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by DEEP in consultation with community representatives.

- Definition – "environmental infrastructure" means structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services;

- Comprehensive Plan – requirement for the Green Bank to develop a Comprehensive Plan[2] prior to implementing any programs or initiatives related to "environmental infrastructure";

- Reporting – inclusion of the Banks Committee and the Environment Committee, alongside the Energy and Technology Committee and Commerce Committee in terms of reporting; and

- Bonding – the ability to issue 25-year bonds for "clean energy" and 50-year bonds for "environmental infrastructure" (i.e., no more than the useful life of the projects), supported by the Special Capital Reserve Fund ("SCRF"), for up to 25 years to improve the rating of the bonds issued.

With respect to "water," Public Act 21-115 includes several important provisions on the state Clean Water and Drinking Water Revolving Funds ("CWSFR" and "DWSRF"), including:

- Environmental Infrastructure Fund – shall not receive funds that have been deposited in, or are required to be deposited in, an account of the Clean Water Fund pursuant to sections 22a-475 to 22a438f, inclusive, or (iii) funds collected from a water company, as defined in section 25-32a.

- Funding Sources – specifically authorized, include, but are not limited to any federal funds, provided such funds are not required to be deposited in the accounts of the Clean Water Fund pursuant to sections 22a-475 to 22a-483f, inclusive.

- Applying for Funds – the Green Bank shall not apply, directly or through a subsidiary, to be eligible for grants under (i) the Clean Water Act, 33 USC 1251 et seq., as amended from time to time, without the approval of the State Treasurer and the Commissioner of Energy and Environmental Protection, or (ii) the Safe Drinking Water Act, 42 USC 300f et seq., as amended from time to time, without the approval of the State Treasurer and the Commissioner of Public Health.

This document attempts to summarize the findings from the research and outreach efforts conducted by the Green Bank[3] on "water" from March 1, 2022 through June 30, 2022 and includes the following sections: (A) overview, (B) key public policies, (C) market potential, (D) target, (E) funding and financing programs, (F) other programs, (G) stakeholder outreach, (H) findings, (I) opportunities, (J) history of leadership and innovation, (K) references, and (L) definitions.

[2] https://www.ctgreenbank.com/wp-content/uploads/2022/08/Comprehensive-Plan_FY-2023_FINAL_080122-1.pdf

[3] Led by Bryan Garcia (President and CEO) and Ashley Stewart (Manager of Community Engagement)

[4] The term "water of the state" is generally used to refer to water that is within the State's jurisdiction to regulate discharges, quality and extraction from, which includes, but is not limited to, rivers, streams, groundwater, lakes, and reservoirs.

This primer will look to portray the scope of water concerns in Connecticut through areas of water quality, management of water quantity, surface water protection, and public health of drinking water with a focus on green infrastructure and references to enhancing resilience and minimizing the impacts of climate change.

3. Key Public Policies

The following are key public policies that advance "water" in Connecticut, including, but not limited to:

1. State Plan of Conservation and Development (CGS 16a-24) – is an overarching statement of state policy in matters pertaining to land and water resource conservation and development. The Office of Policy and Management ("OPM") prepares revisions to the State Conservation and Development Plan ("State C&D Plan") on a recurring 5-year cycle and submits it for adoption by the Connecticut General Assembly ("CGA"). Once adopted, the State C&D Plan is then implemented by state agencies whenever they undertake certain actions.[4] The current State C&D Plan (i.e., for 2018-2023), includes the relevant "clean energy" and "environmental infrastructure" items, including, but not limited to:

    a. Greenhouse Gas Mitigation – reducing carbon dioxide emissions in the state consistent with the recommendations of the Connecticut Climate Change Preparedness Plan (i.e., 5.10);

    b. Climate Adaptation and Resilience – utilizing the state's renewable power generation potential to the extent compatible with the state goals for environmental protection, and minimize potential impacts to rural character and agricultural and scenic resources when siting new power generation facilities and/or transmission infrastructure (i.e., 4.8) and proactively address climate change adaptation strategies to manage the public health and safety risks associated with the potential increased frequency and/or severity of flooding and drought conditions, including impacts to public water supplies (i.e., 5.13);

    c. Water – encouraging multi-disciplinary approaches to infrastructure planning and design (i.e., 1.4), minimizing the potential risks and impacts from natural hazards (i.e., 1.13), identifying innovative mechanisms utilizing decentralized or small-scale water and sewage systems (i.e., 2.7), encouraging and promoting access to parks and recreational opportunities (i.e., 2.8), expanding the state's open space and greenway network (i.e., 4.3), avoiding activities that could negatively affect rare or unique ecological communities and natural areas (i.e., 4.4), seeking to achieve no net loss of wetlands (i.e., 4.6), utilizing the landscape to the extent practical and incorporate sound stormwater management design (i.e., 4.12), managing water resource conflicts by balancing the competing needs of water (i.e., 4.13), relying on the functional capacity of the land, to the extent possible, to provide drinking water and wastewater disposal needs (i.e., 4.14), protecting the ecological, scenic, and recreational value of lakes, rivers and streams (i.e., 4.16), protecting, maintaining,

[4] Quasi-publics are not subject to this requirement

and restoring chemical, physical, and biological integrity of ground and surface waters (i.e., 4.17), utilizing a multiple barrier approach to ensure the availability of safe and adequate public water supplies (i.e., 5.1), identifying water supply sources and resources sufficient to meet existing and anticipate needs (i.e., 5.2), ensuring that water conservation is a priority consideration (i.e., 5.3), utilizing integrated watershed management approach to ensure high quality public drinking water (i.e., 5.4), seeking to prevent the loss of life and property by maintaining existing dikes, channels, dams (i.e., 5.5), minimizing the impacts of development on existing and identified drinking water sources (i.e., 5.7), supporting the creation of objective and uniform protocols for public water and sewer need assessment (i.e., 6.3), and relying upon municipal plans of conservation and development to identify the general location and extent of any existing, planned or avoided locations for sewer systems (i.e., 6.4).

2. Clean Water Act ("CWA") – the Clean Water Act is the Federal regulation from The US Environmental Protection Agency ("EPA") that manages discharges of pollutants into water bodies in the United States. This regulation sets water quality standards and shapes state level regulation. The creation of the CWA in 1948 (and expanded in 1972) made discharging into the waters of the state illegal unless permitted. The EPA's National Pollutant Discharge Elimination System ("NPDES") is a permit program that regulates discharges within a state department and requires enforcement and compliance.

    A. 319 Nonpoint Source Management Program – this program was created in 1987 as an amendment to the CWA to address the need for federal level response to state and local nonpoint source[5] (e.g., stormwater) pollution.

    B. Municipal Separate Storm Sewer System ("MS4") General Permit - requires municipalities to manage and reduce the amount of clean stormwater that flows through sewer systems into waterbodies. This permit is one aspect of improving surface water quality across the state. This permit is one way that stormwater is regulated. Within this permit, municipalities are required to provide residents with options for reducing pollutants from stormwater and to host public education programs for residents about stormwater management.

3. Stormwater Authorities – CGS 22a-498 allows municipalities the ability to create stormwater authorities to develop stormwater management programs, provide public education and outreach to establish procedures for public participation, support administration of programs, establish geographic boundaries of such authority district, and recommend to the governing body with a stormwater district the ability to levy taxes, the revenues of which to carry out the powers of the authority.

4. Safe Drinking Water Act ("SDWA") – Congress passed the SDWA in 1974 to protect public health and to regulate water systems that provide drinking water. The SDWA requires EPA to establish drinking water standards and a method to enforce those standards. The SDWA

[5] A full list of the types of pollution that comes from stormwater, or non-point source pollution, can be found on the EPA's website at https://www.epa.gov/nps/types-nonpoint-source-pollution

drives regulation and programs at every level of water management, federal, state and local.

a. Lead and Copper Rule Revisions ("LCRR")[6] – the EPA revised the LCRR to better protect vulnerable communities, children from the possible risk of lead and copper exposure in drinking water. The revisions included greater information sharing with impacted communities, improved methods to find lead sources within a system, emphasizing full lead line replacement, required testing in schools and childcare facilities, and required water utilities to publish the location of lead service lines. This federal regulation was originally established in 1991 to regulate drinking water exposure to lead and copper through plumbing materials. Exposure to lead and copper can cause ranging health problems, through this rule regulation is monitored through the water users tap.

   On August 4, 2022, the EPA released Guidance for Developing and Maintaining a Service Line Inventory[7] that would support the oversight and replacement of lead and copper service lines for water systems. Water systems are required to create and maintain an inventory of service line materials by October 16, 2024.

b. Per- and Polyfluoroalkyl Substances ("PFAS") - PFAS are widely used, long lasting chemicals, components of which break down very slowly over time. Because of their widespread use and their persistence in the environment, many PFAS are found in the blood of people and animals all over the world and are present in low levels in a variety of food products, and in the environment. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals. There are thousands of PFAS chemicals, and they are found in many consumer, commercial, and industrial products[8].

   In 2019, CT established PFAS action levels and continues to work with public water systems near areas determined to be high risk for PFAS contamination. In Connecticut, water suppliers are increasing PFAS testing and developing plans in response but legislation is currently being decided about how to address PFAS in the state[9].

   On March 14, 2023, EPA announced the proposed National Primary Drinking Water Regulation ("NPDWR"). The proposed legally enforceable levels, called Maximum Contaminant Levels ("MCLs") for six PFAS is essentially zero. EPA anticipates finalizing the regulation by the end of 2023[10].

[6] https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule
[7] EPA has developed guidance on maintaining a service line inventory: https://www.epa.gov/system/files/documents/2022-08/Inventory%20Guidance_August%202022_508%20compliant.pdf
[8] https://www.epa.gov/pfas/pfas-explained
[9] CT isn't required to treat public water for PFAS. That could change (ctmirror.org)
[10] https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas

5. Connecticut State Water Plan (CGS 22a-352) – was created by the Water Planning Council ("WPC") as a state-wide water plan that addresses the management of water resources across four state agencies. The Council consists of state agencies that are responsible for certain oversight and regulation of water in Connecticut. Those agencies are the Department of Energy and Environmental Protection ("DEEP"), the Department of Public Health ("DPH"), the Public Utilities Regulatory Authority ("PURA"), and the Office of Policy and Management ("OPM"). Overall, the State Water Plan aims to balance water needs, water quality, policy and planning across the state.

   The Connecticut State Water Plan ("CSWP") focuses on water health from several perspectives, including human health, environmental health, and all aspects of water management. This plan drives water programs and goals for state agencies and organizations that support or manage water in the State.

6. Connecticut Public Act 21-115: the public act that expanded the Green Bank's scope to include environmental infrastructure. This act forms an Environmental Infrastructure Fund within the Green Bank that can receive funding from federal funds (e.g., Greenhouse Gas Reduction Fund within the Inflation Reduction Act) except those from electric ratepayers (i.e., Clean Energy Fund), Regional Greenhouse Gas Initiative allowance proceeds, Clean Water Funds, or funds collected from a water company. Those restrictions outline that the Green Bank is not eligible to receive federal grants under the Clean Water Act or the Safe Drinking Water Act without the approval of the State Treasurer, DEEP and DPH. These details encourage collaboration across the State in addressing water infrastructure needs.

7. Executive Order 21-3 – On December 16, 2021, Governor Ned Lamont signed Executive Order 21-3 which calls for 23 actions supporting more than thirty recommendations from the Governor's Council on Climate Change, including several recommendations on working lands:[11]

   a. Resilient Stormwater and Drainage Systems – mandates DEEP to update the design criteria for stormwater systems and for Department of Transportation ("DOT") to identify the culverts that need sizing changes. Both efforts will ensure Connecticut's management of stormwater can adapt to the changing weather conditions, aims to be resilient against the impacts of climate change, and to maximize designed stormwater management and nature-based solutions to create a more resilient State.

   b. Climate Resilience Using Nature-Based Solutions on State Properties – DEEP and Department of Administrative Services ("DAS") to develop guidance for state agencies to use nature-based solutions for flood and erosion control and stormwater management, integrate coastal marsh migration in state projects in coastal areas, and utilize low impact development and green infrastructure in new state construction and state-funded construction or redevelopment. These methods would use low impact design and green infrastructure within new construction projects and state funded redevelopment projects.

[11] It should be noted that Connecticut is a member of the United States Climate Alliance, and one of the original signatories to the Natural and Working Lands Challenge in 2018 – http://www.usclimatealliance.org/nwlchallenge

8. Connecticut General Statutes and Regulations for the Protection of Public Drinking Water[12] – DPH has a mandate to create and maintain a list and designation of all potential public water supply sources, CGS Section 25-33q. This list shapes land protection and land use within a distance from high valued water sources, as detailed in CGS Section 25-32 and the Sanitation of Watersheds found in The Regulations of Connecticut State Agencies ("RCSA") Section 19-13-B32.

9. Open Space Target (CGS 23-8)[13] – establishes that by 2023 a target of 21% (i.e., 673,210 acres) of state land area will be held by open space land, with 10% from the state (e.g., forests, parks) and not less than 11% from partners (e.g., municipalities, water companies, or non-profit land conservation organizations). The Comprehensive Open Space Acquisition Strategy (or "Green Plan")[14] is the comprehensive strategy for achieving the state goal, which includes priorities for strategic acquisitions of open space for climate change resiliency and preserving open space in perpetuity for watershed protection.

In order to identify opportunities to mobilize private investment, it is important to understand the public policy context in which "water" operates. With the focus on the Green Bank's mission (i.e., confront climate change), public policy provides vital guidance on how to direct private investment flows in support of relevant public policy outcomes and objectives.

4. Market Potential

Water infrastructure and market opportunities in Connecticut are complex. Water is managed through several state agencies and federal departments. This section highlights some of the market potential within this sector that could support the long-term resilience of water and management of continued climate impacts.

Through stakeholder engagement several specific areas arose as potential opportunity areas for market engagement including, drinking water (or raw water) quality, lead abatement, onsite septic and well system resilience, PFAS and emerging contaminants, stormwater and flood management, watershed management through land conservation, and dam infrastructure.

Drinking Water

Drinking water can come from surface water (i.e. reservoir) or a groundwater source. There are many different water sources for drinking water. The state organizes these sources by population served, length of service, and source water. For the water consumer these sources determine the level of oversight, treatment, potential contaminants, and access to infrastructure financing. Sources include water regulated through a water supplier (public and private), large community water systems greater than 1,000 people served, smaller community water systems of less than 1,000 people, "transient" water systems that service 25 people or more per day for at least 60 days a year, and localized well water sources that are "non-transient, non-community" water systems.

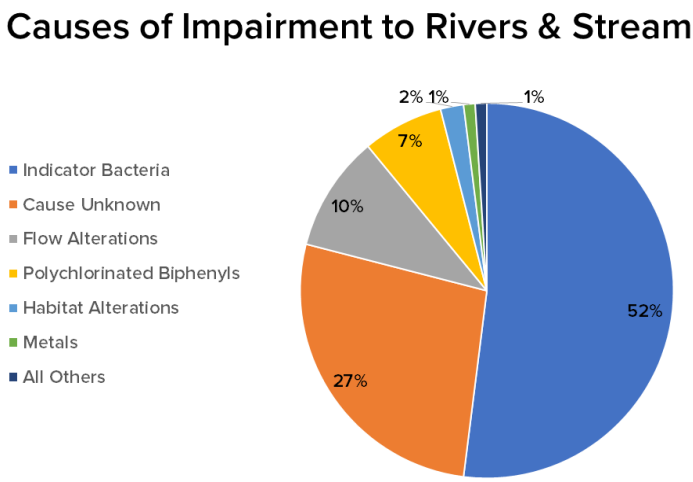
[12] List of CT regulations and mandates for public drinking water can be found with DEEP at CTStatutesRegsforProtectionofDWSpdf.pdf

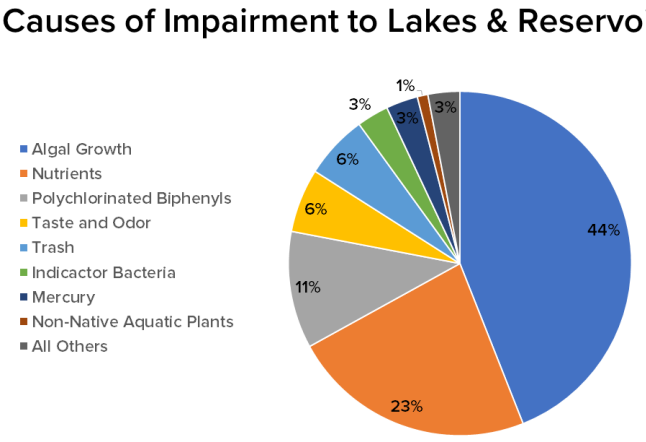
[13] https://law.justia.com/codes/connecticut/2012/title-23/chapter-447/section-23-8/

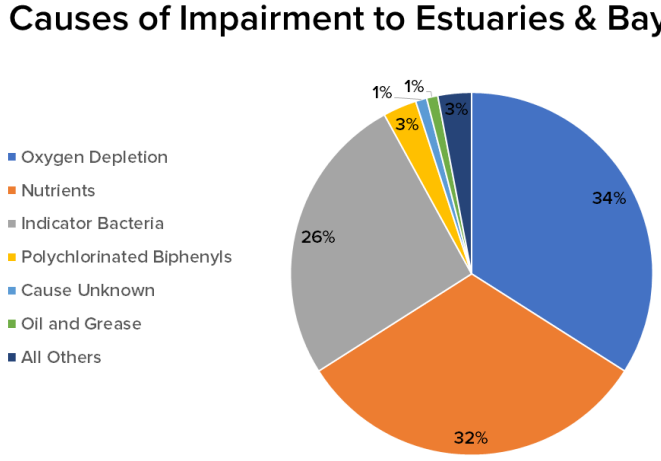
[14] https://portal.ct.gov/DEEP/Open-Space/The-Green-Plan

The landscape of water across the state is referred to as “waters of the state” and collectively the management of these water types shape water quality for human consumption, industry, and recreation. Managing water quality includes understanding causes of impairment and climate impacts on water quality. The cause of water quality impairment can vary across a watershed, region of the state, or type of water body. The CSWP lists the types of impairments across the state and the associated cause of the impairment – see Figure 3.

Figure 3. Causes of Impairment Summary for Connecticut's Assessed Waters (2014)



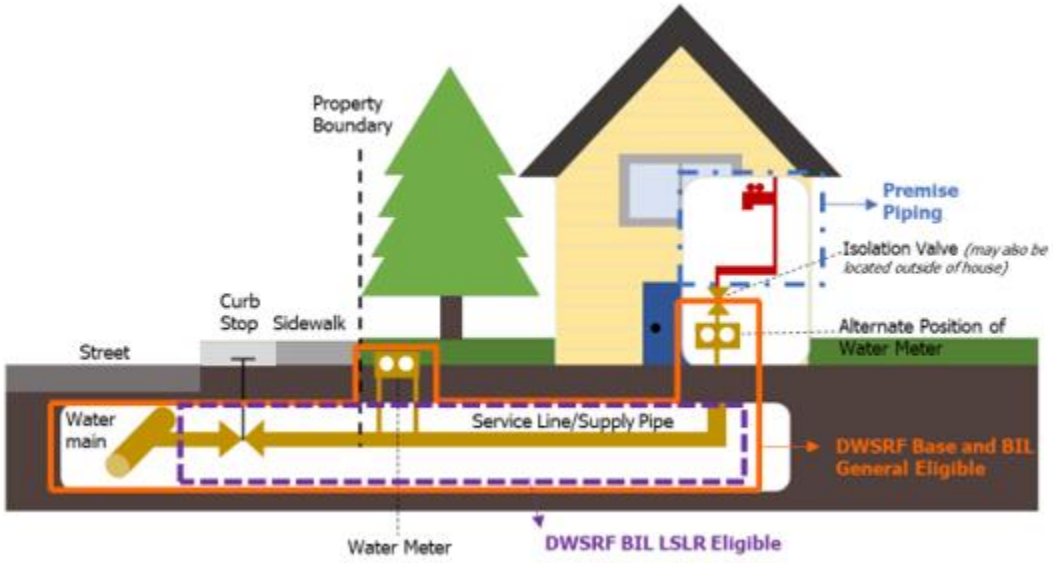




Lead Abatement

The Revised Lead and Copper Rule requires the removal of lead and copper appurtenances, including service lines, from public water systems. This rule will require water utilities to develop an inventory of lead lines within their distribution systems. Many utilities are looking for opportunities to support or encourage homeowners to convert their interior home piping along with the service line changes. As an example, Figure 4 shows the delineation of water service line responsibility. Water utilities will be responsible for replacing lead service lines unless there is not a water utility, but this does not include internal home plumbing changes or homes that are not serviced by a water utility.

Figure 4. Overview of Water and Sewer Line Responsibilities for Utility vs. Homeowners



Lead and copper are one source of concern for drinking water quality, but there are other contaminants (e.g., bacteria, nutrients, and the lack of oxygen) that also represent possible market opportunities to improve the State's drinking water and surface water quality.

Onsite Septic and Well Systems

Approximately 40% of Connecticut residents are on private, small, minimally monitored well or septic systems. Residents in rural, suburban, or coastal areas may not be serviced by larger sewage treatment facilities. Issues with subsurface septic system design, poor maintenance, or siting challenges can cause a system to fail and can also threaten human health by impacting surface or ground drinking water. There is a need for more information on how climate change will impact Connecticut septic systems function.

Like septic systems, individual wells and community well systems present another market opportunity. The CSWP lists water infrastructure including the number of well systems across the state.

- Water supply wells, tanks, and pumps associated with 330 small community water systems

- Water supply wells, tanks, and pumps associated with 547 non-transient[15] non-community water systems
- Water supply wells, tanks, and pumps associated with 1,455 transient non-community water systems
- Approximately 322,500 private water supply wells

Monitoring water quality of each of these well systems vary. Most private wells have no consistent monitoring or testing for water quality. Only recently did DPH require that when a test is performed on a private well, the results be reported to the DPH, the local health department, and in some cases, DEEP[16]. This is a potential opportunity to understand the condition of these well systems and develop an understanding of overall water quality for climate vulnerable residents. The CSWP recommends that the WPC propose legislation to support a private well testing program.

PFAS and Emerging Contaminants

Understanding the scale of PFAS impact is a current matter. Many have projected that the chemical has had far reaching impacts on humans and environmental health across the world. Locally, water utilities and food producers have started testing for PFAS. Testing, treatment and disposal of these compounds has the potential to cause a significant financial burden on public water systems and individual well owners. Testing and regulation are currently being decided at the federal and state level. The market opportunity right now is in monitoring, particularly in instances where there may be heightened exposure.

Surface Water

Environmental health in water is related to surface water and stormwater flows as well as water infrastructure. These areas each have vast market opportunities associated with protecting, enhancing, or restoring functionality. Each impacts the quality of drinking water, water recreation, water habitats, and flooding across the state. This section highlights the opportunity in three specific areas: land-use and land conservation in support of healthy watersheds, stormwater and low impact development, and dam infrastructure across the state.

Land Conservation

Land use policy is within each municipality's control; however, the impacts of land use decisions reach into every aspect of the environmental health of the state. Land conservation and water quality focused land use decisions are critical in achieving the CSWP and the state and federal water goals. Open space and conserved land can aid in providing stormwater benefits, mitigate flooding, protect water sources (i.e., surface water and ground water sources), and filter runoff before entering surface water bodies (i.e., rivers, streams and the Long Island Sound). Through an

[15] Public water systems are generally categorized by the number of people they serve. The four categories are: (1) Large community water systems, which serve over 1,000 people; (2) Small community water systems, which serve under 1,000 people; (3) Transient, non-community water systems, which serve 25 or more different people per day for at least 60 days per year; and (4) Non-transient, non-community water systems, which serve 25 or more of the same people each day for at least 6 months per year.

[16] https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/environmental_health/private_wells/EHDWCL202260Changes19a37PrivateWellSemiPublicWellTestingLaws.pdf

increased intentional focus on land conservation and coordination with municipal land use policy across the state will aid in DEEP's impairment plans[17].

Stormwater

Stormwater is managed through a host of DEEP permits, including the Construction General Permit, Industrial General Permit and the Municipal Separate Storm Sewer Systems ("MS4") permit. Each of these permits aim to manage and reduce the pollutant impact of stormwater runoff. The MS4 General Permit establishes targets to disconnect impervious cover from sewer treatment systems, to also monitor pollutants (like bacteria, total suspended solids, and nutrient levels), and to link water quality standards for aquatic life and recreation to local impervious cover. All towns that have a population over 100,000 with runoff from industrial and construction activities, and a small MS4 is considered any size town with a municipally owned storm sewer system in an Urbanized Area[18]. There are 113 MS4 towns in Connecticut, which covers the majority of the state.

Dam Infrastructure

The CSWP provides an overview of dam regulation, and the role dams play in the state's water management. DEEP administers the state regulatory department of Dam Safety Program,[19] this program regulates dam classifications, inspections, and registrations of all dams in the state. The classification system assigns a potential risk to the dam that accounts for the extent of property, infrastructure, economic loss and threat to life. The hazard classification of the dam determines the inspection frequency and other mandates. The State of Connecticut is the largest dam owner in the state. Other dam owners include corporations and water utilities. Private property owners can also own dams and have to meet the same requirements of inspection, and repair/maintenance. If a dam owner fails to maintain repairs to a significant or high hazard dam enforcement action can be taken to restore a dam to a safe condition.

In 2022, 213 dams were sent notice to conduct inspections. Notices were sent to all dam owners required to conduct inspections, including municipalities, water utilities and private owners. The inspections will detail the repairs needed, reassess the dam structure with respect to storm and water flow data, and account for development and downstream changes. Some inspections will include removal considerations. There is heightened interest in the state of dams, for benefits, risks and protections they provide through recreation, water reservoirs, flood control and flood management including climate change effects, hydroelectric power, and also for how it changes fish and aquatic life. There are approximately 1300 dams in the state that are significant and high hazard, and thousands more smaller hazard dams that can aid in the water management and water quality goals of the state. Supporting dam owners in maintaining highly safe dams and improving fish passage is an opportunity.

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[17] DEEP's statutory reporting requirements according to Sections 305(b) and 303(d) of the federal Clean Water Act (CWA) was submitted to the USEPA on Sept. 26, 2022. This Water Quality Report can be found here: STATE OF CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION 2022 INTEGRATED WATER QUALITY REPORT

[18] "Urbanized Areas are defined by the federal Census Bureau and consist of densely populated areas surrounding urban centers. The criteria for designating UAs are developed by the Census Bureau and maps of UAs are published after each decennial census. The original maps governing the 2004 general permit were based on the 2000 census. The most recent maps reflect the results of the 2010 census." Except from DEEP's MS4 Fact Sheet (GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (ct.gov))

[19] Dams Safety (ct.gov)

Overview of Market Opportunities

Using the guidance of the CWSP, we can view market potential in support of human health and environmental health through the categories of drinking water and surface water:

- Drinking water quality through supporting private wells and residential onsite wastewater treatment and the removal of lead fixtures within the home.
- Emerging contaminant monitoring, treatment, and disposal.
- Land conservation to support healthy watershed management
- Stormwater management through nature-based solutions and supporting the development of stormwater authorities, where needed.
- Dam infrastructure management for flood control, recreation, and support of evaluation for removal

5. Target

There are several targets identified in the CSWP, however surface water quality and water management stand out as topic areas that cross all of the water industry.

Surface Water Quality

DEEP's Nonpoint Source Pollution Management Program[20] identified some key targets to reduce pollution from a collection of sources that could impact a watershed and surface water across the state and region. This program targets three key goals of the program:

1. To restore polluted waters and preserve healthy waters
2. To inform the public and partners about the causes and impacts of NPS pollution
3. To implement strategies that will protect and restore water resources into the future

This program aims to integrate water quality targets across state, federal, and municipal programs that address water quality with particular interest in a coordinated effort maximize effectiveness for Connecticut waters – see Figure 5.

[20] Nonpoint Source Pollution Management Program
https://portal.ct.gov/-/media/DEEP/water/nps/2019ctdeepnpsplanpdf.pdf

Figure 5. Connecticut Nonpoint Source Management Program

The NPS Program highlights specific initiatives in areas of nutrient reduction, bacteria contamination, increasing municipal Low-Impact Development and Green Infrastructure projects.

Nutrient management of phosphorus and nitrogen have set targets and total maximum daily loads ("TMDL") to address the harmful impacts of nutrient pollution in surface water, and particularly in the Long Island Sound. Connecticut and New York along with the EPA developed an implementation plan in 2001 to address the Long Island Sound's low dissolved oxygen levels. Connecticut created the DEEP Nitrogen General Permit Program to achieve nitrogen load reductions. In the next phase of nutrient management in the state, nonpoint sources will be a key area to address nutrients. As for phosphorous pollution, there is legislation (Public Act 12-154) to limit the amount of phosphorous in lawn fertilizers that end up in water runoff.

Water Management

Among the many forms of water management targets, this primer highlights those within stormwater, dams, and flood control infrastructure.

6. Funding and Financing Programs

The following is an alphabetical breakdown of the current funding (i.e., grants) programs in support of "water" in Connecticut, including, but not limited to[21]:

- Community Forest Program ("CFP") – is a competitive grant program through the US Forest Service that provides financial assistance to tribal entities, local governments, and qualified conservation non-profit organizations to acquire and establish community forests that provide community benefits. Community benefits include economic benefits through active forest management, clean water, wildlife habitat, educational opportunities, and public access for recreation.

- Connecticut Open Space and Watershed Land Acquisition Grant Program ("OSWA") (CGS 7-131d) – a matching grants program to provide financial assistance to municipalities, land trusts, and water companies to acquire open space and watershed lands, including the Urban Green and Community Garden Program for vulnerable communities. Initiated in 1998, OSWA is funded by state bonding and the CIA, provides financial assistance to municipalities and nonprofit land conservation organizations to acquire land for open space, and to water companies to acquire land to be classified as Class I or Class II water supply property, and is administered by DEEP to leverage state, local, and private funds to create a cooperative open space acquisition program.

  Since 1998, DEEP has awarded over $150 MM in open space grant funds to protect over 41,000 acres (or $3,659/acre).

- Connecticut Wetland Mitigation and In Lieu Fee Program ("ILF")[22] – per the CWA—landmark environmental protection legislation passed in 1972 that applies to all waters of the United States—parties seeking to construct projects ("permittees") that will have an impact on wetlands must take all reasonable measures to avoid such impacts, to minimize unavoidable impacts, and to provide mitigation for the remaining unavoidable impacts. On the one hand, permittees could themselves be held responsible for taking on wetland and/or stream mitigation projects, but studies have shown that many mitigation sites in southern New England have a high failure rate because they fail to meet performance standards (Minkin and Ladd, 2003). For this reason, the National Audubon Society, Inc., through its state office, Audubon Connecticut, became the "sponsor" of a Connecticut "In Lieu Fee" program as of 2013. The program allows permittees to pay a fee in lieu of taking on mitigation themselves. Instead, local organizations like land trusts and other environmental nonprofits are given the opportunity to apply for and receive grant funding to protect and enhance wetlands.

[21] National trends have emphasized multi-benefit investment that brings "nontraditional", often siloed sectors and partners together. Exploration into existing collaborations in support of green infrastructure and opportunities to finance projects that meet community needs and address climate impacts on water management will be critical in the development of the CT Green Bank's work in the water sector. Resources like Georgetown's Green Infrastructure Toolkit are a resource in how to blend capital to fund green infrastructure: https://www.georgetownclimate.org/adaptation/toolkits/green-infrastructure-toolkit/how-to-pay-for-green-infrastructure-funding-and-financing.html

[22] https://ct.audubon.org/conservation/in-lieu-fee-program

- Emergency Watershed Protection Program – program administered by NRCS to respond to floods, fires, windstorms, and other natural disasters. The program funds removing debris, protecting eroded banks, correcting damaged drainage facilities, repairing levees, and purchasing flood plain easements. For construction activities, it provides up to 75% of the project costs.

- Forest Legacy Program ("FLP") – DEEP partners with the US Forest Service ("USFS") to implement the FLP. The FLP helps to identify and conserve environmentally important forests. The program protects working forests, those forests that protect water quality and provide habitat, forest products, opportunities for recreation and other public benefits. The program encourages and supports acquisition of conservation easements. Conservation easements are legally binding agreements transferring a negotiated set of property rights from one party to another, without transferring property ownership. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect various environmental values. There are also limited instances under the program where properties are purchased outright for their conservation values. In both instances, the federal government may fund up to 75% of program costs, with at least 25% match required from private, state or local sources.

- Land and Water Conservation Fund ("LWCF") – LWCF is a federal program that was established by an Act of Congress in 1965 to provide funds and matching grants to federal, state and local governments for the acquisition of land and water, and easements on land and water, for the benefit of all Americans. The main emphases of the fund are recreation and the protection of natural treasures in the forms of parks and protected forest and wildlife areas. In August 2020, the President Trump signed the Great American Outdoors Act into law, which requires that the LWCF be funded at $900 million yearly from offshore oil and gas revenues, a significant increase from previous funding levels, however prior to the Act much of these funds were being diverted to non-conservation purposes. The permanent authorization of the LWCF ensures that the full amount of annual funding is available for conservation purposes.

- Long Island Sound Futures Fund (LISFF) – LISFF[23] is an annual grant program offered by the National Fish and Wildlife Foundation (NFWF) that supports efforts to test innovative approaches to conservation, deliver transformative projects, and support people and communities who value the Sound and take a direct role in its future. This shared vision for the sound includes clean and clear waters, accessible shorelines, litter free beaches, abundant and diverse fish and wildlife, and resilient coastal communities. Nearly all of CT is geographically eligible for LISFF funding. Communities and organizations anywhere in the CT portion of the Long Island Sound watershed boundary are geographically eligible for resilience, water quality and fish passage, education and outreach, and nutrient prevention and reduction projects. Communities in the Long Island Sound coastal watershed boundary are eligible for the aforementioned activities, as well as habitat restoration projects.

- National Park Service – Rivers, Trails and Conservation Assistance Program ("NPS-RTCA") – NPS-RTCA's technical assistance program supports locally-led conservation and outdoor recreation projects. Though the program does not provide funding, it assists communities

[23] Long Island Sound Futures Fund | NFWF

and land managers in evolving climate resiliency strategies, developing or restoring parks, conservation areas, rivers, and wildlife habitats, as well as creating outdoor recreation opportunities and programs that engage future generations in the outdoors.

- Recreation and Natural Heritage Trust Program ("RNHT") – administered by DEEP, is the main program to purchase or conserve state lands for conservation and public use or benefit. Since 1998, the State Bond Commission has approved $177 MM to go towards the RNHTP to protect over 49,000 acres (or $3,612/acre).

- USDA Natural Resource Conservation Service (NRCS) – administers conservation programs in the United States that brings millions of dollars annually to Connecticut. USDA NRCS provides financial assistance to farmers and other private landowners through the Farm Bill. The Environmental Quality Incentive Program (EQIP) provides funding to eligible producers, non-industrial forestland landowners, and Tribes for soil health, erosion control, nutrient management, water conservation, pollinator habitat, wildlife habitat, and forest management. A percentage of funds allocated for source water protection (drinking water supply). The Agriculture Conservation Easement Program (ACEP) funds farmland protection and wetland protection. In addition to Farm Bill funding, NRCS also has Watershed Operation funding that can be used for flood control, erosion control, and other watershed water resource management programs. The Emergency Watershed Protection Program can be used for floods, fires, windstorms, and other natural disasters. The program funds removing debris, protecting eroded banks, correcting damaged drainage facilities, repairing levees, and purchasing flood plain easements.

- Water Infrastructure Finance and Innovation Act ("WIFIA")[24] – established in 2014, WIFIA is a federal credit program that is administered by the EPA for eligible water and wastewater infrastructure projects. Eligible borrowers include local, state, tribal and federal government entities, partnerships and joint ventures, corporations, and trusts, and SRF programs. WIFIA can fund development and implementation activities for eligible projects, including projects eligible for CWSRF (not withstanding public ownership clause), projects eligible for DWSRF, enhanced energy efficiency projects at drinking water and wastewater facilities, brackish or sweater desalination, aquifer recharge, alternative water supply, and water recycling projects, drought prevention, reduction, or mitigation projects, acquisition of property in integral to the project or will mitigate the environmental impact of a project, or a combination of projects secured by a common security pledge or submitted under one application by an SRF program. Eligible development and implementation activities are development level, construction, acquisition, or capitalized interest activities.

The following is a breakdown of the current financing (i.e., loans, tax credits) programs that could support water infrastructure in Connecticut:

- State Revolving Fund ("SRF") – since 1988, Connecticut has received over $650 MM from the federal government through the Clean Water SRF, while providing cumulative assistance (i.e., including state investment) of $2.8 billion of investment primarily in centralized wastewater treatment infrastructure (in comparison to stormwater, energy

[24] Water Infrastructure Finance and Innovation Act (WIFIA) | US EPA

conservation, and water conservation infrastructure).[25] With the passage of the bipartisan supported "Investing in Infrastructure and Jobs Act" ("IIJA" or Bipartisan Infrastructure Law "BIL") in November of 2021, there were additional resources allocated to the SRF for water quality and drinking water (i.e., $445 million).[26] SRF could be used to invest in green infrastructure projects (e.g., land conservation, water, nature-based solutions) for both mitigation and adaptation. Additionally, after initial repayment to the state, it may be possible for SRF funds to serve as a source of non-federal match for other federal funding programs, though this has yet to be proven.

The water landscape in Connecticut is vast, with a lot of stakeholders with deeply invested missions to solve the water challenges the state's residents face. Accessing funding or financing resources for water in Connecticut beyond established funds will be difficult. Finding a place in these challenges to bring Green Bank tools will be new to the industry and to stakeholders. Identifying new mechanisms to access additional funding and financing resources, especially those that seek to unlock more private capital investment, could provide a catalyst to increase and accelerate investment in a healthy and equitable water future in Connecticut.

7. Other Programs

The following are other items of note with respect to "water":

- Water Planning Council – comprised of four (4) state entities, including the Public Utilities Regulatory Authority, Department of Energy and Environmental Protection, Department of Public Health, and the Office of Policy and Management, the Council's responsibility is to develop a State Water Plan.

8. Stakeholder Outreach

In an effort to understand the public policy and marketplace context for "water" in Connecticut, the Green Bank met with many organizations.[27]

These fourteen water-related organizations primarily represent non-profit organizations but include public and for-profit organizations as well.

The objectives of these one-hour conversations included:

- Introductions – to get a better understanding of the mission and initiatives of the various public, nonprofit, and for-profit stakeholders operating within the "water" space, and to introduce the Green Bank;

[25] Including Title II and VI funds – https://www.epa.gov/sites/default/files/2021-02/documents/ct.pdf

[26] https://www.whitehouse.gov/wp-content/uploads/2021/08/CONNECTICUT_The-Infrastructure-Investment-and-Jobs-Act-State-Fact-Sheet.pdf

[27] Water –Department of Public Health, Department of Energy and Environmental Protection, Treasurer's Office, Conservation Districts, Green Print Partners, Long Island Sound Study (Throwe Environmental), Aquarion Water Company, Clean Water Fund, Operation Fuel, Save the Sound, PURA, Council for Environmental Quality, 120 Water, Regional Water of New Haven

- Environmental Infrastructure – inform the various stakeholders about the "environmental infrastructure" policy,[28] process the Green Bank is pursuing to develop a Comprehensive Plan, and to elicit discussion on the following areas:

    - Relevance – how relevant "environmental infrastructure" and its components (e.g., water) are to the stakeholder's mission and initiatives;

    - Policies and Targets – what local, state, and federal policies (e.g., CWA), including plans (e.g., Green Plan) are important from the stakeholder's perspective, and what targets are they seeking to achieve;

    - Metrics – what are the key metrics stakeholders believe are important in terms of monitoring and evaluating success from investments in "environmental infrastructure" improvements and "water";

    - Vulnerable Communities – how does the stakeholder's organization think about the impacts that must be addressed from climate change to build the resilience of vulnerable communities;[29] and

    - Stakeholder Identification – who else should the Green Bank meet with on the topic.

From these conversations, the Green Bank was able to develop a better understanding as to the role it might play in terms of financing "water" from the perspective of its mission – to confront climate change.

9. Findings

Based on the various meetings with public, nonprofit, and private stakeholders, the following are key findings with respect to water (it should be noted that additional findings have been generalized in the footnote):[30]

- State Revolving Funds – given the provisions within Public Act 21-115 in relation to the SRF, the Green Bank should avoid any and all conflicts with DEEP (e.g., investments in wastewater treatment plants) and DPH (e.g., investments in water treatment plants) in administering the Clean Water and Clean Drinking Water Revolving Loan Funds. The Green Bank's focus could be on areas not traditionally covered by the SRF in Connecticut (e.g., green infrastructure – lake or river)[31] – see Figure 5.

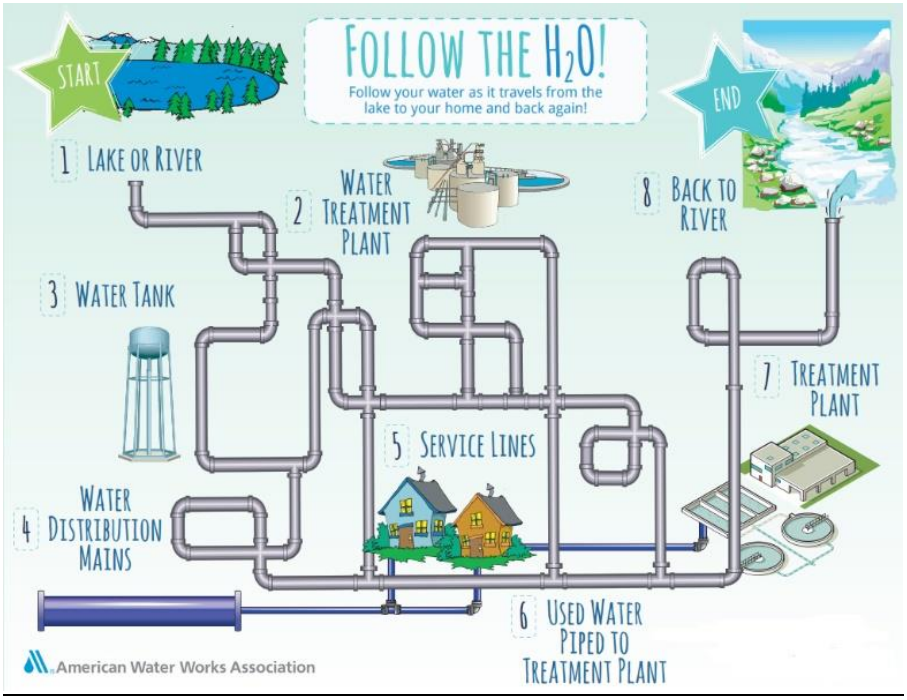
[28] Public Act 21-115 – An Act Concerning Climate Change Adaptation"

[29] As defined by Public Act 20-05

[30] Additional findings – Stakeholder feedback included raising concerns in several areas across the broader water sector and included nutrient retention and reduction, the concept of "One Water" to manage water without divides in source water protection and drinking water, integrating USDA programs that cover a wide range of environmental issues, "Rain Tax" – referring to the fees associated with stormwater utilities for areas with impervious surfaces that form stormwater runoff and surface water pollution, the connection between stormwater and surface water quality, biosolids and their impact on water quality and emerging contaminants, how to bring in community water systems not regulated by PURA when 30% of residents are on wells, data transparency and protection - some states have water quality dashboards.

[31] "Financing Green Stormwater and Natural Infrastructure with Clean Water State Revolving Funds" by the Environmental Policy Innovation Center (February 14, 2022) – see Figure 4 on Page 11 (click here)

Figure 6. Green Infrastructure Focus - (1) Lake or River and (8) Back to River



- Policy and Regulation Enables Markets and Investment – in Washington, DC, the District Department of Energy and Environment administers a regulated marketplace for the purchase of stormwater retention credits by developers provides a market-based opportunity to convert impervious surface to pervious surface, among other eligible practices. In addition, to help comply with a Consent Decree under the Clean Water Act, the municipal water utility DC Water structured and sold novel environmental impact bonds to private investors to prove the efficacy of green stormwater infrastructure in reducing combined sewer overflows. In these and other instances, policy and regulation enable local government innovation and private investment in environmental infrastructure.

- Resource Adequacy – many river basins have enough water to satisfy both instream (ecological, recreation) and out-of-stream (drinking, industry, agriculture, energy) needs most of the time, but they cannot all supply these needs during drought, or even typical summer conditions. Climate change is likely to have a significant effect on potential flooding in Connecticut and could also result in drier summers in the next 25 years.[32]

- Impact Metrics – the following is a "high level" breakdown of the types of metrics appropriate for water – see Table 1.

[32] Connecticut State Water Plan Summary (p. 2)

Table 1. Relevant Metrics Identified by Stakeholders on Water

Inputs	Outputs	Outcomes
○ Flow diverted from treatment ○ Nitrogen, phosphorous and TMDL ○ Bacterial levels ○ Increased storm impacts (i.e. flooding and coastal changes) ○ Design life of built infrastructure (dams, septic, well systems) ○ Combined Sewer Overflow ○ Linear feet of lead and copper piping ○ Land conserved for watershed protection ○ Land conserved for urban stormwater management ○ Private well testing ○ Septic repair/maintenance	○ Wastewater treatment cost reduction ○ "Raw" water quality improved ○ Multi-use properties (stormwater and parks) ○ Nature-based green infrastructure that relieves designed infrastructure stress ○ Efficient water use ○ Access to resilient, clean water supply	○ Coastal and urban communities that are more prepared for extreme weather storms ○ Municipalities that are not stressed with increasing cost to treat stormwater ○ Recharged groundwater systems ○ Increased water recreation and aquatic life ○ Reduced/removed exposure to lead leading to improvements in learning in children ○ Water quality in surface water, especially the Long Island Sound ○ Ecosystem services (e.g., resilience, public health, water quality, soil quality) ○ Jobs

- Vulnerable Communities – even though black, indigenous, and people of color ("BIPOC") represent nearly one-quarter of the U.S. population, water quality and water infrastructure has lacked across the nation in these communities. In August 2022, Jackson, Mississippi experienced a public health crisis after an extreme storm exasperated the failed water infrastructure that served this BIPOC community. These concerns and disparities are not decades in the past but exist today. Finding these instances in Connecticut will aid in allocating the needed resources to bring neglected environmental justice communities a resilient climate future.[33]

These are the key findings from the stakeholders on water.

10. Opportunities

The following is a list of opportunities for consideration by the Green Bank given the broad categories of information and data, environmental markets and conservation finance, funding and financing sources, and other potential opportunities:

1. Partnership – foundational to this sector is partnership with the WPC, specifically DEEP and DPH given their roles and administration of the SRF. The development of the Green Bank's expanded scope encourages that collaboration. The Green Bank seeks to support these agencies in attracting private capital to achieve our ambitious water goals.

[33] EPA Report Shows Disproportionate Impacts of Climate Change on Socially Vulnerable Populations in the United States | US EPA

a. DEEP Partnership – in areas of water quality, green stormwater and Low Impact Development ("LID"), climate planning for flood management, and nutrient and pollutant reduction in the waters of the state.

b. DPH Partnership – in supporting drinking water quality, land protection for improved water quality, water quality testing that supports mitigation and remediation projects particularly for vulnerable and underserved communities.

c. Other Partnerships – including with PURA and water suppliers in removing lead and copper lines across the state to improve drinking water quality for all of Connecticut and with municipalities to reduce localized flooding and stormwater through implementation of nature-based solutions.

2. Information and Data – as a foundation, access to high quality information is important from which to base decisions. The following is a breakdown of opportunities for consideration with respect to information and data:

   a. Water Quality Testing – support access to water quality testing, particilarly for homes whose water source is a small communtiy well or individual well source. The CSWP lists this as a recommendation (Section 5.1 Future Water Data Needs) and that all results of water quality testing is shared with the DPH, similar to the testing done for real estate transactions, CGS Section 19a-37. Developing a platform and access to testing and transparent data management can aid in achieving water quality across the state and supporting those most vulnerable to pollutant impacts to drinking water sources.

3. Environmental Markets and Conservation Finance – in terms of identifying potential carbon offset and/or ecosystem services revenue streams within compliance and voluntary markets that can support financing of water, the following is a breakdown of opportunities for consideration with respect to environmental markets and conservation finance:

   a. Trading Programs – as recommended within the CSWP, determine whether there is a consistent way to monetize the value of water, how to incentivize green infrastructure, and investigate the potential to develop water quality or quantity trading programs.

4. Funding and Financing Sources – in terms of identifying additional funding (i.e., grants) and financing (e.g., loans) that can increase and accelerate investment, the following is a breakdown of opportunities for consideration with respect to funding and financing of water:

   a. Smart-E Loan – expand the scope of the Smart-E Loan beyond "clean energy" to include "environmental infrastructure" (e.g., climate adaptation and resilience, water)[34] to enable private capital to finance such home improvements for water

(e.g., appliances, aging pipes, well water, water quality testing, septic systems, dams, flood protection).

b. Commercial Property Assessed Clean Energy ("C-PACE") – expand the scope of C-PACE beyond "clean energy" to include "environmental infrastructure" (e.g., climate adaptation and resilience, water) to enable private capital to finance such property improvements for water (e.g., stormwater management, flood protection).

c. Green Liberty Bonds – leverage the strength of the Green Bank balance sheet, with the award-winning climate bond structure of the Green Liberty Bonds modelled after the War Bonds of the 1940's, to support investments in water:

   i. Pilot Revolving Loan Fund for Buy-Protect-Sell – a pilot revolving loan fund would offer low interest rates and better terms to support land trusts buy land now for later protection and management (i.e., working land easements), and sale (or lease), including priority for lands with important water quality and/or quantity. CSWP recommends encouraging the acquisition or protection of additional watershed lands and striving for consistency with recommendations of the Green Plan.

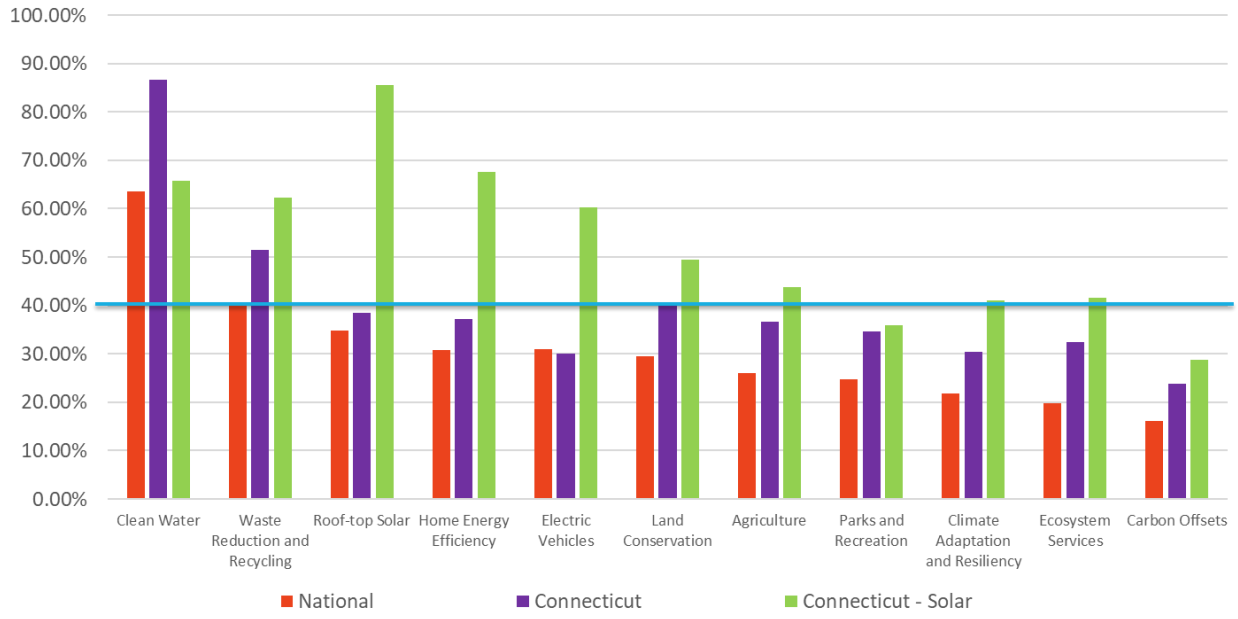
   ii. Pilot Revolving Loan Fund for Stormwater Authorities – in partnership with local stormwater authorities (e.g., Groton, New Britain), develop a revolving loan fund capitalized through the issuance of Green Liberty Bonds backed by the Special Capital Reserve Fund ("SCRF"), including revenues received through stormwater utility rates to fund bioswales, rainwater capture, and other water resiliency measures with measurable impact.

   iii. Pilot Revolving Loan Fund for Dams – to support upgrades, retrofits, and/or repowering to aging infrastructure for dams that are held by private property owners, municipalities, state, and others, develop a revolving loan fund capitalized through the issuance of 50-year Green Liberty Bonds backed by the SCRF.

   From research conducted by the Green Bank, it can be seen that retail investors in bonds are interested in clean water – see Figure 7.

It should be noted that in FY23, the Deployment Committee of the Green Bank approved the inclusion of climate adaptation and resiliency and water measures within the Smart-E Loan. Additional actions are needed before such measures can be offered through the financing program.

Figure 7. Retail Investor Use of Proceed Interest in Clean Energy and Environmental Infrastructure

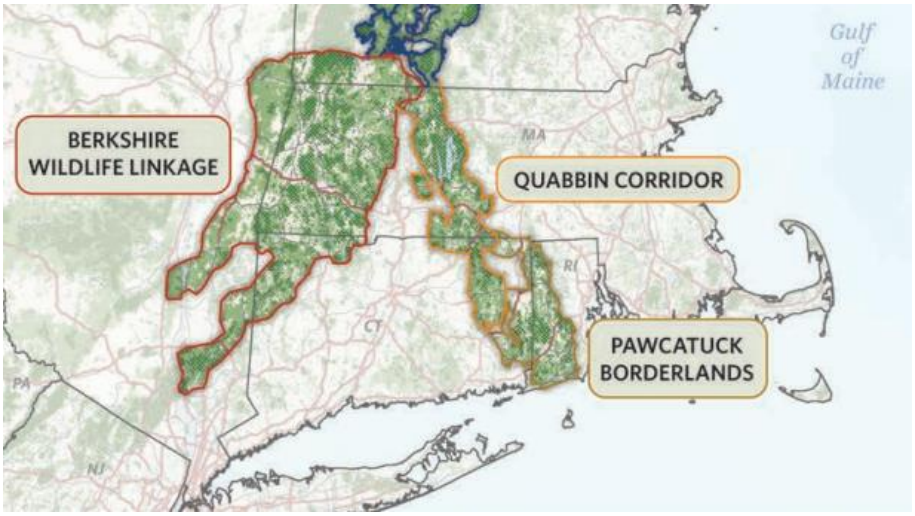


d. Community Match Fund ("CMF") – a program of Sustainable CT, the Community Match Fund provides fast, flexible funding, and support for community engagement on a wide-range of sustainability projects. This CMF uses an innovative, online tool to connect grant contributions from the "crowd," which are matched by various donor interests, including, but not limited to individuals, foundations, and the State of Connecticut. As of January 1, 2022, the Fund has raised $1.3 MM from nearly 10,000 individual contributors, which was matched by $1.1 MM from various sponsors, and supported 195 projects. The Green Bank could consider working with entities like Sustainable CT, with tools like the CMF, to enable funding for water to be matched by crowd-sourced funding, while also ensuring that equity and vulnerable communities are front and center in receiving the benefits of such investment.

e. State Revolving Funds – although not a Green Bank resource, existing and additional SRF resources could be used by the state to provide low-cost and long-term capital to finance green infrastructure projects (e.g., land conservation, water) in Connecticut, or in partnership with other states across the Northeast region. As recommended with the CWP, defining green infrastructure approaches and exploring ways in which entities can use green infrastructure to address water quality is an opportunity. The Green Bank could recommend to its state colleagues that a portion of the SRF be used for green infrastructure projects in Connecticut as is being done by other states. For example, the Rhode Island Infrastructure Bank requires municipal borrowers to identify green infrastructure projects for 10% of the value of their clean water loans; the Commonwealth of Virginia invested $20 MM of its SRF in a $130 MM transaction to protect 253,000 acres across three-states to acquire land in Central Appalachia. Regional collaboration on the SRF and land conservation could target focal landscapes in the Berkshire Wildlife Linkage (i.e.,

1,579,566 acres in the landscape with 31% protected including lands in MA, NY, and VT), Quabbin Corridor (i.e., 475,864 acres in the landscape with 37% protected including lands in MA and NH), and/or Pawcatuck Borderlands (i.e., 473,397 acres in the landscape with 23% protected including lands in MA and RI) – see Figure 8.[35]

Figure 8. Regional Opportunity for the State Revolving Fund and Nature-Based Solutions to Climate Change



5. Other Potential Opportunities – there are a number of other potential opportunities that can support financing of water, including:

    a. Public Policy – working with DEEP, DPH and the WPC, consider public policies to advance working lansprotection in Connecticut with the goal of "no net loss of farmlands and forestlands to development," including, but not limited to:

        i. Conservation Finance Act – consider public policies that provide incentives for performance-based outcomes modelled after Maryland's Conservation Finance Act,[36] which would enable more private investment in nature-based solutions that result in measurable improvements to ecosystems, including carbon offsets and ecosystem services.

    b. Sustainable CT – commits municipalities to take on a variety of tasks to promote sustainability and earn points for community designation, including:

        i. 3.1 Provide Watershed Education – providing residents and business owners education to protect and restore the local watershed.

        ii. 3.3 Engage in Watershed Protection and Restoration – complete a project or adopt/revise regulations that protect your watershed, source water, and/or riparian corridors.

[35] "A Safe Harbor for Nature – New England's Resilient and Connected Network of Land" by The Nature Conservancy
[36] https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/sb0348?ys=2022RS

iii. 3.6 Manage for Drought and Municipal Water Use – develop municipal policy that reduces water use and drought communication plan to inform residents

iv. 3.8 Implement Low Impact Development – inspire LID projects across the community through education, trainings and adapting regulations and policy to encourage projects.

v. 3.14 Implement Sustainable Snow Management – promote sustainable management of snow and ice through reducing salt and chemical use to improve road runoff.

vi. 5.4 Assess Climate Vulnerability – assess local vulnerability to climate change, including flooding, extreme temperatures, and develop a mitigation plan.

Promote the existing areas noted above while exploring the possibility of additional points to advance green water infrastructure in Connecticut.

These are a few of the opportunities identified by the Green Bank to support its mission and advance water in Connecticut. Developing a method for prioritizing what opportunities under consideration are ultimately pursued, given the limited human and financial resources and organizational structure of the Green Bank, is an activity for a later date.

11. References

In addition to the conversations with stakeholders, the Green Bank reviewed the following documents to support its findings and opportunities:

- Policy Link – A research and policy organization that provides data and resources in water infrastructure equity. The organization publishes several resources for water policy and planning organizations, including their report titled *Water, Health, and Equity: The Infrastructure Crisis Facing Low-Income Communities and Communities of Color – and How to solve it* *https://www.policylink.org/sites/default/files/CWC_Report_Full_report_lowres.pdf*

- Environmental Policy Innovation Center – Developed a report that highlights opportunities for philanthropic investment in water equity. *Impact Investing Opportunities to Advance Water Health & Equity* (July 2022)

  And a report that highlights opportunities for State Revolving Funds to invest in green infrastructure. *Financing Green Stormwater and Natural Infrastructure with Clean Water State Revolving Funds* (February 2022)

- Connecticut State Water Plan – A comprehensive water plan across state and local agencies on the state and future planning of water resource management (July 2018)

- The State of Public Sector Green Infrastructure (2022) – A report developed by the Green Infrastructure Leadership Exchange, a peer learning network of public sector practitioners on the condition, barriers, and scaling of green stormwater infrastructure. GSI REPORT (stateofgsi.org)

12. Definitions

The following are important definitions when it comes to "water" in Connecticut:

- Clean Water Fund – is a nonprofit organization based in Washington, DC and established in 1974 to help people campaign for clean water, air and protection from toxic pollution. Although the name resembles the Clean Water Act and the Safe Drinking Water Act, they are outside of the Federal government but support the protection of these laws.

- Clean Water State Revolving Fund (CWSRF) – created in the 1987 amendments to the Clean Water Act (CWA) as a financial assistance program between the states and the federal government in support of water infrastructure projects. Using a combination of federal and state funds, the CWSRF provides loans to recipients for eligible water infrastructure projects. The USEPA grants all 50 states (and Puerto Rico) funds, and the states contribute an additional 20% match to the federal grant.

- Combined Sewer Overflow (CSO) or Combined Sewer System (CSS)[37] – is a type of wastewater collection system that combines rainwater, domestic sewage, and industrial wastewater into one pipe. On sunny dry days the system flows directly to a sewage treatment plant and after treatment is discharged into a waterbody. During heavy rainfall events or other high water flow times, the capacity of what is sent to the treatment plant is exceeded and untreated stormwater and wastewater are directly discharged into the waterbody. CSO's are subject to EPA's National Pollutant Discharge Elimination System (NPDES) permit program.

- Emerging Contaminants – broadly defined as any synthetic or naturally occurring chemical or any microorganism that is not commonly monitored in the environment but has the potential to enter the environment and cause known or suspected adverse ecological and/or human health effects. In some cases, release of emerging chemical or microbial contaminants to the environment has likely occurred for a long time but may not have been recognized until new detection methods were developed. One example of an emerging contaminant is PFAS[38].

- Environmental Infrastructure – means structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services.

[37] https://www.epa.gov/npdes/combined-sewer-overflows-csos

[38] Information on emergent contaminants definition from EPA and CTDEEP: https://www.epa.gov/fedfac/emerging-contaminants-and-federal-facility-contaminants-concern
Contaminants of Emerging Concern (ct.gov)

- Impaired Water – Impaired waters are waters that do not meet Water Quality Standards (WQSs) even after point sources of pollution (e.g., municipal and industrial discharges) have installed required levels of pollution controls. Each state, including Connecticut, is required under Section 303(d) of the Clean Water Act (CWA) by EPA to develop a list of impaired waters (rivers, lakes, waterbodies) every two years.

- Non-Point Source Pollution – is the pollution resulting from many dispersed sources across a watershed, as opposed to a single source (direct) pollution. One example of non-point source pollution is stormwater created from rain and precipitation flowing over impervious (land cover (i.e. concrete that doesn't allow fluid to flow through).

- Open Space Land (CGS 12-107(b)(3))[39] – open space land means any area of land, including forest land, land designated as wetland under section 22a-30 and not excluding farm land, the preservation or restriction of the use of which would (A) maintain and enhance the conservation of natural or scenic resources, (B) protect natural streams or water supply, (C) promote conservation of soils, wetlands, beaches or tidal marshes, (D) enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries or other open spaces, (E) enhance public recreation opportunities, (F) preserve historic sites, or (G) promote orderly urban or suburban development.

- Resilience – means the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from deliberate attacks, accidents or naturally occurring threats or incidents, including, but not limited to, threats or incidents associated with the impacts of climate change.

- Stormwater – water resulting from rain or snowmelt that runs off surfaces such as rooftops, paved streets, highways and parking lots. Along the way, the water may pick up and transport contaminants including motor oils, gasoline, antifreeze, and brake dust (commonly found on pavements), fertilizers and pesticides (found on landscaped areas), and soil sediments (from farms and construction sites). The water eventually flows into a local stream, river or lake, or into a storm drain and continues through storm pipes until it is released untreated into a local waterbody. Stormwater is considered a nonpoint source pollutant because there is no one discharge location but instead a collection of water within a watershed.

- Vulnerable Communities – means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, (1) low and moderate income communities, (2) environmental justice communities pursuant to section 22a-20a, (3) communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, (4) populations with increased risk and limited means to adapt to the effects of climate change, or (5) as further defined by the Department of Energy and Environmental Protection in consultation with community representatives.

[39] https://www.cga.ct.gov/current/pub/chap_203.htm#sec_12-107b

- Wastewater – any water that has been used in a home or facility (including industrial water use) by humans or animals is wastewater. That includes the water that flows from sinks and toilets in a home, and also the water used in manufacturing facilities.

May 10, 2023

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
ggrf@epa.gov

SUBJECT: Public Comments from the Connecticut Consortium – Written Comment: Greenhouse Gas Reduction Fund Implementation Framework, Solar for All Docket ID No. EPA-HQ-OA-2022-0859

Dear Administrator Regan:

The Connecticut Consortium values the U.S. Environmental Protection Agency's ("EPA") invitation to provide comments regarding the Implementation Framework ("Framework") for the Greenhouse Gas Reduction Fund ("GGRF"), specifically with respect to its "Solar for All" competition. The Framework invites written technical feedback and comments on the design and implementation of the GGRF.

The Connecticut Consortium consists of:

- **Connecticut Green Bank ("Green Bank")** [Co-Applicant] – As the nation's first state-level green bank, the Green Bank is a quasi-public agency. The vision of the Green Bank is "a planet protected by the love of humanity," and its mission is "to confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities". It achieves its mission by (1) leveraging limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut, (2) strengthening Connecticut's communities, especially vulnerable communities,[1] by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses, and (3) pursuing investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability. By 2025, no less than 40 percent of investment and benefits from its incentive and financing programs are directed to vulnerable communities.

  For more on the green bank model – see Attachment A.

  With its experience leading residential solar and storage incentive and financing programs, the Green Bank will be a Co-Applicant.

- **Department of Energy and Environmental Protection ("DEEP")** [Co-Applicant] –DEEP is charged with making cheaper, cleaner and more reliable energy available for the people and businesses of the state,

[1] Per Public Act 20-05, "vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by the Department of Energy and Environmental Protection in consultation with community representatives.

in addition to conserving, improving, and protecting the state's natural resources and environment. The agency is committed to playing a positive role in building Connecticut's economy and creating jobs, all with the incentive of fostering a sustainable and prosperous economic future for the state. Since the agency's inception, DEEP has made great environmental strides including, but not limited to, cleaning up the land and waters of Long Island Sound, improving air quality, beautifying Connecticut's landscape, protecting natural resources, expanding the network of state parks and forests, and restoring terrestrial wildlife and aquatic life in the state's waterways. Work at DEEP has also helped support Connecticut's achievement of over 75% of our state-wide electric load being firmly contracted with zero-emission technologies.

With its leadership in overseeing climate change and clean energy policy, DEEP will be a Co-Applicant.

- **Public Utilities Regulatory Authority ("PURA")** [Co-Applicant] – PURA is Connecticut's regulatory agency that oversees the rates and services of electricity, natural gas, water and telecommunications companies, and manages franchises for the state's cable television companies. PURA is statutorily-charged with ensuring that Connecticut's investor-owned utilities, including the state's electric, natural gas, water, and telecommunications companies, provide safe, clean, reliable, and affordable utility service and infrastructure. A quasi-judicial agency that interprets and applies the statutes and regulations governing all aspects of Connecticut's utility sector, PURA's role encompasses many responsibilities. This includes setting the rates charged by investor-owned utilities, advancing modernization of the electric distribution system, regulating the retail electric supplier market, implementing federal requirements for natural gas pipeline safety, fostering adequate water system infrastructure investments, providing education and outreach for consumers, and regulating the expansion of telecommunications infrastructure.

  With its leadership overseeing the implementation of residential solar, community solar, and battery storage incentive programs and policy, PURA will be a Co-Applicant.

- **Connecticut Housing and Finance Authority ("CHFA")** – Another essential quasi-public agency, CHFA's mission is to alleviate the shortage of housing for low- to moderate-income families and persons in this state and, when appropriate, to promote or maintain the economic development of this state through employer-assisted housing efforts. All 169 Connecticut towns have benefited from financing by the self-funded agency which lends more than $500 million dollars each year for affordable housing. CHFA leverages its financial strength in partnership with public and private investors resulting in nearly 147,000 Connecticut residents having purchased their first homes with a CHFA below-market interest rate mortgage thus far. Not only has it afforded Connecticut residents the ability to begin building their financial futures, CHFA's investments have built or renovated the more than 58,000 affordable multifamily apartments that hundreds of thousands of state residents call home.

  As a quasi-public organization focused on housing and finance, CHFA is an instrumental part of the interagency team working on residential solar and storage investment and deployment on affordable housing.

- **Department of Banking ("DOB")** – DOB regulates the financial services industry in Connecticut. The agency is the primary state regulator for securities, consumer credit and state-chartered banks and credit unions. The DOB's mission is rooted in advocacy for consumer and investors and they are responsible for financial implementations including, but not limited to, licensing and regulation of individuals and businesses that fall under their jurisdiction. The agency's necessary enforcement actions can result in administrative orders and settlement agreements pertinent to the ongoing development and security of Connecticut's finances.

With its leadership regulating the banking industry, DOB will use its authority that federal law provides (e.g., Community Reinvestment Act) to encourage regulated financial institutions to support and expand lending efforts to low-income and disadvantaged communities so that they may have the necessary capital to benefit from solar and storage.

- **Department of Housing ("DOH")** – DOH works together with municipal leaders, public agencies, community groups, local housing authorities, and other housing developers in the planning and development of affordable homeownership and rental housing units, the preservation of existing multi-family housing developments, community revitalization, and financial and other support for Connecticut's most vulnerable residents through their specialized funding and technical support programs. DOH annually invests $200M in bonds to produce and preserve affordable housing. As the State's lead agency for all matters relating to housing, DOH provides leadership for all aspects of policy and planning relating to the development, redevelopment, preservation, maintenance and improvement of housing serving low- and moderate-income individuals and families. DOH is also responsible for overseeing compliance with applicable statutes, regulations, and financial assistance agreements for funded activities through long-term program compliance monitoring. Their mission is to eliminate homelessness and to catalyze the creation and preservation of quality, affordable housing to meet the needs of all individuals and families statewide to ensure that Connecticut continues to be a great place to live and work.

  With its leadership overseeing housing policy, DOH is an instrumental part of the interagency team working on residential solar and storage investment and deployment on affordable housing.

The State of Connecticut has taken several leading public policy positions in the green economy transition, including:

- **Reducing Greenhouse Gas Emissions** – targeting no less than a 45 percent reduction from 2001 levels by 2030,[2] 100% decarbonization of the electric sector by 2040, and no less than an 80% reduction from 2001 levels by 2050[3];

- **Justice 40** – within various incentive programs,[4] establishing residential solar and battery storage targets of no less than 40 percent of investment and benefits directed towards low-income families, distressed communities, and vulnerable communities; and

- **Just Transition** – enabling workforce development programs, including pre-apprenticeship and apprenticeship training, paying prevailing wages, and requiring community benefits agreements for certain type of renewable energy project.[5]

These important foundational public policies reduce greenhouse gas emissions while delivering benefits from mobilizing financing and private capital investment in and deployment of such projects in communities, particularly low-income and disadvantaged communities ("LIDACs").

[2] Consistent with the Nationally Determined Contribution of 50-52 percent reduction of 2005 levels by 2030

[3] In the ongoing 2023 Connecticut General Assembly session, DEEP has submitted legislation that would, among other objectives, increase the state's 2050 target to net-zero and require the agency to establish sub-sector emissions reduction targets.

[4] Residential Renewable Energy Solutions and Energy Storage Solutions

[5] Public Act 21-43 – "An Act Concerning a Just Transition to Climate-Protective Energy Production and Community Investment"

The Connecticut Consortium intends to submit a response to the forthcoming Solar for All Notice of Intent ("NOI"), with the Green Bank, DEEP, and PURA as Co-Applicants. Beyond Solar for All, the Co-Applicants will closely monitor opportunities to engages with the National Clean Investment Fund ("NCIF") and Clean Communities Investment Accelerator ("CCIA") competitions. We encourage the EPA to clearly identify how states can productively engage in the governance of the NCIF and the CCIA in future guidance. The funding for these two competitions will significantly impact states' abilities to cost-effectively decarbonize. Therefore, decisions about which projects and programs are financed/funded over the long-term from these two competitions need to align, and remain aligned, with state policy goals.

For the Solar for All competition, the Connecticut Consortium intends to focus on expanding access to existing low-income solar and storage programs. The experience and expertise of the Connecticut Consortium in administering residential solar, community solar, and battery storage incentive and financing programs, especially for vulnerable communities,[6] will be brought to bear.

1. **Residential Solar**

   Connecticut transitioned its residential solar policies from net metering (i.e., CGS 16-243h) and incentives (i.e., CGS 16-245ff), to a tariff-based compensation structure (i.e., CGS 16-244zz). Administered by the electric distribution companies ("EDCs"), the Residential Renewable Energy Solutions ("RRES") program is the successor program to the Residential Solar Investment Program ("RSIP"), which was administered by the Green Bank from 2012 through 2022. The implementation of the RSIP was among the Northeast region's most effective (e.g., W/capita), efficient (e.g., $/kWh), and equitable (i.e., reaching <80% AMI households and communities of color) residential solar programs.[7]

   For more on the RSIP – see Attachment B.

   RRES serves to provide two (2) different types of incentives for residential end-use customers, including (a) Buy-All Sell-All Tariff (i.e., $0.3243/kWh), or (b) monthly netting. PURA has established a policy target of no less than 40 percent of the benefits of RRES are directed to low-income families, families residing in distressed communities, or affordable housing.

2. **Community Solar**

   Connecticut has two (2) community solar policies that encourage the investment in and deployment of solar PV, providing opportunities for low-income families as well as tenants within affordable housing to realize benefits from solar energy, including:

   - **Residential Renewable Energy Solutions** – an onsite deployment program summarized above, that also serves multifamily affordable housing by requiring participating property owners to share no less than 20% of the economic benefit of a residential solar system from the "Buy-All Sell-All" tariff (i.e., $0.06486/kWh) for 20 years with individually metered tenants of affordable housing;[8] or

[6] Per Public Act 20-05, "vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by the Department of Energy and Environmental Protection in consultation with community representatives.

[7] "Residential Solar Investment Program: 2012-2022 Program Impact Evaluation and Future Recommendations" by Slipstream (May 3, 2023) – click here

[8] It should be noted that the treatment of master metered multifamily affordable housing properties in terms of RRES is still in process through a regulatory proceeding and expected to be completed by the end of 2023.

- **Shared Clean Energy Facilities** – an offsite deployment program, Shared Clean Energy Facilities ("SCEF") prioritizes low-income families and tenants of affordable housing with a subscriber credit (i.e., $0.0250/kWh) for 20 years should they receive such credit through a random lottery process.

3. Associated Storage

Connecticut recently launched a residential storage incentive program called Energy Storage Solutions ("ESS"), which is being jointly administered by the Green Bank and the EDCs. ESS provides upfront and ongoing performance-based incentives to deploy 290 MW of behind the meter battery storage to (a) reduce peak demand (i.e., passive and active demand response or virtual power plant "VPP") to benefit all ratepayers, and (b) provide resiliency to the participant. PURA has established a policy target of no less than 40 percent of the benefits of ESS are directed to low-income families, families residing in distressed communities, or affordable housing. By combining solar with storage, low-income and disadvantaged communities can reduce energy burden and increase energy security.

4. **Enabling Upgrades**

It is great to see that the EPA has included enabling upgrades that support solar deployment, specifically investments in building infrastructure to support its deployment (e.g., electrical panel upgrades, roof repairs, access to the internet for system monitoring).

5. Other Comments

The Connecticut Consortium has the following comments for the EPA with respect to Solar for All:

- **Expansion of Enabling Upgrades** – beyond enabling upgrades for the "building infrastructure" to support residential solar deployment, there may also be need for "system infrastructure" (e.g., transformer upgrades) or "administrative support" (e.g., interconnection review by EDCs) to increase and accelerate solar + storage deployment, especially in LIDACs. The EPA should also consider allowing "enabling upgrades" to include weatherization, electrification, and energy efficiency, as well as removal of asbestos, lead, and mold,[9] as a component of "building infrastructure" to ensure that all barriers to solar + storage deployment on "system infrastructure" (e.g., overloading distribution system with solar) can be addressed in locations across the country. For example, within the Green Bank's existing "Solar for All" program with PosiGen, energy audits and weatherization are included with solar. By extending the definition of enabling upgrades to include these measures the GHGRF will significantly benefit low-income and disadvantaged communities – enhancing a buildings resilience by enabling efficient heating and cooling system electrification that could continue to operate with solar generation during a grid outage.

- **Equitable Allocation** – as the necessary level of investment in and deployment of residential and community solar in LIDACs is significant (e.g., estimate of $800 million in Connecticut by 2030),[10] in order for states to be able to submit an amount of funding they expect to apply for under the "Solar for All" competition, it will be important for the EPA to clarify what level of allocation states and territories can assume in order for the NOI to appropriately take into consideration the design of a state or territorial program. For planning purpose, the Connecticut Consortium would recommend that an equitable allocation of funds from the EPA to states, territories, and tribes per the recent Bipartisan Infrastructure Law ("BIL") for the Clean Water State Revolving Fund ("CWSRF") be considered as clarification for NOI applicants. For example, the BIL allocated

[9] "Affordable and Accessible Solar for All: Barries, Solutions, and On-Site Adoption Potential" Technical Report NREL/TP-6A20-80532 (September 2021)

[10] Assumes 75 MW of residential solar per year for 8 years (i.e., 600 MW total), with 40 percent of deployment in LIDACs (i.e., 240 MW), and assuming installed cost of residential solar (including for affordable housing) of $3.50/W

Connecticut 1.199% of the CWSRF allocation. If $7 billion were available through Solar for All, then Connecticut would submit a plan through the NOI for a maximum of $83.9 million. If there were no state or territorial equitable allocation, then Connecticut would seek greater funding to achieve the level of investment in and deployment of residential solar in the LIDACs of the state. Regardless of the allocation approach chosen, the EPA should leave flexibility to allow for funding to support existing state solar programs in ways that will reduce cost burdens on ratepayers.

- **Equity and Justice 40** – improving the lives of Americans, particularly those in LIDACs, is the impact the GGRF seeks to achieve. Alongside the EPA, many states, territories, municipalities, and nonprofit organizations share this perspective. The Framework indicates that the pending Notice of Funding Opportunity ("NOFO") will provide additional guidance on the definition of LIDACs located outside of geographies identified by the Climate and Economic Justice Screening Tool ("CEJST"). As recommended by eleven (11) states[11] and a territory[12] in public comments submitted to the EPA on December 5, 2022, to further support equitable funding deployment and to enable leveraging of existing programs and funding streams, the EPA should permit the use of state-specific definitions for "low income," "disadvantaged communities," and other related terms such as "environmental justice zones". The EPA could request NOI applicants to justify their respective state and/or territory definitions.

- **Technical Assistance from the EPA** – as technical assistance resources will be imperative to the success of Solar for All, within the NOFO, the EPA needs to be more specific about what sorts of technical assistance it will provide so that applicants can specify their own technical assistance needs within their NOI. For example, the Environmental Justice Thriving Communities Technical Assistance Centers ("EJ TCTAC") program is an excellent example of community-based technical assistance that the EPA can provide states, Tribal governments, municipalities, and others. Also, if the EPA were to continue its collaboration with the DOE, then tools available from the National Renewable Energy Laboratory ("NREL") like its Distributed Generation Market Demand Model,[13] would be useful technical assistance to provide states, Tribal governments, municipalities, and tribes, especially to assess market potential for solar for single-family owner-occupied and rental low-income, and multifamily rental low-income market segments.

- **Financial Assistance from the EPA and FEMA** – as financial assistance resources will be imperative to the success of Solar for All, especially as it pertains to not only reducing energy burden, but also increasing energy security, in an effort to continue to work across government, the EPA should work with the Federal Emergency Management Agency ("FEMA") to enter into agreements between the GGRF Solar for All program and the Safeguarding Tomorrow through Ongoing Risk Mitigation Act ("STORM Act")[14] with states and Tribal governments to make capitalization grants to establish hazard mitigation revolving loan funds. In an effort to address the short- and long-term solutions to LMI solar adoption barriers, as it applies to resiliency and recovery, increased efforts by stakeholders to ensure federal pre- and post-disaster funding is more readily available and used by low-income and disadvantaged communities is important to realizing all of the benefits from Solar for All and GGRF.[15]

[11] Connecticut, Colorado, Illinois, Louisiana, Maine, Michigan, Nevada, New Jersey, New Mexico, Pennsylvania, and Vermont
[12] Puerto Rico
[13] https://www.nrel.gov/analysis/dgen/
[14] https://www.congress.gov/bill/116th-congress/senate-bill/3418/all-info
[15] "Affordable and Accessible Solar for All: Barries, Solutions, and On-Site Adoption Potential" Technical Report NREL/TP-6A20-80532 (September 2021)

- **Strategic Coordination** – to the extent that it is possible, there should be strategic coordination from Solar for All with the National Clean Investment Fund ("NCIF") and Clean Communities Investment Accelerator ("CCIA"). For example, recipients of funding for financial assistance and technical assistance through the NCIF and/or CCI should seek to work with standardized loan documents and securitization of assets as appropriate.

- **Webinar Series** – in an effort to share the "lessons learned" and "best practices" developing residential solar in Connecticut, the Green Bank is holding a multipart webinar series. The first webinar was held on May 4, 2023 and focused on "Residential Solar Investment and Deployment in Connecticut: An In-Depth Review of a 10-Year Incentive Program (2012-2022)". For access to the webinar, and a detailed story board – click here.

  There will be several webinars to follow, including:

  - **Webinar Two: Financing Residential Solar in Connecticut #1: Insights into Loan Programs** – will focus on the role of financing, delving deeper into the structure and benefits of two loan products: the CT Solar Loan and the Smart-E Loan. Using $8 million of repurposed American Recovery and Reinvestment Act ("ARRA") funds as credit enhancements, the Green Bank was able to use $25 million in state and federal funds to mobilize $180 million of private capital investment in residential clean energy deployment. In a venture with Sungage Financial, the Green Bank supported a clean energy finance entrepreneur in demonstrating the viability of a specific solar loan product. In collaboration with nine local community banks and credit unions, the Green Bank's Smart-E loan provides a second loan loss reserve for unsecured financing of clean energy projects, including residential solar.

    Monday, June 5, 2023 at 12:00 p.m. EDT

    Register at https://attendee.gotowebinar.com/register/6567252541191848026

  - **Webinar Three: Financing Residential Solar in Connecticut #2: Insights into Lease and Third-Party Ownership Programs** – will focus on two lease products: the CT Solar Lease and Solar for All. Through the leveraging of ARRA funds as credit enhancements, the Connecticut Green Bank provided access to lease financing for local contractors, in partnership with a syndicate of local lenders and tax equity providers. In recognition of the need to provide access to capital to low-income and vulnerable communities, in partnership with PosiGen, the Green Bank launched the Solar for All solar and energy efficiency lease product. This session will look at the structure of these lease financing products, including the various benefits that result from increasing easy and affordable access to residential solar, especially for vulnerable communities.

    Thursday, August 3, 2023 at 12:00 p.m. EDT

    Register at https://attendee.gotowebinar.com/register/2011784552298597467

  It is likely that there will be a fourth webinar series on the new residential solar and storage incentive programs in Connecticut, including a focus on single family homes and affordable housing in LIDACs. The Green Bank looks forward to engaging local and national stakeholders through this webinar series.

The Connecticut Consortium appreciates EPA's efforts to solicit public comment on its Framework for the GGRF.

Sincerely,

Katie Dykes
Katie Dykes
Commissioner
Department of Energy and Environmental Protection

Marissa Gillett
Marissa Gillet
Chair
Public Utilities Regulatory Authority

Seila Mosquera-Bruno
Seila Mosquera-Bruno
Commissioner
Department of Housing

Nandini Natarajan
Nandini Natarajan
Chief Executive Officer
Connecticut Housing and Finance Authority

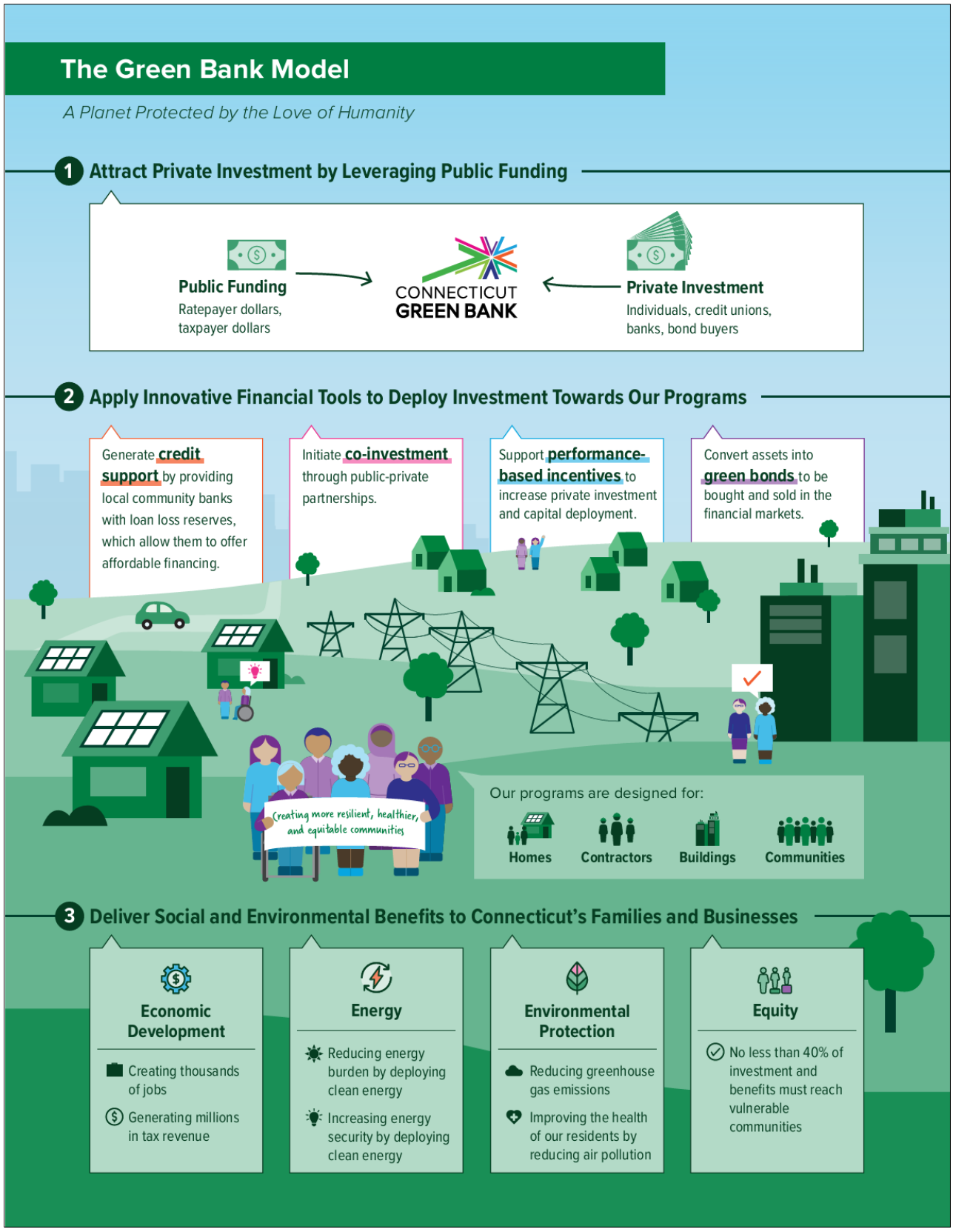
Jorge Perez
Jorge Perez
Commissioner
Department of Banking

Bryan Garcia
Bryan Garcia
President and CEO
Connecticut Green Bank

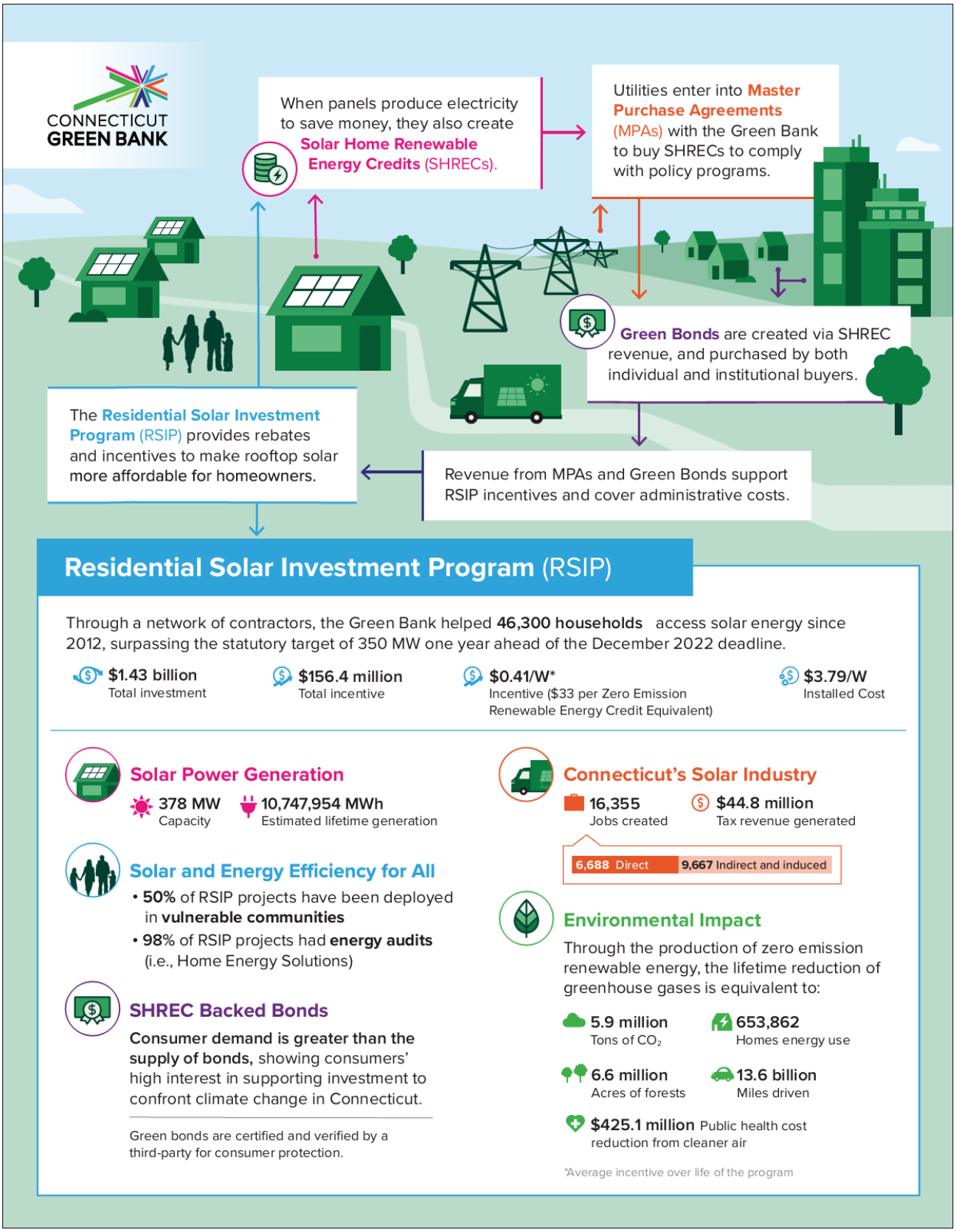
cc: Dan DeSimone, Office of Governor Lamont

Attachments
Attachment A – Green Bank Model
Attachment B – Residential Solar Investment Program

ATTACHMENT A
Green Bank Model



ATTACHMENT B
Residential Solar Investment Program



May 12, 2023

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
ggrf@epa.gov

SUBJECT: **Public Comments from the Connecticut Green Bank – Written Comment: Greenhouse Gas Reduction Fund Implementation Framework Docket ID No. EPA-HQ-OA-2022-0859**

Dear Administrator Regan:

The Connecticut Green Bank ("Green Bank") values the U.S. Environmental Protection Agency's ("EPA") invitation to provide comments regarding the Implementation Framework ("Framework") for the Greenhouse Gas Reduction Fund ("GGRF"). The Framework invites written technical feedback and comments on the design and implementation of the GGRF.

As the nation's first state-level green bank, the Green Bank leverages the limited public resources it receives to attract multiples of private investment to scale up clean energy deployment. Since its inception, the Green Bank has mobilized $2.26 billion of investment into Connecticut's clean energy economy at a 7 to 1 leverage ratio of private to public funds. The Green Bank has supported the creation of 27,720 direct, indirect and induced jobs, reduced the energy burden on over 66,500 families and businesses, deployed nearly 510 MW of clean renewable energy, helped avoid 10.4 million tons of CO2 emissions over the life of the projects, and generated $113.6 million in individual income, corporate, and sales tax revenues to the State of Connecticut.

For a more complete overview of the green bank model and the impact of the Green Bank – see Attachments A and B.

As a tool to support the increased and accelerated development of the state's green economy, the Green Bank's efforts assist the implementation of public policy for the State of Connecticut, including:

- **Reducing Greenhouse Gas Emissions** – no less than 45 percent reduction from 2001 levels by 2030,[1] 100% decarbonized electric sector by 2040, and no less than 80% reduction from 2001 levels by 2050;

[1] Consistent with the Nationally Determined Contribution of 50-52 percent reduction of 2005 levels by 2030

- **Justice 40** – within various incentive programs,[2] as well as its incentive and financing programs for clean energy and environmental infrastructure, the Green Bank has established a goal of no less than 40 percent of investment and benefits directed towards vulnerable communities;[3] and

- **Just Transition** – enabling workforce development programs, including pre-apprenticeship and apprenticeship training, paying prevailing wages, and requiring community benefits agreements for certain type of renewable energy project.[4]

These important foundational public policies to reduce greenhouse gas emissions, while delivering benefits from mobilizing financing and private capital investment in and deployment of such projects in communities, particularly low-income and disadvantaged communities ("LIDACs"), is what the Green Bank does in collaboration with its public, quasi-public, nonprofit, and private partners.

Through the GGRF, the Green Bank supports the implementation of specific public policies in Connecticut – many of which are priority project areas[5] identified by the EPA – including, but not limited to:

- **Renewable Portfolio Standard** – customer sited distributed power generation (e.g., solar PV) to support Connecticut's 40 percent by 2030 Class I renewable portfolio standard, while reducing energy burden (i.e., reducing inflation) for participating families, businesses, and nonprofit organizations;

- **Battery Storage** – customer sited battery storage of 580 MW from zero-emissions power sources to support Connecticut's 1,000 MW by 2030 battery storage target, while increasing energy security (i.e., increasing resilience) for participating families, businesses, and nonprofit organizations;

- **Weatherization** – weatherizing 80 percent of residential housing units (i.e., over 1.1 million units) by 2030; and

- **School Buses** – enabling the deployment of 100 percent zero emission school buses within environmental justice communities by 2030, and all school districts by 2040.

These are the public comments of the Green Bank on the Framework, specifically with respect to the Executive Summary as well as the National Clean Investment Fund ("NCIF") and the Clean Communities Investment Accelerator ("CCIA").

Separately from these public comments, a Connecticut Consortium inclusive of the Green Bank, submitted comments on the "Solar for All" aspects of the GGRF Framework.

[2] Residential Renewable Energy Solutions and Energy Storage Solutions

[3] Per Public Act 20-05, "vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by the Department of Energy and Environmental Protection in consultation with community representatives.

[4] Public Act 21-43 – "An Act Concerning a Just Transition to Climate-Protective Energy Production and Community Investment"

[5] Distributed Power Generation and Storage, Decarbonization Retrofits of Existing Buildings, and Transportation Pollution Reduction

Table of Contents

Section 1: Comments on the Executive Summary

With respect to the Executive Summary, the Green Bank provides the following comments.

1. **Technologies vs. Projects and Activities**
   Throughout the Framework, the EPA prioritizes the investment in and deployment of clean energy technologies (e.g., Priority Project Categories). While certainly important, beyond technology, the EPA should acknowledge that there are other projects and activities that can achieve the GGRF program objectives and priorities as well. As a point of reference, the GGRF could draw upon the qualified projects noted in the Clean Energy and Sustainability Accelerator ("CESA") that also includes agriculture and forestry projects and climate resilient infrastructure.

2. **Community Roundtable Invitation**
   Beyond the important online listening sessions and written public comments being sought by the EPA, it is outstanding that it is meeting stakeholders in neighborhoods across the country (e.g., Houston, TX) to share the impact of the GGRF for renters and homeowners, small business owners, local government leaders, and others. On behalf of the State of Connecticut, the Green Bank would like to invite the EPA to host a roundtable in Bridgeport – an "energy community,"[6] vulnerable community, and Communities LEAP community[7] – to communicate the impact the GGRF can make and hear directly from our communities.

3. **Complementary Requirements**
   Beyond the GGRF's program objectives, it will advance the Biden-Harris Administration's other priorities, which the Green Bank supports, including:

   - **Build America, Buy America** ("BABA") – to bolster America's industrial base, protect national security, and support high paying jobs, BABA obligates projects to use iron, steel, manufactured products, and construction materials produced in the U.S. As key aspects of the investment tax credit adders for "domestic content," BABA presents unique opportunities for US manufactured materials deployed in communities across the country. The resource links provided by the EPA certainly help potential applicants understand the implications of BABA on projects,[8] but it would be useful if in the NOFO the EPA could apply BABA to a sample set of qualified projects (including "Priority Project Categories") from different end-user beneficiary perspectives (e.g., renter, homeowner, small business, municipal facility, non-governmental nonprofit facility) to speak to whether or not BABA applies. Perhaps this could be included in an FAQ.

   - **Labor and Good Quality Job** – workers indeed know the value of a good job that provides stability and security for them and their families. Allowing everyone to share in the prosperity that the green economy is creating will support local communities and the entire economy. The EPA, working across the federal government with the Department of Labor ("DOL"), and with state and municipal governments, should provide ongoing technical assistance for workforce development (e.g., successfully implementing the prevailing wage and apprenticeship requirements in the investment tax credit, enabling successful preparation and implementation of community benefit agreements). This would be an area of technical assistance from the EPA, with an across government DOL partner, that would be of value to Applicants and Sub-Awardees.

   - **Equity and Justice 40** – improving the lives of Americans, particularly in LIDACs, is the impact the GGRF seeks to achieve. Alongside the EPA, many states, territories, municipalities, and nonprofit

[6] Per the 10% adder within the new investment tax credit provisions of the IRA for (1) retired coal-fired power plant, (2) likely statistical area, and (3) multiple brownfields

[7] https://www.energy.gov/communitiesLEAP/communities-leap

[8] https://www.epa.gov/system/files/documents/2023-02/OLEM_BABA_FAQs_Final-Feb_15_2023.pdf - see page 9.

organizations share this perspective. The Framework indicates that the pending Notice of Funding Opportunity ("NOFO") will provide additional guidance on the definition of LIDACs located outside of geographies identified by the Climate and Economic Justice Screening Tool ("CEJST"). As recommended by eleven (11) states[9] and a territory[10] in public comments submitted to the EPA on December 5, 2022, to further support equitable funding deployment and to enable leveraging of existing programs and funding streams, permit the use of state-specific definitions for "low income," "disadvantaged communities," and other related terms such as "environmental justice zones". The EPA could request NOFO and Notice of Intent ("NOI") applicants to justify their respective state and/or territory definitions if different from the CEJST.

- **Tribal Nations** – respecting the sovereignty and self-governance of 574 federally recognized tribes and ensuring that they have the opportunity to benefit from the GGRF, is important across all three of the $27 billion competitions. Beyond the financial assistance provided through the GGRF, the Green Bank would suggest that tribal nation support be another area of across government technical assistance (i.e., Department of Energy, Department of Interior, Department of Agriculture), including provision of public and/or subcontracted project development, legal, and financial expertise. Like LIDACs, the ability to stack investment tax credit adders (e.g., energy communities, low income, domestic content) and direct payment of such tax credits, presents a unique opportunity for tribal ownership of projects, potentially through community benefit agreements that could enable sharing in project equity by tribes. The EPA's collaboration with the DOE on the Environmental Justice Thriving Communities Technical Assistance Centers program is an excellent start! That collaboration could be further strengthened by the co-administration of Section 48(e) of the Internal Revenue Code (i.e., Low-Income Communities Bonus Credit Program) by DOE and Department of Treasury, especially through a permanent allocation within Category 2.

- **National Environmental Policy Act** – despite the importance of NEPA, the Green Bank acknowledges that it will not apply to the GGRF.

The Green Bank recognizes the importance of these complementary requirements. Since the Framework includes "Priority Project Categories," two of which are likely to lead to the deployment of clean energy in residential end-use sectors, it would be useful if the EPA were to (1) give examples of how the complementary requirements apply to such categories (or not) for residential end-use sectors, and (2) speak to the applicability of SEP Program Notice 10-008F revised by the DOE on November 10, 2020.[11]

4. Ensuring Justice 40

As detailed in the Framework of the GGRF, to align with the Justice40 Initiative, 40% of overall benefits from the programs must flow to disadvantaged communities. We recommend that the EPA provide additional clarity around how 'benefits' will be evaluated. As an example, the EPA could reference the eight policy priorities recommended to the DOE by the Office of Economic Impact and Diversity[12]. These policies clarify that while projects can decrease energy burden in disadvantaged communities other benefits, such as increasing energy resilience and clean energy job training, are also priority benefits.

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[9] Connecticut, Colorado, Illinois, Louisiana, Maine, Michigan, Nevada, New Jersey, New Mexico, Pennsylvania, and Vermont

[10] Puerto Rico

[11] https://www.energy.gov/scep/articles/sep-program-notice-10-008f-guidance-state-energy-program-grantees-financing-programs

[12] Justice40 Initiative | Department of Energy

Section 2: Comments Regarding the National Clean Investment Fund

The Framework does an outstanding job providing greater clarity with respect to the $20 billion allocated under Section 134(a)(2-3) of the Clean Air Act, specifically the $14 billion to the proposed NCIF. The Green Bank wants to acknowledge and thank the EPA for providing this additional guidance through the Framework. As the Framework notes that Applicants are permitted to participate in multiple applications within the NCIF, as well as across the other competitions,[13] and presumably applicable to Sub-Awardees as well, the Green Bank intends to join coalitions of community lenders, which include green banks, within the NCIF competition.

With respect to the NCIF, the Green Bank provides the following comments.

1. **Eligible Financial Assistance**

   The Framework makes it clear that the funds allocated to the NCIF are to be used for "financial assistance" that is consistent with the definition of "Federal Financial Assistance" in 2 CFR § 200.1[14] (i.e., grants are not considered as a financial product). However, the Framework also notes that the "EPA expects that these financial products will involve substantially better-than-market interest rates passed through to borrowers."[15] There are two things to note, including (a) the use of the term "substantially," which the EPA should provide further clarity on (e.g., provide an example), and (2) whom the lower interest rates must be directed (i.e., "passed through to borrowers" which the Green Bank presumes to benefit end-use customers (e.g., families and businesses) as opposed to Sub-Awardees or their private capital partners. This may need greater clarity from the EPA, as this point on "substantially better-than-market interest rates…," is noted throughout the Framework.

2. **Priority Project Categories and Qualified Projects**

   In the Framework of the GGRF, the EPA identifies "Priority Project Categories" within the NCIF, as well as noting that beyond technologies, other projects and/or activities must deliver benefits by alleviating two or more of the following categories of burdens: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. In June 2021, Connecticut Governor Ned Lamont led a bipartisan effort to expand the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure"[16] through the passage of Public Act 21-115[17].

   In addition to the "qualified projects" included within the proposed CESA policy, and in support of "environmental infrastructure" to "confront climate change" within Connecticut, the Green Bank would recommend the following additional "qualified projects" be <u>at least noted or examples provided</u> (emphasis intentionally added) as eligible within the NOFO for the NCIF:

   - Agriculture projects that reduce net greenhouse gas emissions
   - Forestry projects that reduce net greenhouse gas emissions
   - Waste and recycling projects that reduce net greenhouse gas emissions
   - Climate resilient infrastructure

   Improving access to green community spaces in vulnerable communities, can restore brownfields and abandoned lots, reduce GHG emissions, increase resilience against the impacts of climate change (e.g.,

[13] EPA GGRF Implementation Framework (Page 12)

[14] Including, but not limited to loans, equity investments, loan guarantees, credit enhancements, forgivable and partially forgivable loans, purchase of loans, lines of credit, and debt with equity features.

[15] EPA GGRF Implementation Framework (Page 14)

[16] "Environmental Infrastructure" means structures, facilities, systems, services, and improvement projects related to water, waste and recycling, climate adaptation and resiliency, agriculture, land conservation, parks and recreation, and environmental markets (e.g., carbon offsets, ecosystem services).

[17] "An Act Concerning Climate Change Adaptation" – click here

flooding, stormwater management), and improve health wellness.[18] There are a number of nature based solutions that have quantifiable measurement, reporting, and verification protocols that can demonstrate GHG emission reductions, that also deliver important public health benefits, especially in LIDACs.

> *"Spending time and living near green spaces have been associated with various improved mental health outcomes, including less depression, anxiety, and stress. Several studies have demonstrated a dose-response relationship between more time spent in green spaces and lower depression rates. Therefore, green space may be a potential buffer between inequitable neighborhood conditions and poor medical health outcomes."*[19]

Based on the outreach and engagement[20] we have undertaken to better understand the need in these areas, we feel confident that the same public-private partnerships tools for financing that we have successfully leveraged to increase and accelerate investment in clean energy technologies to benefit vulnerable communities, can be applied to meet the GGRF objectives through projects and activities involving environmental infrastructure.

3. Application Components

The Framework does an excellent job providing prospective applicants with information from which they can begin to assemble the components of their application once the EPA releases the NOFO in June of 2023.

4. Transparency

The Framework does an excellent job providing guidance on transparency in terms of the use of taxpayer dollars and the impact of those dollars on the GGRF program objectives.

5. EPA Regional Office Contact

For each of the competitions, the Framework indicates that "EPA staff will not meet directly with prospective applicants or their representatives to discuss this competition or otherwise provide any potential applicant with an unfair competitive advantage."[21] It also indicates "The plan [Program Linkages Plan] may include specific references to partnering with the EPA, such as the EPA Regional Offices in the region in which they intend to do business."[22] Beyond the "Priority Project Categories" noted in the Framework, there may be opportunities that the EPA's regional offices might want to pursue or encourage through partnerships with an Applicant and/or an Applicant's Sub-Awardees. The EPA should clarify in the NOFOs on whether or not Applicants, and/or their public, quasi-public, nonprofit, and/or private Sub-Awardee partners, can speak with EPA Regional Office officials about the GGRF and NCIF given the discouragement of contact with such officials, yet encouragement of partnerships with such regions noted in various places within the Framework.

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[18] https://www.ctgreenbank.com/wp-content/uploads/2023/01/Environmental-Infrastructure_Parks-and-Recreation_Oct-16-2022.pdf

[19] Effect of Greening Vacant Land on Mental Health of Community-Dwelling Adults by Eugenia C. South, et al. Jama Network Open (July 20, 2018)

[20] Planning - CT Green Bank | Accelerating Green Energy Adoption in CT

[21] EPA GGRF Implementation Framework (Page 12)

[22] Ibid (Page 20)

Section 3: Comments Regarding the Clean Communities Investment Accelerator

Again, the Framework does an outstanding job providing greater clarity with respect to the $20 billion allocated under Section 134(a)(2-3) of the Clean Air Act, specifically the $6 billion to the proposed CCIA. The Green Bank wants to acknowledge and thank the EPA for providing this additional guidance through the Framework, and note that there is a large and growing number of community lenders at various stages of development or existence that are excited about this support, including many in Connecticut. The Green Bank intends to join coalitions of community lenders, which include green banks, within the CCIA competition, and is considering applying itself as a nonprofit organization.

1. **Grant Activities**

   The Green Bank appreciates the EPA's efforts to build a robust network of nonprofit community lenders across the country, including community development financial institutions (CDFIs), credit unions (CUs), housing finance agencies, minority depository institutions (MDIs), green banks, and others. The Green Bank works closely with CDFIs, CUs, and housing agencies in Connecticut to advance our climate change and clean energy policy objectives. For the Green Bank, the capitalization funding of $5 million will enable us to start new programs to finance emissions- and air pollution-reducing projects in LIDACs. There are also a number of other Green Bank partner CDFIs, CUs, and housing agencies in Connecticut, that would benefit from these resources to further build on the state's ecosystem of community-based financing partners.

2. **Technical Assistance**

   The technical assistance allocation of 12.5% of $5 million capitalization funding, or $625,000, is likely to be sufficient for existing community lenders (e.g., green banks) with appropriate green products, but for new or start-up community lenders or existing lenders without green product experience, this level of technical assistance may be insufficient. In terms of the technical assistance that the EPA intends to provide, it will be important that it be specific (e.g., Environmental Justice Thriving Communities Technical Assistance Centers) and communicate to potential Applicants and Sub-Awardees its intentions so that they can plan accordingly. The EPA's efforts to work across government with the DOE presents an opportunity to leverage expertise and resources to increase impact.

3. **National Credit Enhancement**

   With respect to cross government engagement, the EPA might work with the Loan Programs Office ("LPO") of the DOE to establish a national loan loss reserve fund for community lenders, with a focus on the "Priority Project Categories". With the new State Energy Financing Institutions ("SEFI") provisions within Title 17 of the LPO, there is an opportunity to leverage DOE resources to provide loan guarantees for community lenders, especially those serving LIDACs and tribal communities. The Green Bank, as a SEFI, is willing to support the EPA and/or DOE with such an effort, as appropriate.

4. **Nonprofit Organization Definition**

   The Green Bank appreciated the additional guidance provided by the EPA with respect to the definition of a "nonprofit organization" as set forth in 2 CFR § 200.1, which:

   - "means any corporation, trust, association, cooperative, or other organization, not including Institutes of Higher Education,…" – the Green Bank is a quasi-public organization, public instrumentality and political subdivision of the state of Connecticut and therefore qualifies as an "other organization".[23]

[23] The Connecticut Green Bank is hereby established and created as a body politic and corporate, constituting a public instrumentality and political subdivision of the state of Connecticut established and created for the performance of an essential public and

- "…that: (1) is operated primarily for scientific, educational, service, charitable, or similar purposes in the public interest;…" – the Green Bank certainly is operated primarily for service in the public interest, and whose purpose is consistent with the GGRF.[24]

- "…(2) is not organized primarily for profit;…" – the Green Bank is not organized for profit, but instead the mission is to "confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities."[25]

- "…and, (3) uses net proceeds to maintain, improve, or expand the operations of the organization." – the Green Bank invests all public revenues, including earned revenues (e.g., interest payments, renewable energy credit revenues), into programs and products that support its purpose and mission.

In addition to providing further clarity on "nonprofit organization" set forth in 2 CFR § 200.1, the additional factors of "eligible nonprofit recipient" under Section 134(c)(1) of the Clean Air Act are clearer for the Green Bank, including:

- "…(2) is designed to provide capital, leverage private capital, and provide other forms of financial assistance for the rapid deployment of low- and zero-emission products, technologies, and services;…" – the Green Bank is designed for this purpose.

- "…(3) does not take deposits other than deposits from repayments and other revenue received from financial assistance provided using grant funds under this program;…" – the Green Bank does not take such deposits.

- "…(4) is funded by public or charitable contributions;…" – the Green Bank is funded by both public and charitable contributions.

- "…and (5) invests in or finances projects alone or in conjunction with other investors." – the Green Bank invests in or finances projects alone, but preferably in conjunction with other private investors.

Based on the above, and the additional clarity provided by the EPA within the Framework, the Green Bank believes that it qualifies as a "nonprofit organization" and would be eligible to apply for the CCIA. The

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governmental function. The Connecticut Green Bank shall not be construed to be a department, institution or agency of the state. Quasi-public agencies are independent government corporations that are created through legislation to perform a particular service or set of public functions.

[24] The purposes of the Green Bank pursuant to CGS 16-245n are within its Resolution of Purpose – click here and relevant language includes:

"The Connecticut General Assembly has found and determined that (i) stimulating, supporting and increasing the use of clean energy, investment in clean energy projects and sources, demand for clean energy, and the development of the state's energy-related economy are important state policy objectives and (ii) financing, supporting and promoting investment in environmental infrastructure and related enterprises are critical state policy objectives for adapting to a changing climate. To achieve those objectives, the General Assembly, among other things, created and empowered the Connecticut Green Bank.

Such purposes for clean energy include but are not limited to: (1) implementing the Comprehensive Plan developed by the Green Bank pursuant to Section 16-245n(c)(1), as amended; (2) developing programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects, and such others as the Green Bank may determine; (3) supporting financing or other expenditures that promote investment in clean energy sources to foster the growth, development, and commercialization of clean energy sources; and (4) stimulating demand for clean energy and the deployment of clean energy sources within the state that serve end-use customers in the state."

[25] Comprehensive Plan of the Connecticut Green Bank

Green Bank believes that it meets the federal regulatory definition under 2 CFR § 200.1 as a "nonprofit organization", as well federal statute as an "eligible nonprofit recipient" under Section 134(c)(1) of the Clean Air Act, and can provide appropriate documentation.

Notwithstanding the forgoing, in the event that EPA determines that quasi-public organizations, instrumentalities and political subdivisions of States do not fall under the definition of "nonprofit organization" as set forth in 2 CFR § 200.1, then EPA should confirm that a subsidiary corporation, including a 501(c)3 nonprofit corporate, created by such quasi-public organization, instrumentality or political subdivision is eligible to meet the "nonprofit organization" definition, subject to all the requirements therein.

5. **Priority Project Categories and Qualified Projects**
   Same comment as above within the NCIF public comment section.

The Green Bank appreciates EPA's efforts to solicit public comment on the GGRF Framework, and specifically the NCIF and CCIA. The Green Bank looks forward to working with our partners in Connecticut, and across the country, to submit applications for consideration into the pending solicitations.

Sincerely,

Lonnie Reed
Lonnie Reed
Chair

Bryan Garcia
Bryan Garcia
President and CEO

Sara Harari
Sara Harari
Associate Director of Innovation

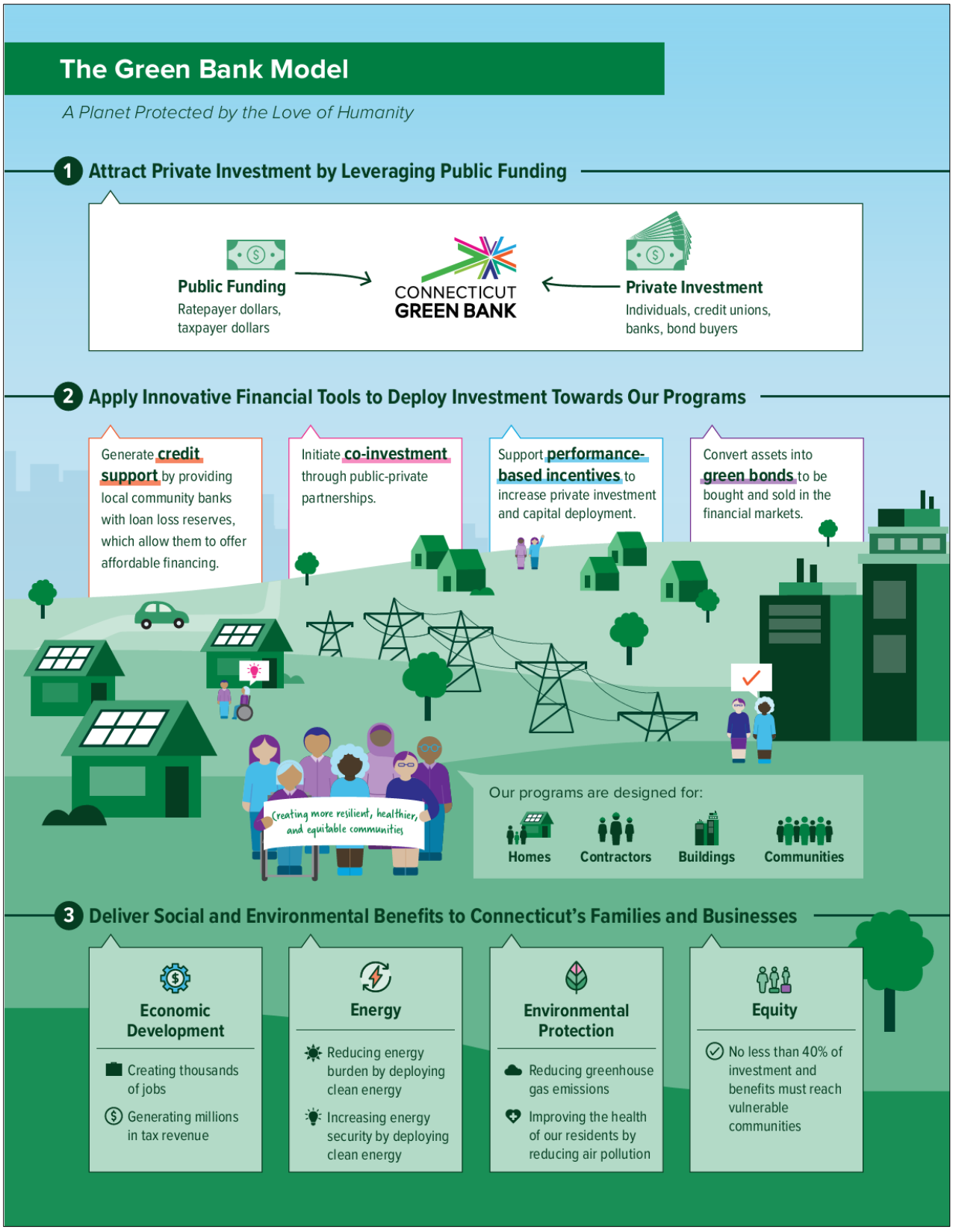
Bert Hunter
Bert Hunter
EVP and CIO

Eric Shrago
Eric Shrago
VP of Operations

Ashley Stewart
Ashley Stewart
Manager of Community Engagement

Attachments
Attachment A – Green Bank Model
Attachment B – Societal Impact Report

ATTACHMENT A
Green Bank Model



ATTACHMENT B
Societal Impact Report of the Connecticut Green Bank

CONNECTICUT GREEN BANK

Societal Impact Report

FY12 FY22

Since the Connecticut Green Bank's inception through the bipartisan legislation in July 2011, we have mobilized more than **$2.26 billion of investment** into the State's green economy. To do this, we used **$322.4 million** in Green Bank dollars to attract $1.95 billion in private investment, a leverage ratio of **$7.00 for every $1**. The impact of our deployment of renewable energy and energy efficiency to families, businesses, and our communities is shown in terms of economic development, environmental protection, equity, and energy (data from FY 2012 through FY 2022).

ECONOMIC DEVELOPMENT

JOBS The Green Bank has supported the creation of more than **26,720** direct, indirect, and induced job-years.

TAX REVENUES
The Green Bank's activities have helped generate an estimated **$113.6** million in state tax revenues.

$55.3 million individual income tax

$29.2 million corporate taxes

$29.1 million sales taxes

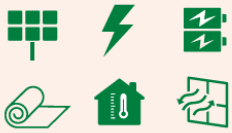
ENERGY

ENERGY BURDEN
The Green Bank has reduced the energy costs on families, businesses, and our communities.

60,000+ *families*

6,500+ *businesses*

DEPLOYMENT
The Green Bank has accelerated the growth of renewable energy to more than **509 MW** and lifetime savings of over **65.6 million MMBTUs** through energy efficiency projects.



ENVIRONMENTAL PROTECTION

POLLUTION The Green Bank has helped reduce air emissions that cause climate change and worsen public health, including **9.6** million pounds of SOx and **11.1** million pounds of NOx lifetime.

10.4 MILLION tons of CO_2 : EQUALS

156 MILLION tree seedlings grown for 10 years

OR

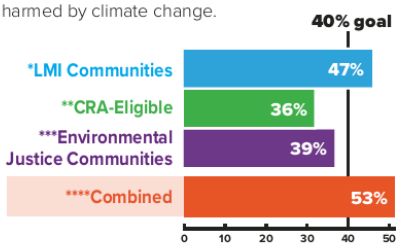
2.1 MILLION passenger vehicles driven for one year

PUBLIC HEALTH The Green Bank has improved the lives of families, helping them avoid sick days, hospital visits, and even death.

$317.1 – $717.2 million of lifetime public health value created

EQUITY

INVESTING in vulnerable communities, The Green Bank has set **goals** to reach **40% investment** in communities that may be disproportionately harmed by climate change.



*LMI Communities – census tracts where households are at or below 100% Area Median Income.

**Community Reinvestment Act (CRA) Eligible – households at or below 80% of Area Median Income and all projects in programs designed to assist LMI customers.

***Environmental Justice Community means a municipality that has been designated as distressed by Connecticut Department of Economic and Community Development (DECD) or a census block group for which 30% or more of the population have an income below 200% of the federal poverty level.

****Combined Vulnerable Communities include LMI, CRA and EJC.

Learn more by visiting ctgreenbank.com/strategy-impact/impact

Winner of the 2017 Harvard Kennedy School Ash Center Award for Innovation in American Government, the Connecticut Green Bank is the nation's first green bank.

Sources: Connecticut Green Bank Comprehensive Annual Financial Reports

Solar for All Partner Connection Form

This optional partner connection form has been created to help potential applicants, coalition members, and partners identify each other and create coalitions and partnerships before applying to the Solar for All competition. Interested parties should fill out this form by June 20, 2023. Shortly after this deadline, parties who provide their contact information will receive a list of all parties who are interested in discussing partnerships. By providing this information, you are consenting to sharing your contact information with everyone who has signed up to be on this list.

All fields below are required, unless otherwise noted. Note: EPA will not publish this list publicly.

Please note submitting this form **does not** constitute a Notice of Intent (NOI), which will be described in the Notice of Funding Opportunity (NOFO) and required for all Solar for All applicants.

Terms of Use

This partner connection list is intended to provide organizations interested in the Solar for All grant competition with an opportunity to form coalitions and partnerships with other organizations interested in this competitive grant opportunity.

EPA does not intend for the connection list to be used by individual consultants or other for-profit vendors to market their services to potential applicants as partners or otherwise. EPA will not include the contact information for individual consultants or other for-profit vendors on the partner connection list.

You must agree to these terms of use before continuing. **On June 20, 2023, this form will be closed.** Shortly thereafter an Excel spreadsheet will be distributed to the entire list that users will be able to filter and sort to find potential matches.

You must agree to the terms of use described above before continuing. *

- (●) I agree to these terms of use.
- ( ) I do not agree to these terms of use and will not submit my information.

Contact Information

Full Name	Bryan Garcia
Organization Name	Connecticut Green Bank
E-Mail	bryan.garcia@ctgreenbank.com

Organization Type

- (•) Non-Profit Organization
- ( ) Private-Sector Lender/Investor
- ( ) Other For-Profit Organization
- ( ) State Government
- ( ) Municipal Government
- ( ) Tribal Government
- ( ) Other

List all states or territories you are considering applying to serve in Solar for All (Please use standard two letter abbreviations)

CT

Please include a brief description of your organization.

As the nation's first state-level green bank, the Connecticut Green Bank leverages public resources to mobilize private investment to scale up clean energy and environmental infrastructure deployment. Such investment reduces the emissions of greenhouse gases and air pollutants, while providing benefits to vulnerable communities. For more details on the green bank, visit www.ctgreenbank.com

Please include a short description of your grant idea or area of interest.

As an interagency partner of a Connecticut Consortium including Department of Energy and Environmental Protection ("DEEP"), Public Utilities Regulatory Authority ("PURA"), Connecticut Housing and Finance Authority ("CHFA"), Department of Housing ("DOH"), and Department of Banking ("DOB"), the Connecticut Green Bank ("Green Bank") seeks to support the investment in and deployment of residential solar in low-income and disadvantaged communities in Connecticut through a combination of funding and financing of technical and financial assistance initiatives. As a state with statutes consistent with the objectives of the GGRF, including statutory greenhouse gas emission reduction targets (e.g., 45% below 2001 levels by 2030 – consistent with the National Determined Contributions of 50-52% reduction of 2005 levels by 2030), statutory residential and community solar and storage incentive programs consistent with the principles of Justice 40, and statutory just transition policy enabling workforce development programs, including pre-apprenticeships and apprenticeship training, paying prevailing wages, and requiring community benefit agreements, Connecticut is ready to invest Solar for All resources through the GGRF to increase benefits from residential solar for low-income and disadvantaged communities.

In the coming months, we will be engaging our vulnerable communities to better understand the technical and financial assistance needs necessary to overcome barriers to accessing residential solar.

For more details on the Connecticut Consortium's comments into the GGRF, visit www.ctgreenbank.com/ggrf

National Clean Investment Fund Connection Form

This optional partner connection form has been created to help potential applicants, coalition members, and partners identify each other and create coalitions and partnerships before applying to the National Clean Investment Fund competition. **Interested parties should fill out this form by June 20, 2023.** Shortly after this deadline, parties who provide their contact information will receive a list of all parties who are interested in discussing partnerships. By providing this information, you are consenting to sharing your contact information with everyone who has signed up to be on this list.

All fields below are required, unless otherwise noted. Note: EPA will not publish this list publicly.

Terms of Use

This partner connection list is intended to provide organizations interested in the National Clean Investment Fund grant competition with an opportunity to form coalitions and partnerships with other organizations interested in this competitive grant opportunity.

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Contact Information

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Organization Name	Connecticut Green Bank
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Organization Type

- (●) Non-Profit Organization
- ( ) Private-Sector Lender/Investor
- ( ) Other For-Profit Organization
- ( ) State Government
- ( ) Municipal Government
- ( ) Tribal Government
- ( ) Other

Please include a brief description of your organization.

As the nation's first state-level green bank, the Connecticut Green Bank leverages public resources to mobilize private investment to scale up clean energy and environmental infrastructure deployment. Such investment reduces the emissions of greenhouse gases and air pollutants, while providing benefits to vulnerable communities. For more details on the green bank, visit www.ctgreenbank.com

Please include a short description of your grant idea or area of interest.

Along with the Priority Project Categories identified in the Greenhouse Gas Reduction Fund's ("GGRF") Implementation Framework (i.e., distributed power generation and storage, decarbonization retrofits of existing buildings, and transportation pollution reduction), which the Green Bank has identified as areas of investment within its plans for Connecticut (i.e., Green and Healthy Schools, Green Municipal and Commercial Buildings, Green Homes for Low Income Families and Vulnerable Communities, and Multimodal Green Transportation), the Green Bank's top areas of interest for funding from the NCIF also includes Environmental Infrastructure (i.e., land conservation, parks and recreation, agriculture, water, waste and recycling) and Building Green Resilience Hubs with a focus on enabling investment in and deployment of clean energy and environmental infrastructure in vulnerable communities. Per Connecticut's Public Act 21-115 "An Act Concerning Climate Adaptation," funding for the Environmental Infrastructure Fund may receive any federal funds (e.g., GGRF) as may become available for environmental infrastructure investment.

As noted within its comments on the Implementation Framework, the Green Bank intends to join coalitions of community lenders, which include green banks, within the NCIF competition. The Green Bank is open to participating in multiple applications.

For more details on the Green Bank's comments into the GGRF, visit www.ctgreenbank.com/ggrf

Clean Communities Investment Accelerator Partner Connection Form

This optional partner connection form has been created to help potential applicants, coalition members, and partners identify each other and create coalitions and partnerships before applying to the National Clean Investment Fund competition. **Interested parties should fill out this form by June 20, 2023.** Shortly after this deadline, parties who provide their contact information will receive a list of all parties who are interested in discussing partnerships. By providing this information, you are consenting to sharing your contact information with everyone who has signed up to be on this list.

All fields below are required, unless otherwise noted. Note: EPA will not publish this list publicly.

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Full Name	Bryan Garcia
Organization Name	Connecticut Green Bank
E-Mail	bryan.garcia@ctgreenbank.com

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Please include a short description of your grant idea or area of interest.

Along with the Priority Project Categories identified in the Greenhouse Gas Reduction Fund's ("GGRF") Implementation Framework (i.e., distributed power generation and storage, decarbonization retrofits of existing buildings, and transportation pollution reduction), which the Green Bank has identified as areas of investment within its plans for Connecticut (i.e., Green and Healthy Schools, Green Municipal and Commercial Buildings, Green Homes for Low Income Families and Vulnerable Communities, and Multimodal Green Transportation), the Green Bank's top areas of interest for funding from the CCIA also includes Environmental Infrastructure (i.e., land conservation, parks and recreation, agriculture, water, waste and recycling) and Building Green Resilience Hubs with a focus on enabling investment in and deployment of clean energy and environmental infrastructure in vulnerable communities. Per Connecticut's Public Act 21-115 "An Act Concerning Climate Adaptation," funding for the Environmental Infrastructure Fund may receive any federal funds (e.g., GGRF) as may become available for environmental infrastructure investment.

Working with Connecticut's Department of Banking ("DOB"), and its leadership regulating the banking industry, including through its oversight of the Community Reinvestment Act ("CRA"), we intend to collaborate with Connecticut-based community lenders (e.g., community development financial institutions, credit unions, community banks) to encourage them to support and expand lending efforts to low-income and disadvantaged communities so that they may have the necessary capital to benefit from clean energy and environmental infrastructure.

As noted within its comments on the Implementation Framework, the Green Bank intends to join coalitions of community lenders, which include green banks, within the CCIA competition. The Green Bank is open to participating in multiple applications, and is considering applying itself as a non-profit organization.

For more details on the Green Bank's comments into the GGRF, visit www.ctgreenbank.com/ggrf

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CONNECTICUT GREEN BANK

Memo

To: Connecticut General Assembly – Energy & Technology Committee

From: Bryan Garcia (President and CEO)

Cc Board of Directors of the Connecticut Green Bank, Brian Farnen (General Counsel and CLO), James Desantos (Associate Director and Legislative Liaison), Sergio Carrillo (Managing Director of Incentive Programs), Eric Shrago (Vice President of Operations)

Date: May 17, 2023

Re: Residential Solar Investment Program: 2012-2022 Program Impact Evaluation and Future Recommendations

---

As mentioned in the Residential Solar Investment Program ("RSIP") progress report submitted to the Energy & Technology Committee ("Committee") on January 1, 2023, the RSIP has surpassed its target of deploying 350MW of residential solar PV in Connecticut under Section 16-245ff – see Attachment A.

The deployment of these solar arrays is helping combat climate change – while having generated nearly $45 million in tax revenues to the state, and created more than 16,000 jobs in our communities, and avoiding the emissions of nearly 6 million tons of greenhouse gases and reducing local air pollution thereby improving public health.

As the RSIP has transitioned from its customer acquisition phase (i.e., CGS 16-245ff), the Green Bank's focus is now:

1. **Asset Management** – managing the assets of Solar Home Renewable Energy Credits ("SHRECs") being produced by the solar arrays to (a) recover costs associated with administering the RSIP under CGS 16-245gg, and (b) helping the electric distribution companies achieve the Class I RPS under CGS 16-245a; and

2. **Market Transition** – maintaining a smooth and orderly transition from net metering (i.e., CGS 16-243h) and the RSIP, to renewable energy tariffs (i.e., CGS 16-244zz) and battery storage,[1] especially the deployment of such systems in vulnerable communities.[2]

To evaluate the customer acquisition phase of the RSIP, the Green Bank commissioned a program impact evaluation.[3]

---

[1] Public Act 21-53 and subsequent decision by the Public Utility Regulatory Authority in Docket No. 17-12-03RE03
[2] As defined in Public Act 20-05
[3] Through a Request for Proposals from qualified Evaluation, Measurement, and Verification consultants, Slipstream was selected to conduct the evaluation.

The findings of the impact evaluation, include the following:

- **Effective** – not only did the Green Bank's successful implementation of the RSIP lead to the deployment of more than 350 MW of residential solar in Connecticut, but it was also the regional leader in the entire Northeast (i.e., New England, New Jersey, and New York) on a watt per capita basis every year since 2018.

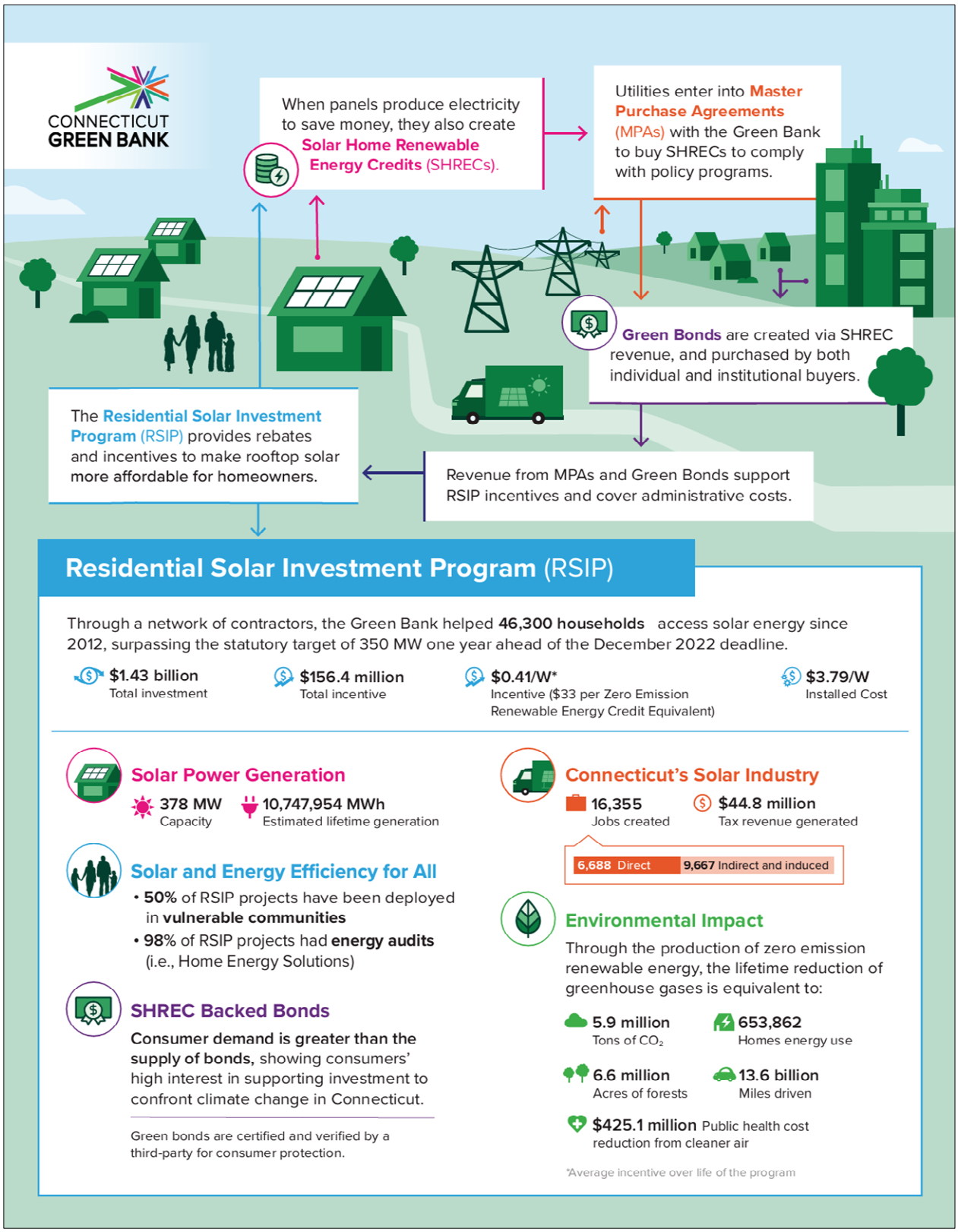
- **Efficient** – not only did the $155 million in incentives (i.e., equivalent to $30 ZREC price) provided by the Green Bank through the RSIP enable $1.4 billion of investment in and deployment of residential solar in Connecticut (i.e., leverage ratio of $1 of public to $8 of private), but it also did so at a price less than Connecticut's Alternative Compliance Payment for the Class I RPS, less than the Zero-Emission Renewable Energy Credit (i.e., ZREC) and Low Emission Renewable Energy Credit (i.e., LREC) programs, and less than comparable Solar Renewable Energy Credit (i.e., SRECs) programs in the Northeast (i.e., equivalent to $15 ZREC price in the final three years).

- **Equitable** – the Green Bank's administration of the RSIP, and its associated financing programs, resulted in low-to-moderate income households installing solar at a rate 10 percentage points higher than the national average while leading the entire Northeast region in deployment in less than 80 percent Area Median Income census tracts, earning Connecticut the distinction of a "Solar with Justice State".

The full report from Slipstream is enclosed for the committee's review – see Attachment B.

This memo is the final report from the Green Bank to the Committee, with respect to its successful implementation of CGS 16-245ff. The Green Bank's efforts now focus on the implementation of CGS 16-245gg and will seek assistance from and report to the Committee in the future as appropriate.

ATTACHMENT A
Residential Solar Investment Program (RSIP)



ATTACHMENT B

Residential Solar Investment Program (RSIP)
2012-2022 Program Impact Evaluation and Future Recommendations

Residential Solar Investment Program (RSIP)

2012 – 2022 Program Impact Evaluation and Future Recommendations

slipstream

Project Manager: Dan Streit

Acknowledgements: The project team is grateful for time, information, and insights offered by the people and organizations listed below.

- From the Connecticut Green Bank: Eric Shrago, Lucy Charpentier, and Sergio Carillo
- Ali Attash, Rhode Island Energy
- Andy Belden, Eversource
- Brian Keane, SmartPower
- Deandra Peruccio, New Hampshire Department of Energy
- Marissa Westbrook, United Illuminating
- Matthew Rolnick, Maine Public Utilities Commission
- Michael Trahan, Connecticut Solar and Storage Association
- Paul Horowitz, PAH Associates
- Serena Russell, Rhode Island Department of Commerce
- Valerie Winand, Unitil
- From Slipstream, Lee Shaver and Karen Koski.

CONTENTS

1.0 EXECUTIVE SUMMARY

The Connecticut Green Bank (Green Bank) implemented the Residential Solar Investment Program (RSIP) from 2012 until the program achieved its statutory objective of facilitating the deployment of 350 MW-DC of residential solar generating capacity in Connecticut in 2022. This evaluation assesses RSIP's effectiveness in using ratepayer funds (as program incentives paid to residential customers) to accelerate residential solar adoption and offers recommendations for how the Green Bank may support the ongoing orderly and sustainable development of the state's residential solar market.

To evaluate the success of RSIP, we consider metrics that demonstrate the impact of the program on energy production in Connecticut, on the state's economy and environment, and on Connecticut residential electric customers, with a particular focus on low and moderate income (LMI) households. We also compare performance metrics for RSIP and for the Connecticut residential solar market to residential solar programs and markets in other states in the Northeast and to national averages.

1.1 RESULTS

1.1.1 Deployed Generating Capacity

Based on a review of robust data for all projects funded through the program, the evaluation confirms that the Green Bank successfully implemented RSIP, deploying 350 MW-DC of residential solar generating capacity in the state. The evaluation finds that the Green Bank also achieved at least two additional key measures of success (described below) by effectively adapting and innovating the RSIP structure and implementation strategy during the program.

Figure 1 reflects the Green Bank's effective use of RSIP to mature and transform Connecticut's residential solar market, as Connecticut achieved the highest rate of residential PV capacity deployment in the Northeast, at a rate that was nearly twice the national average.

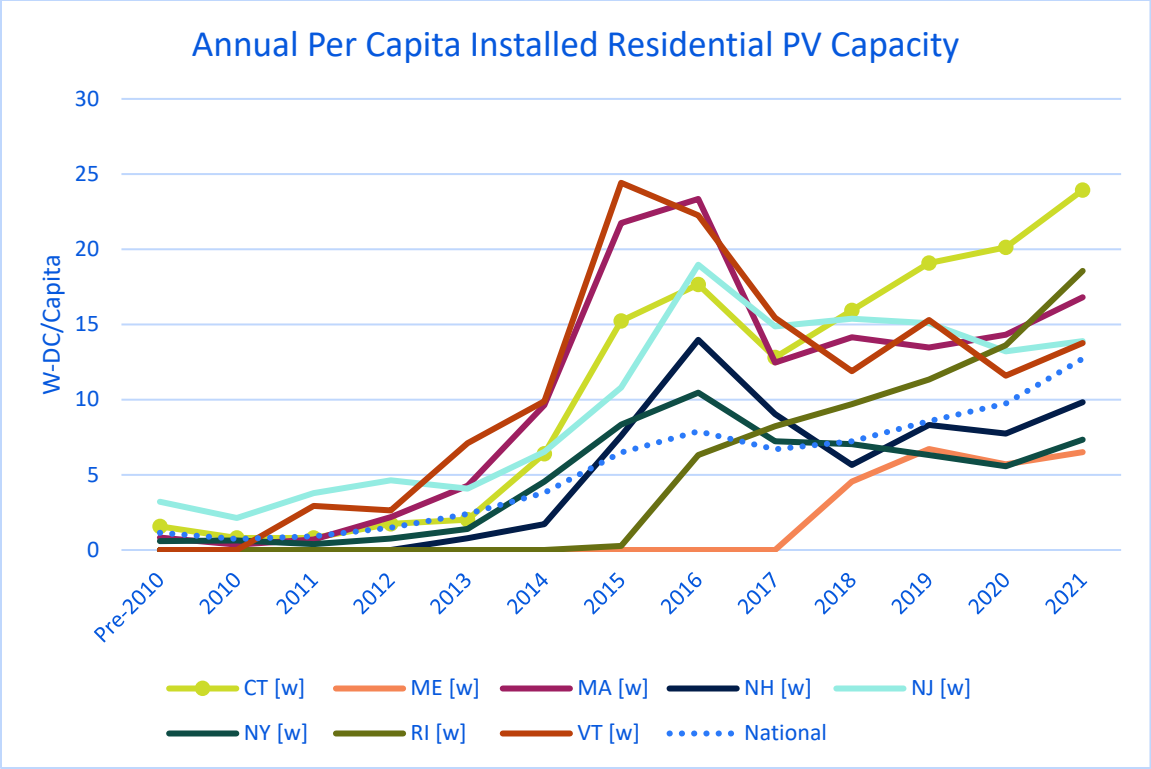


Figure 1 Annual Per Capita Installed Residential PV Capacity

1.1.2 Cost-Effective Program Implementation

The Green Bank used a declining incentive step structure to decrease incentive levels over the lifetime of the program and leveraged private investment. The strategy involved timing the reductions in incentive levels with market development and declines in the installed cost of residential solar. This resulted in RSIP leveraging $8.15 in private investment for every publicly funded program incentive dollar. When compared with other states in the Northeast, the evaluation found that RSIP cost-effectively achieved its residential solar generating capacity goal; the overall incentive cost for RSIP per installed watt and per MWh of solar energy generated through the program was similar to, or less than parallel metrics for other states.

1.1.3 Equitable Program Participation

The Green Bank's program offerings and partnerships resulted in Connecticut LMI households installing solar at a rate 10 percentage points higher than the national average. While LMI households experience higher rates of energy burden than more affluent households, they also face greater barriers in accessing the benefits of residential solar energy. Nationally, due to these barriers, only 31.9 percent of residential solar arrays have been installed in census tracts where the median income is less than the area median income (AMI), while 56.7 percent were installed by households living in census tracts for which the median income was 120 percent or more of the AMI. In contrast to national trends, the Green Bank used the enhanced LMI Performance Based Incentive (LMI PBI) offering, as well as program implementation partnerships, such as the Solar for All program and Solarize campaigns, to increase

participation by LMI households and by households living in low and moderate income census tracts. As a result of these efforts, 43.4 percent of residential solar installations in Connecticut took place in LMI census tracts.

1.2 RECOMMENDATIONS

When the Connecticut Assembly tasked the Green Bank with developing and implementing RSIP, it also directed the Green Bank to facilitate the orderly and sustainable development of the Connecticut residential solar industry. As RSIP expired, residential solar program support has shifted to the Residential Renewable Energy Solutions (RRES) tariffed solar structure. RRES is offered through the state's electric utilities and the Green Bank does not have an explicit role in implementing RRES.

1.2.1 Market Monitoring

Interviews, conducted for this evaluation, with Connecticut stakeholders, including representatives from the electric utilities, solar developers, and program partners revealed that the development and multi-year implementation of RSIP by the Green Bank played an essential role in supporting the growth of the state's solar industry. The Green Bank remains committed to supporting the orderly and sustainable development of the industry post-RSIP. This evaluation recommends that the Green Bank monitor compliance filings by the state's electric utilities to track the rate of residential solar adoption in the state. In parallel, we encourage the Green Bank to leverage insights gained from its invaluable RSIP project dataset to guide its future support of Connecticut's residential solar market and its facilitation of the development of other clean energy markets in the state in the future. We also encourage the Green Bank to maintain its role as a trusted convener of residential solar industry stakeholders and leverage that role to investigate and resolve any challenges that may emerge to the ongoing orderly and sustainable development of the industry.

1.2.2 Low-Moderate Income Market Support

This evaluation finds that Connecticut has a robust solar industry and that the pace of residential solar installations remains strong in the new RRES structure. However, we also find that the rate of solar deployment in LMI communities may decrease significantly post-RSIP. We recommend that the Green Bank pursue new strategies, partnerships, and engagement mechanisms to support residential solar adoption in LMI communities.

1.2.3 Adjacent Industry Development

The evaluation recommends that the Green Bank maintain its role as a key convener and facilitator in Connecticut's solar industry post-RSIP. While Connecticut's residential solar industry has developed significantly during RSIP, adjacent and synergistic industries, such as solar + storage is less well-developed. We recommend that the Green Bank maintain its central role among residential solar developers and program partners by pursuing opportunities to support the development of intersecting early-stage industries.

2.0 PROJECT BACKGROUND

The Connecticut Green Bank (Green Bank) engaged Slipstream to evaluate the performance of the Green Bank's Residential Solar Investment Program (RSIP) from its inception in 2012 to the achievement in 2022 of its mandate to support the installation of 350 MW of residential solar capacity in Connecticut. In this report, we evaluate the Green Bank's success in achieving its legislatively mandated objective for RSIP, as well as related energy, environmental, and economic impacts of the program throughout the lifetime of the program.

Section 3 of the report describes the methodology used for the evaluation, then Sections 4 and 5 present our findings on RSIP's impact on the state and current conditions in the Connecticut solar market. To assess the relative effectiveness of RSIP in facilitating the development of the Connecticut solar market, Section 6 compares metrics for RSIP and for the Connecticut market to equivalent data points for other states in the region. To advise the Green Bank on how it may continue to support the orderly and sustainable development of the Connecticut solar industry, Section 7 offers three sets of recommendations by which the Green Bank could continue to pursue this objective.

Recognizing that the Green Bank deployed over $148 million of public funds (as incentives paid to residential customers) to implement RSIP, it is important to assess how cost-effectively these funds were spent to achieve the program objectives. To inform the cost-effectiveness evaluation of RSIP, this report evaluates the development of the Connecticut residential solar market. Our analysis reviews RSIP's internal performance metrics and compares RSIP, and the development of the Connecticut market, to parallel metrics for residential solar programs and markets in other states in the Northeast and nationally.

The Green Bank developed and implemented RSIP in pursuit of its statutory directive to support the "sustained, orderly development of a state-based solar industry"[1] in Connecticut. In 2022, the Green Bank achieved RSIP's 350 MW capacity objective and the state transitioned from offering RSIP to support residential solar installations to utilizing the Residential Renewable Energy Solutions (RRES) offering, a tariffed PV structure, for this purpose. Through RRES, Eversource and United Illuminating customers may select either a "Buy-All" tariff or a "Netting" tariff. Customers who select the "Buy All" tariff may sell solar electricity to the utility at a rate that exceeds the current retail rate for a 20 year term. Customers who select the "Netting" tariff enter into a net metering agreement with the utility, and may also be able to receive certain "adders." Eversource customers may receive payment for RECs produced, while United Illuminating customers may qualify for a "Low-Income Adder" or for a "Distressed Municipality Adder."

To smooth the transition from RSIP to RRES, with the support of PURA in October of 2020, the Green Bank offered an extended RSIP incentive structure (RSIP-E), which the Green Bank made available for projects seeking approval after RSIP had reached the 350 MW statutory

[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."

threshold and during COVID, but prior to the full implementation of RRES. The Green Bank leveraged an alternative source of financing (i.e. ability to aggregate and sell RECs into the Class I RPS) to fund RSIP-E incentives.

While no longer implementing RSIP, the Green Bank remains committed to supporting the orderly and sustainable development of the market. This report includes recommendations for how the Green Bank may most effectively continue to support residential solar installations in Connecticut without the benefit of RSIP.

3.0 METHODOLOGY

Slipstream completed five tasks to evaluate the performance of RSIP and to provide recommendations to the Green Bank:

1. Program Context Definition. We completed a detailed review of relevant program and institutional documents and data. In this task, we reviewed all components of the Green Bank Evaluation Framework[2]; past published analyses of RSIP's performance and/or potential (e.g., assessment of total addressable market for residential solar in Connecticut[3]); and past published reports on RSIP's achievements of key metrics (e.g., bi-annual reports to the Connecticut Assembly[4].) The background information collected under this task informed all sections of this report.
2. Program Data Analysis. The Green Bank provided comprehensive data for all projects that were funded through RSIP and RSIP-E. The dataset includes 46,651 records and 205 data fields and reflects all 46,226 projects completed through December 2022. Included in the dataset were records for 425 projects that were approved for RSIP or RSIP-E, but which were not completed. In addition to project-level data, Slipstream analyzed detailed information about incentive levels offered for each step in RSIP's declining incentive block structure[5]; program participation by residents who live in LMI and Vulnerable Communities; and factors used over time to estimate the non-energy impacts of the program. Impact factors included:
    a. State emissions avoided due to increased deployment of residential PV production
    b. Job years created by investments in residential solar projects
    c. Tax revenue generated by investments in residential solar projects.
    d. Energy cost savings realized by low and moderate income (LMI) households who participated in RSIP.

[2] Connecticut Green Bank. "Evaluation Framework: Assessing, Monitoring, and Reporting of Program Impacts and Processes." 2016.
[3] Geostellar. "The Addressable Solar Market in Connecticut." 2013.
[4] Connecticut Green Bank. "Progress Report on the Residential Solar Investment Program." 2020.
[5] Certain tables and figures in this report distinguish between projects funded by RSIP and projects funded through RSIP-E. Tables and figures that do not provide separate data for RSIP-E group both project sub-sets in the analyzed data.

The results of this analysis are described in Section 4 of this evaluation and were used in Section 6 to compare the Connecticut market to other states in the region.

3. Regional Analysis. Slipstream identified and analyzed data available on residential solar installations and residential solar programs in the Northeast. States reviewed included Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. Slipstream's search started with a detailed review of entries for residential solar programs in each state in the Database of State Incentives for Renewables & Efficiency (DSIRE)[6], from which we established an inventory of potentially relevant programs. For each program, we pursued primary data, program reports, and regulatory or legislative filings that offered data on program impacts and performance metrics. To supplement findings in DSIRE, we searched for relevant programs on the websites of electric utilities in states in the region, as well as the websites of state energy offices and public utilities commissions. In addition to internet research, we conducted limited and targeted outreach to utility and government representatives to request relevant data and program information. The findings from this task are described in Section 6.
4. Stakeholder Interviews. Slipstream conducted remote interviews with key external stakeholders in the Connecticut residential solar market. From the interviews, we documented views on the impacts of RSIP and the Green Bank on the market, and solicited input on the most effective ways for the Green Bank to support the residential solar market post-RSIP. We interviewed representatives from Eversource, United Illuminating, the Connecticut Solar and Storage Association, and SmartPower. Information from the stakeholder interviews informed Sections 5 and 7 of this report.
5. Data Analysis. Slipstream analyzed RSIP data and data on residential solar adoption in other states in the Northeast. We calculated the annual and cumulative impacts of RSIP on multiple metrics describing energy production, energy costs, emissions reductions, economic benefits, distribution of socioeconomic benefits, and program cost-effectiveness. For metrics for which there was sufficient data to analyze markets and program performance in other states, Slipstream calculated relevant metrics for those states and assessed the relative impact of RSIP in comparison to programs in other states. The results of this task are described in sections 4, 5, and 6 of this report.

4.0 RSIP IMPACTS: 2012 - 2022

Slipstream's evaluation confirmed that the Green Bank successfully implemented RSIP to facilitate the deployment of 350 MW-DC of residential solar capacity in Connecticut. We also confirmed that the Green Bank used the RSIP-E funding mechanism to supplement the PV capacity produced under RSIP to enable deployment of an additional 26.88 MW-DC of residential solar capacity, for combined capacity of 376.90[7] MW-DC. Table 1 indicates the

[6] www.dsireuse.org
[7] The actual installed capacity through RSIP was 350.02 MW-DC.

number of projects completed each year from 2012 through 2022, as well as the generating capacity that those projects produced and

Table 2 displays annual production and incentive payment by the type of REC associated with the project.

Table 1. Annual Capacity and Funding

		Installed Capacity (MW-DC)		Incentive Funds Issued	
Calendar Year	**Completed Installations**	**RSIP**	**RSIP-E**	**RSIP**	**RSIP-E**
2012	242	1.63	0.00	$2,784,788	$-
2013	1,037	7.33	0.00	$11,145,112	$1,569 [8]
2014	1,475	10.46	0.15	$12,405,920	$156,518
2015	8,159	60.62	1.15	$39,648,831	$650,559
2016	7,062	55.52	0.24	$23,107,805	$113,090
2017	4,160	32.45	0.01	$10,364,723	$9,697
2018	5,411	44.28	0.01	$13,106,951	$1,748
2019	7,137	60.63	0.25	$16,760,039	$91,293
2020	6,437	54.11	0.79	$13,582,222	$254,726
2021	4,480	22.96	18.59	$5,804,000	$4,887,034
2022	626	0.02	5.69	$4,146	$1,417,714
Total	**46,226**	**350.02**	**26.88**	**$148,714,535**	**$7,583,947**

Table 2 Annual Production and Incentive Payments by SHREC Phase

		Installed Capacity (MW-DC)			Incentive Funds Issued		
CY	**Count**	**Pre-SHREC**	**SHREC**	**SHREC-E**	**Pre-SHREC**	**SHREC**	**SHREC-E**
2012	242	1.63	-	-	$2,784,788.40	$0.00	$0.00
2013	1,037	7.33	-	-	$11,145,111.57	$0.00	$1,569.00
2014	1,475	10.46	-	0.15	$12,405,920.07	$0.00	$156,517.83
2015	8,159	22.45	38.17	1.15	$22,146,940.76	$17,501,889.87	$650,559.38
2016	7,062	6.90	48.62	0.24	$6,446,758.14	$16,661,046.46	$113,090.00
2017	4,160	-	32.45	0.01	$0.00	$10,364,722.52	$9,696.75
2018	5,411	-	44.28	0.01	$0.00	$13,106,951.29	$1,747.70
2019	7,137	-	60.63	0.25	$0.00	$16,760,038.98	$91,292.61

[9] Connecticut Green Bank. “Progress Report on the Residential Solar Investment Program.” 2020.

2020	6,437	-	54.11	0.79	$0.00	$13,582,221.72	$254,725.63
2021	4,480	-	22.96	18.59	$0.00	$5,803,999.68	$4,887,033.86
2022	626	-	0.02	5.69	$0.00	$4,145.91	$1,417,714.17
Total	**46,226**	**48.78**	**301.24**	**26.88**	**$54,929,518.94**	**$93,785,016.43**	**$7,583,946.93**

The expected useful life (EUL) of photovoltaic (PV) systems is commonly estimated to be 20-30 years. In previous reports[9], the Green Bank calculated anticipated impacts of the projects supported by RSIP to be realized during a 25-year equipment lifetime. We find that assuming a 25-year project lifetime aligns with industry best practices[10,11,12]. Table 3 shows the estimated annual amount of electricity generated by projects completed in each year of RSIP. If 430,000 MWh of electricity is produced a year from residential solar PV through projects supported by the RSIP, and Connecticut's net energy load in 2021 is 28,300 GWh,[13] then the RSIP has helped reduce load by 1.5%. The table also shows the annual emissions avoidance benefits enabled by the additional residential solar generating capacity of RSIP projects funded in that year. If 230,000 tCO2 are being avoided as a result of the RSIP, and in 2018 Connecticut emitted 42.2 MMTCO2e,[14] then the RSIP has helped avoid GHG emissions by 0.5%. Slipstream calculated emissions avoidance by using the current and historical emissions reduction factors published through the U.S. EPA's industry-accepted AVERT framework.

Table 3. Estimated Annual Generation and Emissions Avoidance

CY	Annual MWh generated	tCO_2	Lbs. PM 2.5	Lbs. Nox	Lbs. SO_2
2012	1,862	1,038	93	1,283	1,696
2013	8,352	4,779	419	7,173	9,246
2014	12,086	6,658	607	9,548	11,560
2015	70,340	40,430	3,531	49,023	49,123
2016	63,509	35,700	3,136	36,543	26,085
2017	36,975	19,921	1,706	17,106	11,190
2018	50,433	27,876	2,373	26,957	23,208
2019	69,326	36,053	2,047	14,606	7,573
2020	62,521	31,688	1,751	10,733	2,636
2021	47,317	23,982	1,325	8,123	1,995
2022	6,501	3,295	182	1,116	274
Total	**429,221**	**231,419**	**17,169**	**182,210**	**144,586**

Figure 2 applies an assumed 25-year system life to show the annual energy generation and cumulative GHG emissions reduction benefits resulting from RSIP projects throughout the

[9] Connecticut Green Bank. "Progress Report on the Residential Solar Investment Program." 2020.
[10] NREL. "Energy Analysis | Useful Life." Viewed December, 2022. (https://www.nrel.gov/analysis/tech-footprint.html.)
[11] U.S. Department of Energy. "Federal Energy Management Program | Optimizing Solar Photovoltaic Performance for Longevity." Viewed December, 2022. (https://www.energy.gov/eere/femp/optimizing-solar-photovoltaic-performance-longevity).
[12] Huang, S. "Solar Energy Technologies Office Photovoltaics End-of-Life Action Plan." U.S. Department of Energy Office of Energy Efficiency & Renewable Energy. 2022. (https://www.energy.gov/sites/default/files/2022-03/Solar-Energy-Technologies-Office-PV-End-of-Life-Action-Plan.pdf).
[13] "2022 Clean & Renewable Energy Report" by PURA (February 6, 2023)
[14] 2018 Connecticut Greenhouse Gas Emissions Inventory" by DEEP (2021)

lifetimes of all funded projects (from 2012 – 2047). Figure 3 shows the parallel impacts of the RSIP on reductions in PM 2.5, NOx, and SO_2 emissions.

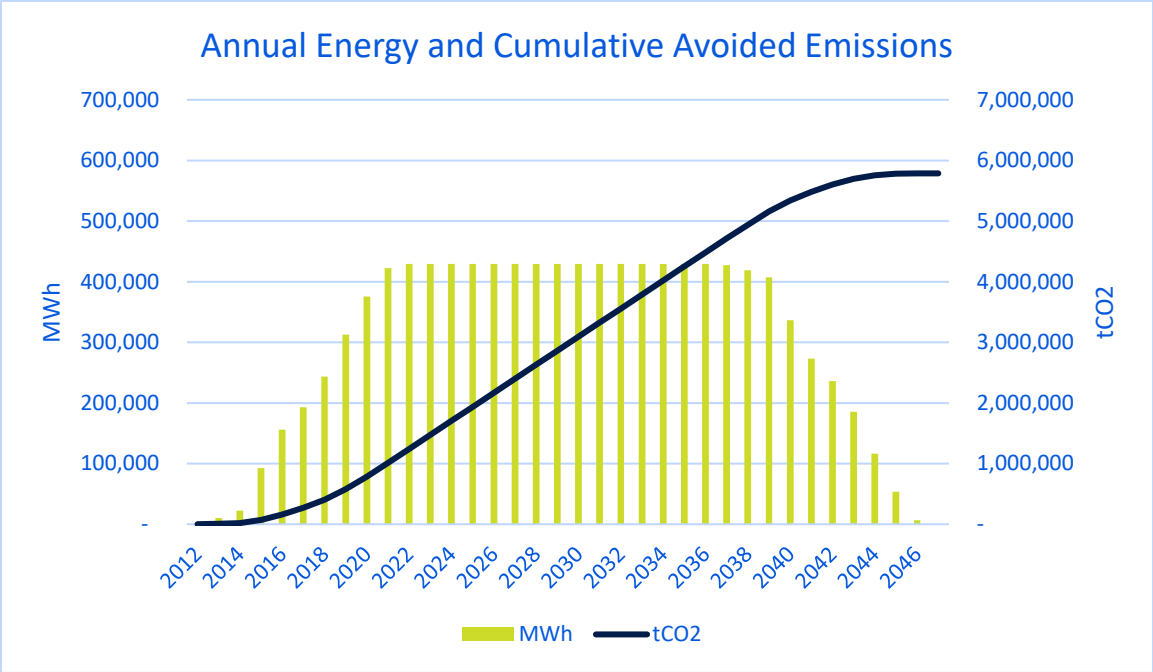


Figure 2. Estimated Energy Generation and Avoided GHG Emissions: 2012 - 2047

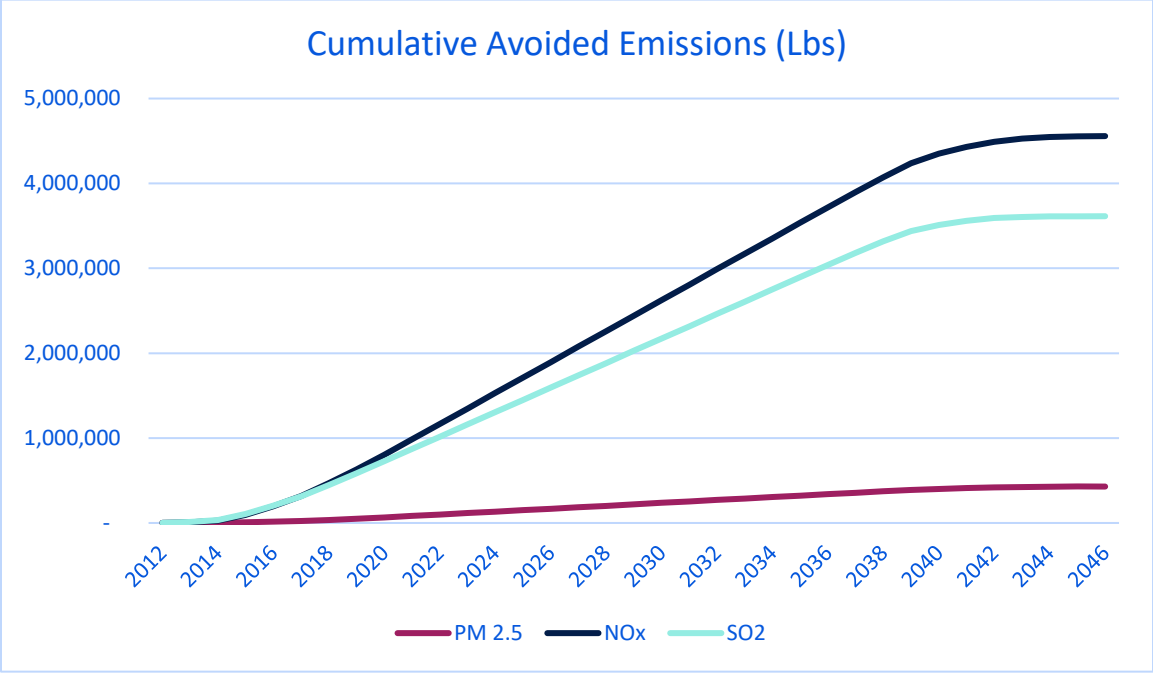


Figure 3. Estimated Avoided Particulate Emissions: 2012 - 2047

In addition to generating energy and environmental benefits, projects funded through RSIP created economic value for the State of Connecticut. From 2012 – 2022, RSIP issued total incentives of $148,714,535 and the Green Bank issued additional incentives of $7,583,947 through RSIP-E. The RSIP incentives achieved a leverage ratio[15] of 8.15 to catalyze total investment of $1,429,942,769 in Connecticut's economy. The combination of public and private investment created positive economic ripples in the State's economy, including job creation and generation of state tax revenue. The Green Bank previously engaged outside expertise to investigate the number of job years created[16] and the amount of state tax revenue generated, for each $1,000,000 of total investment in residential solar projects[17]. The Green Bank updated these analyses periodically during the lifetime of RSIP to reflect changes in the state's residential solar industry and in its tax structure. Slipstream applied the job year creation and tax revenue generation factors developed by third parties, that were effective as of the completion date of each project to estimate the annual and cumulative economic impacts of RSIP.

Slipstream's analysis showed that RSIP projects created 6,494 direct job years[18], 9,239 indirect and induced job years[19], and $44,967,956 in state tax revenue. Table 4 describes RSIP's annual and cumulative economic impacts.

Table 4. RSIP Economic Impacts

				Job Years		
CY	RSIP Amount	Installed Cost	Leverage Ratio	Direct	Indirect and Induced	Tax Revenue
2012	$2,784,788	$8,401,052	2.0	49.6	79.3	$295,021
2013	$11,146,681	$32,735,501	1.9	193.1	309.0	$1,149,576
2014	$12,562,438	$45,184,351	2.6	266.6	426.5	$1,586,743
2015	$40,299,390	$270,845,102	5.7	1596.8	2554.2	$9,511,295
2016	$23,220,895	$221,104,968	8.5	1050.8	1531.1	$7,764,565
2017	$10,374,419	$112,023,431	9.8	440.0	573.2	$3,243,617
2018	$13,108,699	$156,510,605	10.9	613.0	797.1	$4,531,735
2019	$16,851,332	$216,971,831	11.9	849.7	1104.6	$6,282,378
2020	$13,836,947	$194,542,509	13.1	761.8	990.4	$5,632,941

[15] The leverage ratio is calculated as the total private investment in funded projects divided by the total RSIP incentive amount.
[16] Navigant Consulting Inc., Connecticut Department of Economic and Community Development, and Connecticut Green Bank. June 2016. "Clean Energy Jobs In Connecticut."
[17] Navigant Consulting, Inc. and Connecticut Green Bank. January 19, 2018. "Tax Revenue Calculator Final Report."
[18] Direct Job-Years are the "total number of installer, electrician, and PM [Project Manager]/engineering jobs created for 1 year." [Navigant Consulting Inc., Connecticut Department of Economic and Community Development, and Connecticut Green Bank. June 2016. "Clean Energy Jobs in Connecticut."]
[19] Indirect jobs years are created by, "the response as supplying industries increase output in order to accommodate the initial change in final demand. These indirect beneficiaries will then spend money for supplies and services, which results in another round of indirect spending." Induced jobs are, "generated by the spending of households who benefit from the additional wages and business income they earn through direct and indirect activity." [Navigant Consulting Inc., Connecticut Department of Economic and Community Development, and Connecticut Green Bank. June 2016. "Clean Energy Jobs in Connecticut."]

2021	$10,691,034	$149,506,466	13.0	585.5	761.1	$4,328,931
2022	$1,421,860	$22,143,236	14.6	86.7	112.7	$641,153
Total	**$156,298,482**	**$1,429,969,053**	**8.15**	**6,494**	**9,239**	**$44,967,956**

5.0 CONNECTICUT RESIDENTIAL SOLAR MARKET

Slipstream's evaluation assessed the effect of RSIP on the development of Connecticut's solar market since 2012, as well as current market conditions in the state. To evaluate how RSIP supported the market, we reviewed changes in RSIP incentive rates and concurrent changes in the cost of installed residential solar over time. This analysis showed how the program progressed, starting from a high initial cost for RSIP incentives and low generation capacity, and ending with low incentive rates leveraging large amounts of private capital to support new projects.

5.1 THE GREEN BANK'S ROLE IN THE MARKET

Program incentives for residential solar installations may serve two primary purposes. First, a financial incentive can sufficiently reduce a resident's project costs and/or ongoing financing or electricity costs, making installation of a PV system more cost-effective for that resident. Two measures of cost-effectiveness are length of payback period, and positive cash flow. In the former, program incentives may shorten the payback period over which the financial value of the electricity generated by the system repays the customer's up-front costs. For PV systems installed in conjunction with a PPA, or those financed with a loan or lease, cash-flow analysis is a more applicable measure of cost-effectiveness. A second purpose of a financial incentive is to motivate a customer to take action to install PV, even if poor cost-effectiveness of a project would not otherwise be an obstacle to the customer's participation.

The Green Bank offered three types of RSIP incentives, which improved project cost-effectiveness for customers and served to motivate customers to install PV arrays at their homes. The Expected Performance Based Buydown (EPBB) offered a one-time up-front payment to customers based on the generating capacity of their system and benefited customers who purchased their systems. The Performance Based Incentive (PBI) provided ongoing payments on a quarterly basis for 6 years to customers based on the amount of electricity produced by their array. The PBI served customers who hosted third-party owned projects. The Low and Moderate Income Performance Based Incentive (LMI PBI) offered a higher PBI incentive level for income-qualified customers.

Nationally, the installed cost of residential photovoltaic systems has decreased significantly during RSIP's lifetime. NREL states that the installed cost of residential solar arrays decreased 42 percent from 2012 to 2020[20]. At RSIP's inception, unsubsidized residential PV systems were

[20] 2020 is the most recent year for which NREL published data on the installed cost of residential solar arrays. [NREL. "Solar Market Research & Analysis | Solar Installed System Cost Analysis." Viewed

unlikely to offer opportunities to customers for either positive cash flow or for reasonably attractive returns on investment. As the installed cost of residential solar decreased and electricity rates increased, the Green Bank used the incentive step structure to progressively reduce the amount of the RSIP incentive so that RSIP funding filled the gap between the market rate cost of solar and the lower project cost, at which solar is a financially attractive energy source for customers. When establishing incentives steps, the Green Bank timed reductions so as to maintain levels that would incentivize adoption, while reducing levels so as to optimize cost effectiveness and minimize levels of program free ridership. Figure 4, Figure 5, and Figure 6 show the reductions in RSIP incentive levels by step along with the decreasing installed cost of solar. The relationship between the rapid decline in costs during the early years of the program followed by slower rates of change in the later years of the program aligns with parallel changes in the EPBB and PBI incentive levels. Reductions in the LMI PBI incentives lagged reductions in installed cost and in the EPBB and PBI levels. The Green Bank's decision to maintain higher LMI PBI incentives for a longer period of time was an effective response to the Green Bank's recognition that LMI communities and vulnerable communities were underserved in RSIP's early years. As described below, the Green Bank's strategy to increase participation in RSIP by LMI communities resulted in rates of solar adoption in LMI communities in Connecticut that exceeded regional and national averages.

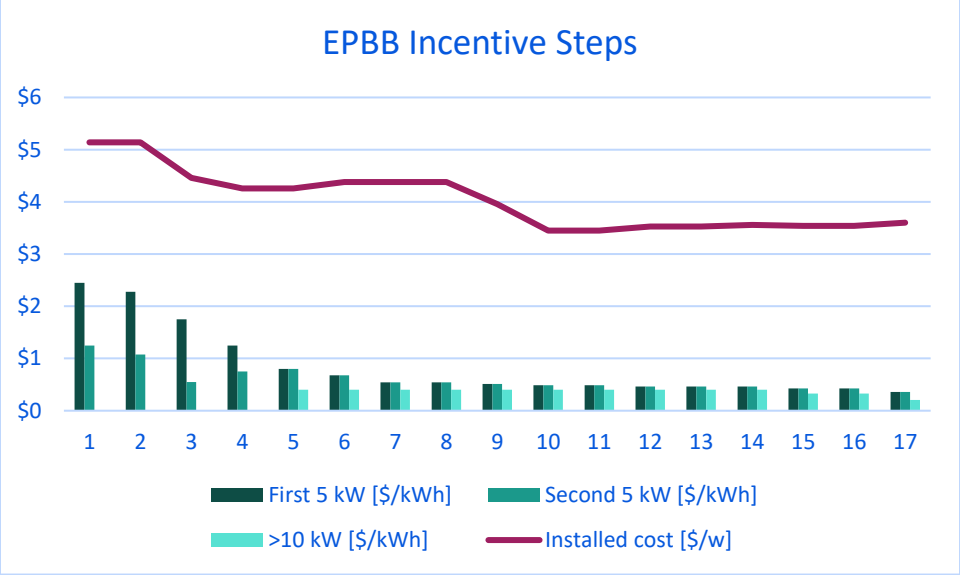


Figure 4. EPBB Steps and Changes in Installed Cost

November, 2022. https://www.nrel.gov/solar/market-research-analysis/solar-installed-system-cost.html]

Figure 5. PBI Steps and Changes in Installed Cost

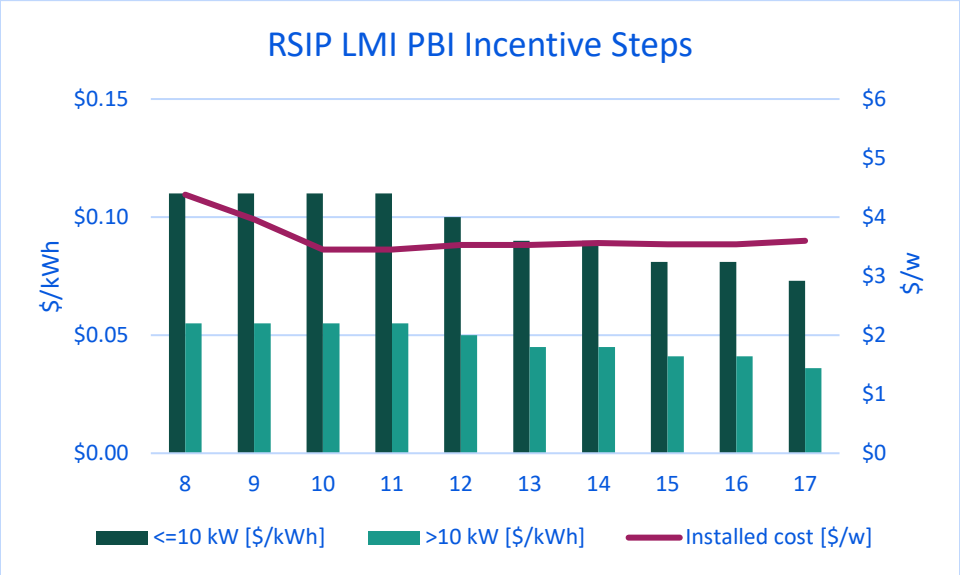


Figure 6. LMI PBI Steps and Changes in Installed Cost

Table 5 shows the average installed cost and incentive amount for each year of the program, as well as the ZREC[21] equivalent cost. Figure 7 compares the annual weighted average costs of LRECs, as well as small, medium, and large ZRECs with the ZREC equivalent cost of RSIP incentives.

Table 5. RSIP Leverage and ZREC Cost

CY	Installed Cost ($/W)	Incentive ($/W)	Leverage Ratio	ZREC Equivalent ($/MWh)
2012	$5.14	$1.70	2.02	$99.72
2013	$4.46	$1.52	1.94	$88.97
2014	$4.26	$1.18	2.60	$69.29
2015	$4.38	$0.65	5.72	$38.19
2016	$3.96	$0.42	8.52	$24.38
2017	$3.45	$0.32	9.80	$18.71
2018	$3.53	$0.30	10.94	$17.33
2019	$3.56	$0.28	11.87	$16.20
2020	$3.54	$0.25	13.06	$14.75

[21] Separately from RSIP, Connecticut customers were able to engage in 15-year ZREC contracts with the state's electric utilities. A ZREC is equivalent to 1 MWh of electricity generated by a solar project owner. (Connecticut Green Bank. October, 2019. "What You Need to Know about Solar for Your Facility." https://portal.ct.gov/-/media/DEEP/p2/institution/WhatYouNeedtoKnowAboutSolarFAQshandoutpdf.pdf) This evaluation applied the amount of the RSIP incentive and the estimated electricity to be produced over a 15 year period by each RSIP project to determine the equivalent cost of ZRECs as an alternative financing incentive for the project.

2021	$3.60	$0.26	12.98	$15.06
2022	$3.88	$0.25	14.57	$14.58

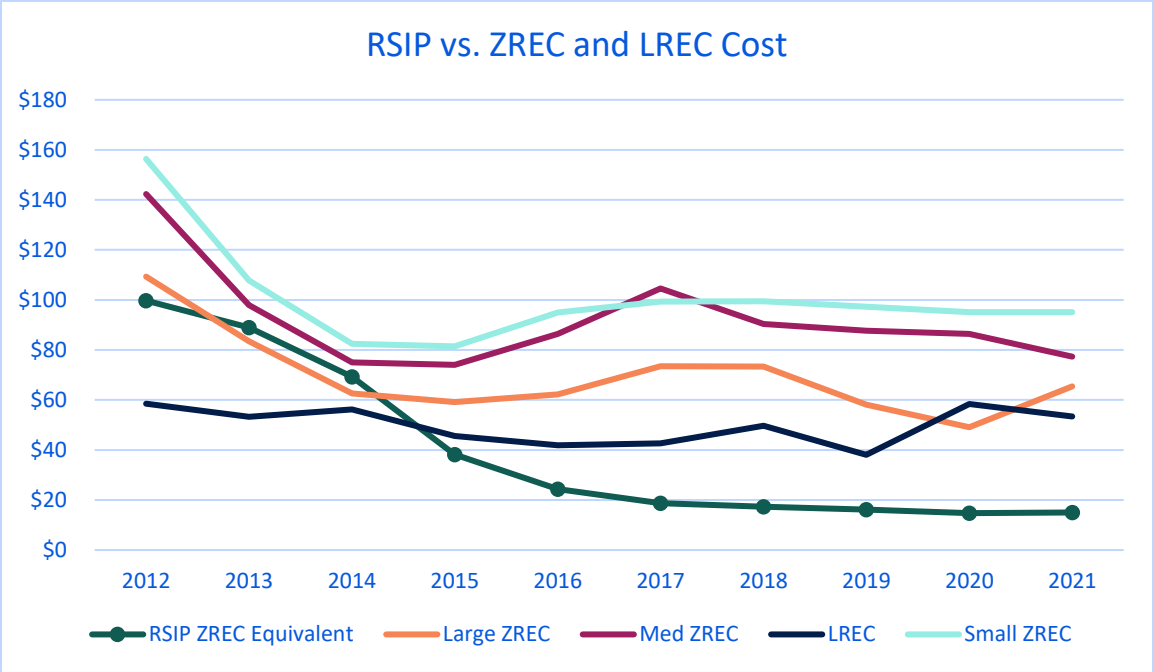


Figure 7 Comparative costs of LREC, ZREC, and RSIP incentives

As shown in the table, the Green Bank reduced incentive levels more rapidly than the rate of decrease in installed cost. While reducing incentive costs ahead of the market, the Green Bank continued to support the orderly and sustainable development of the Connecticut residential solar market, as shown by the accelerating rate of RSIP participation over time.

Interviews with key stakeholders in the Connecticut residential solar market revealed consistent themes in the Green Bank's role in establishing and growing the state's solar industry. Several key observations emerged from the stakeholder interviews:

- In the early development of the Connecticut solar market, the Green Bank (and its predecessor) were essential conveners of diverse stakeholders, including electric utilities, solar developers, ratepayers, and community-based organizations. The Green Bank led conversations among representatives of these stakeholders that produced common objectives and shared understandings. Throughout its implementation of RSIP, the Green Bank maintained its role as an independent third-party convener and earned the trust of all stakeholders.
- Prior to the launch of RSIP, there was not a coherent residential solar market in Connecticut. RSIP was essential in developing a functional market for the state.
- As a program and as a financing tool, RSIP operated smoothly. The Green Bank anticipated challenges to RSIP before the challenges created problems for the market

and the Green Bank innovated to find solutions. The availability and predictability of RSIP incentives enabled the orderly and sustainable development of the state's solar industry.

- Solar developers and installers trust the Green Bank and, based on this trust, companies have chosen to invest in growing their businesses in the state.
- During its operational life, RSIP supported the creation of a self-sustaining market.
- The Green Bank was essential in adapting RSIP to create ways for low-and-moderate income households and communities to access affordable solar power.

5.2 ADDITIONAL MARKET INFLUENCES

The research confirmed that residential solar projects are installed in the context of a complex market in Connecticut. As of the release of this report, Connecticut residents, solar installers, and electric utilities continue to pivot the market from RSIP to the RRES tariffed solar structure. However, the transition from RSIP to RRES is one of multiple influences on the market.

Current influences on the market beyond the control of the Green Bank and the electric utilities include:

Inflation. Rapidly increasing prices and potential consumer expectations of ongoing cost increases may affect cost-effectiveness of projects for customers, as well as customer decisions on if/when to install PV arrays at their residences.

Interest Rates. Rising borrowing costs for customers may affect customer willingness to use a loan to fund the first costs of a solar project. High interest rates have also contributed to slower residential real estate markets, which customers may view as potentially negatively affecting the equity in their homes. Home equity can be an important input that enables customers to finance high-cost home improvements, such as the purchase of a PV system. Reduced home equity could contribute to lesser ability and/or willingness for homeowners to finance solar projects.

Supply Chain. Lack of product availability due to disruptions in manufacturing and distribution supply chains, along with labor shortages, may force delayed installations for customers.

Federal Funding. The Inflation Reduction Act (IRA) and Infrastructure Investment and Jobs Act (IIJA) increased federal funding for an array of climate change mitigation, renewable energy, and energy efficiency projects and programs. Increased federal funding may attract additional actors to renewable energy markets and may contribute to technological and/or market delivery innovations that could influence the Connecticut residential solar market. Also, federal funding like the Greenhouse Gas Reduction Fund within IRA, specifically for zero emission technologies and low-income and disadvantaged communities (i.e., Sec. 134(a)(1)) could help Connecticut restore its LMI deployment success in LMI communities, which achieved high rates of solar adoption during RSIP, but have lost ground under RRES.

Tax Credits. Recent legislation returned the amount of the federal Investment Tax Credit to 30% and signaled continuation at this rate through at least 2032. Federal tax credits are a key source of residential solar financing for many homeowners. Increasing and stabilizing the tax credit may accelerate residential solar installations and support market stability due to the elimination of year-end deadlines to access specified tax credit levels.

Assessing the relative magnitude of the influence exerted by each of these factors on the residential solar market and the comparative importance of the past RSIP framework and the current RRES tariff on the industry is outside of the scope of this analysis. While the Green Bank may be unable to influence the preceding market factors, Slipstream recommends that the Green Bank consider potential short-term and long-term impacts of these influences on the trajectory of the residential solar industry and that the Green Bank discern its intended future role in the market in the context of these factors.

5.3 RESIDENTIAL SOLAR ADOPTION IN LOW AND MODERATE INCOME COMMUNITIES

In 2020, the median income for households throughout the country that installed solar was 158 percent of the median income of the county in which the home was located.[22] Conversely, in the United States, as of 2020, only 30 percent of solar adopter households had income that was less than the applicable area median income and only 20 percent of solar adopters had incomes that were less than 80 percent of the area median income.[23]

The Green Bank recognized that, while on-site solar power may be effective in reducing energy burden among low-and-moderate income (LMI) households, financial barriers may deter or prevent households in this market segment from accessing the benefits of solar energy. The Green Bank implemented multiple strategies in RSIP to improve access to solar for LMI households. These initiatives included:

- Introduction of the LMI Performance Based Incentive (LMI PBI), which offered a higher PBI rate for residential customers whose documented[24] household income was less than the applicable Area Median Income (AMI).
- Development and implementation of the Solar for All[25] program, in which the Green Bank provided subordinate capital and program support that enabled PosiGen (a solar developer) to use inclusive underwriting standards when offering lease financing for solar installations for LMI households. The program support also enabled targeted and

[22] Barbose, G. Forrester, S. O'Shaughnessy, E. Dargouth, N. "Residential Solar-Adopter Income and Demographic Trends: 2022 Update." Lawrence Berkeley National Laboratory. March, 2022.
[23] Ibid.
[24] Residential customers demonstrated income-eligibility for the LMI PBI by either providing copies of relevant tax forms or documenting participation in certain other income-qualified programs, such as the Low Income Home Energy Assistance Program (LIHEAP) or the Supplemental Nutrition Assistance Program (SNAP).
[25] More information about Solar for All can be found at: https://www.ctgreenbank.com/strategy-impact/societal-impact/successful-legacy-programs/solar-for-all/

coordinated market engagement of LMI communities, where market-rate solar developers may be less likely to market their services.

- Support for community-based Solarize[26] campaigns increased participation across income segments. However, the Solarize campaigns have been especially effective in engaging residents in LMI communities.
- Instituted data collection and analysis practices that allowed the Green Bank to track and report on its progress in catalyzing participation by LMI households and by residents in LMI communities.

Through the Solar for All program and the Solarize campaigns, the Green Bank also developed ongoing relationships with community-based organizations (CBOs) that serve LMI communities.

Figure 8[27] shows residential solar adoption in Connecticut by the AMI band of the census tract in which each project is located and by year of installation[28]. The line on the chart shows the national average for that year for the percentage of all new installations for residences in census tracts with median income less than the applicable AMI. Figure 8 suggests that the Green Bank's design and implementation of RSIP contributed to higher participation in RSIP by households located in LMI census tracts than would have been expected based on national averages. As shown in the figure, solar adoption in LMI census tracts tracked or slightly lagged the national average through 2014. In 2015, the Green Bank introduced the LMI PBI program and launched the Solar for All initiative and the rate of adoption in LMI census tracts quickly increased. The rate of participation in LMI census track has remained above the national average since the introduction of these program elements.

[26] SmartPower implemented Solarize campaigns that leveraged RSIP. Information about Solarize Connecticut can be found at: https://www.smartpower.org/solarize-connecticut.html

[27] The project-level data provided by the Green Bank included data points that characterized the census tract in which the property is located, including the AMI band, classification as a Vulnerable Community, Distressed Community, and/or EJ Community, as well as the majority race in the census tract. Data reported in this evaluation is based on census tract data provided by the Green Bank. Slipstream did not separately confirm the census tract characteristics indicated for each project.

[28] Data adapted from the Lawrence Berkeley National Laboratory's *Residential Solar-Adopted Income and Demographic Trends*." Viewed November, 2022 data set. (https://emp.lbl.gov/projects/solar-demographics-trends-and-analysis/)

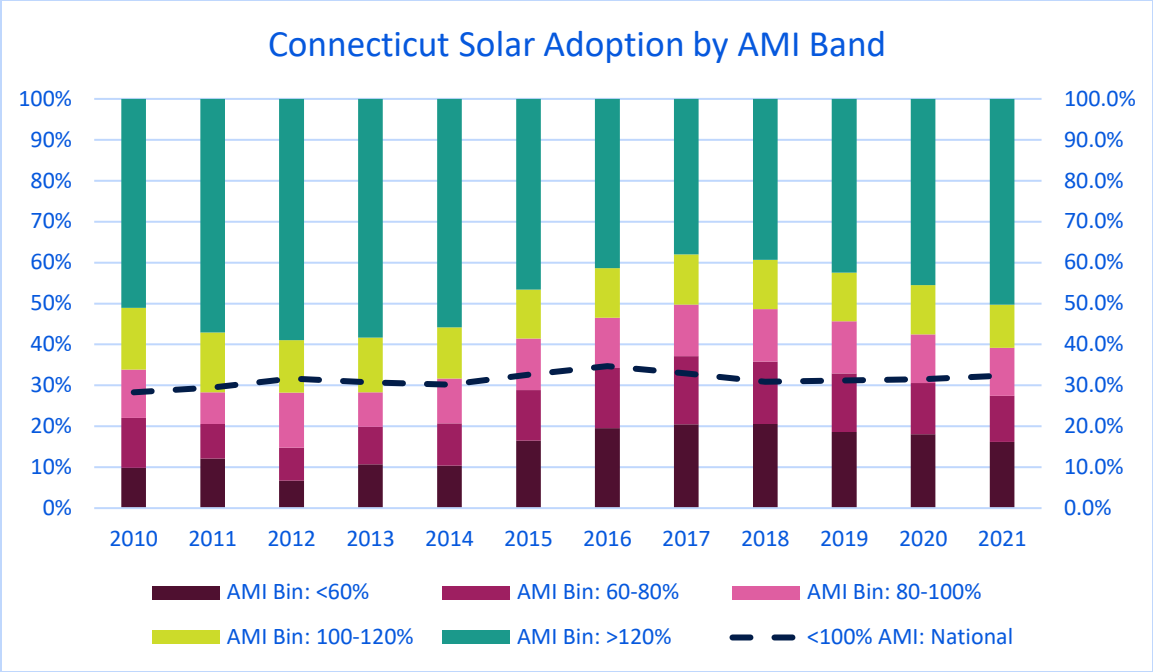


Figure 8. Connecticut Solar Adoption by AMI Band

RSIP was designed to increase adoption of residential solar in single family owner-occupied homes. Homeownership rates in Connecticut vary based on a household's income, with homeownership rates generally higher among households with higher incomes. Due to differences in homeownership rates based on income, potential for RSIP participation also varies by income level. Table 6 compares RSIP participation by the AMI band in which the residence is located to homeownership rates for the same income levels.

Table 6. RSIP Participation vs. Owner-Occupancy Rate

AMI Band	RSIP Projects		Percent of all owner-occupied homes in band	Difference (RSIP rate vs. owner occupied rate)
	Number	Percentage		
<60%	4,120	8.91%	7.19%	1.73%
60-80%	6,268	13.56%	12.60%	0.96%
80-100%	8,707	18.84%	16.85%	1.98%
100-120%	10,931	23.65%	23.65%	0.00%
>120%	16,189	35.02%	39.71%	-4.69%
Unknown	12	0.0%	0.0%	0.0%

The data show that the rate of participation in RSIP by households in census tracts with median income that is less than the area median exceeds the distribution of owner-occupied homes in the same areas. In turn, the rate of participation in RSIP by households living in the most affluent census tracts deviates most greatly of any of the income bands and is substantially lower than the corresponding distribution of all owner-occupied homes. Thus, Green Bank effectively implemented RSIP to make residential solar accessible for LMI households, as

demonstrated by the fact that homeowners in lower AMI bands participated in RSIP at a rate exceeding the homeownershp rate within their respective AMI band.

The Green Bank recognized that socioeconomic and societal factors other than income may also contribute to differences between communities and households in their ability to access the benefits of residential solar installations. To measure RSIP's effectiveness in reaching potentially underserved communities, the Green Bank collects six data points about the socioeconomic characteristics of the census tract and community where each project is completed. [Note: A census tract or community may meet the requirements of more than one community designation. Projects are included in the counts of all community designations for which the site address qualifies.]

- Census tract median income as a percentage of the area median income
- Majority race within the census tract
- Designation of the location as a "Distressed Community"[29]
- Designation of the location as an "Environmental Justice Community"[30]
- Designation of the location as a "Vulnerable Community"[31]
- Designation of the location as a "Justice 40 Community"[32]

Figure 9 shows that higher shares of total owner-occupied residences in Majority Black and Majority Hispanic census tracts participated in RSIP than participated in Majority White census tracts. Figure 10 expands upon this analysis and shows that residents in low-income census tracts across all racial categories participated in RSIP at rates that exceeded the parallel homeownership rates for the same combination of income band and majority race.

[29] The Connecticut Department of Economic and Community Development identifies "Distressed Communities as directed by C.G.S. Section 32-0p, "based on "high unemployment and poverty, aging housing stock and low or declining rates of growth in job creation, population, and per capita income."
[30] Environmental Justice Communities are, "A) a United States census block group, as determined in accordance with the most recent United States census, for which thirty per cent or more of the population consists of low income persons who are not institutionalized and have an income below two hundred per cent of the federal poverty level; or (B) a distressed municipality, as defined in subsection (b) of section 32-9p;"
[31] Public Act 20-5 of the Connecticut General Assembly defines "Vulnerable Communities" as populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by the Department of Energy and Environmental Protection (DEEP) in consultation with community representatives".
[32] Justice 40 Communities are "Disadvantaged Communities" identified by the U.S. Department of Energy by levels of fossil fuel dependence, energy burden, environmental and climate hazards, and socio-economic vulnerabilities in that tract. (Source: Department of Energy *General Guidance for Justice40 Implementation.)*

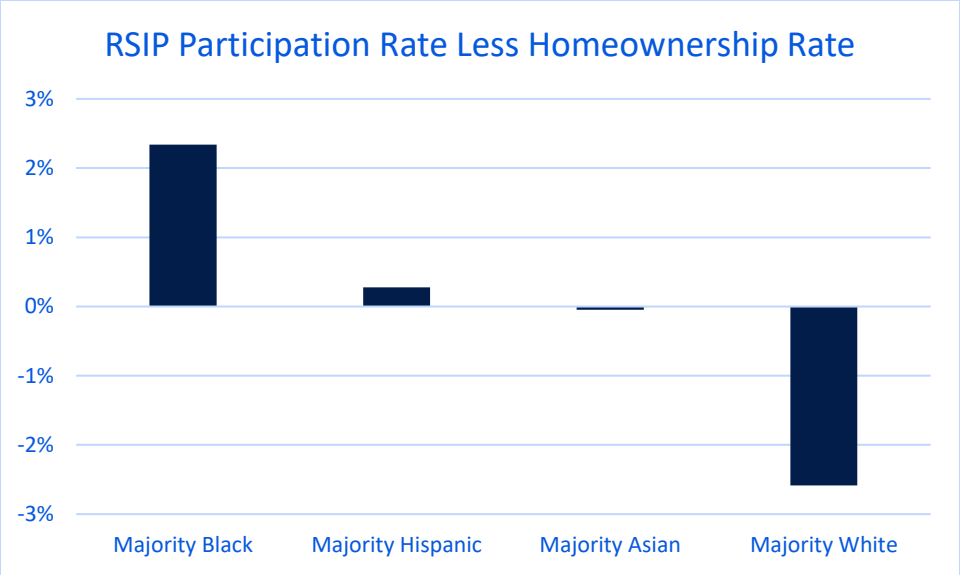


Figure 9 Rates of owner-occupied housing unit participation in RSIP, by majority race.

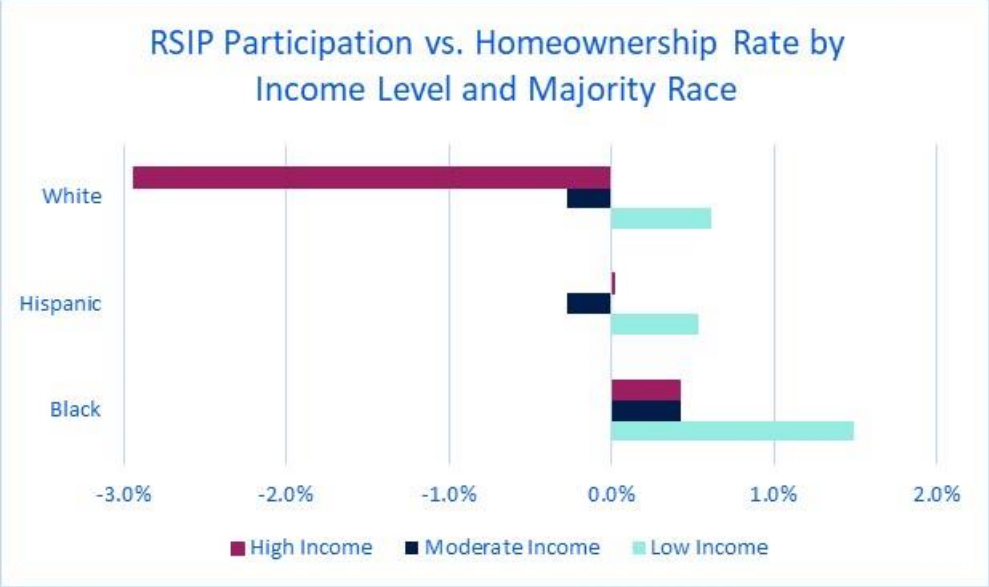


Figure 10 RSIP Participation vs. Homeownership Rate by Income Level and Majority Race

Figure 11 shows the increasing rate of RSIP participation in Majority Black and Majority Hispanic census tracts from 2012 – 2022. Figure 12 and Figure 13 show increasing rates of RSIP participation over time by residents in designated Vulnerable communities, Justice 40 communities, Community Reinvestment Act (CRA) eligible areas, Distressed communities, Environmental Justice (EJ) Communities, and census tracts in which the median income is less

than the area median income. Table 7 shows the share of RSIP projects that benefited households who lived within each of these community designations[33].

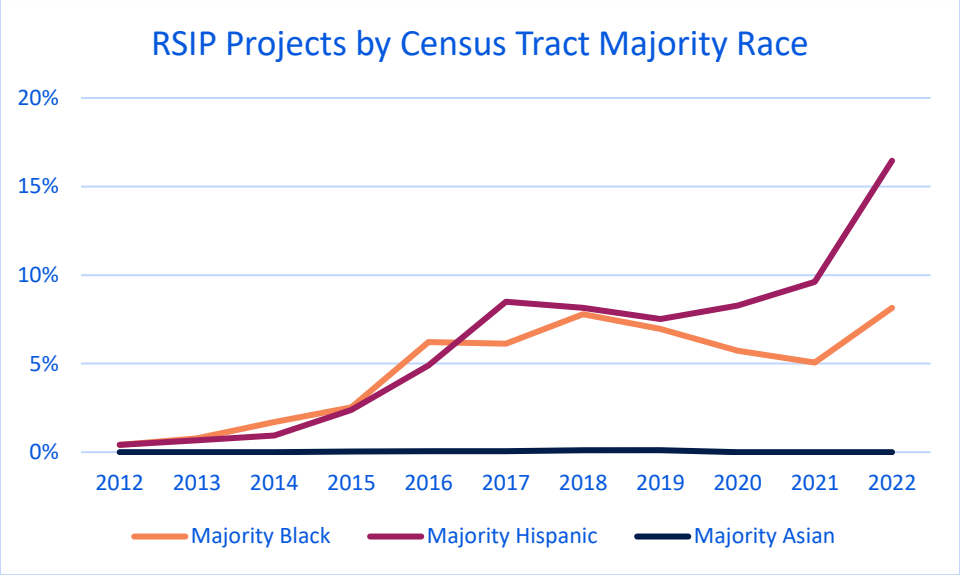


Figure 11 Change in RSIP Participation by Census Tract Race

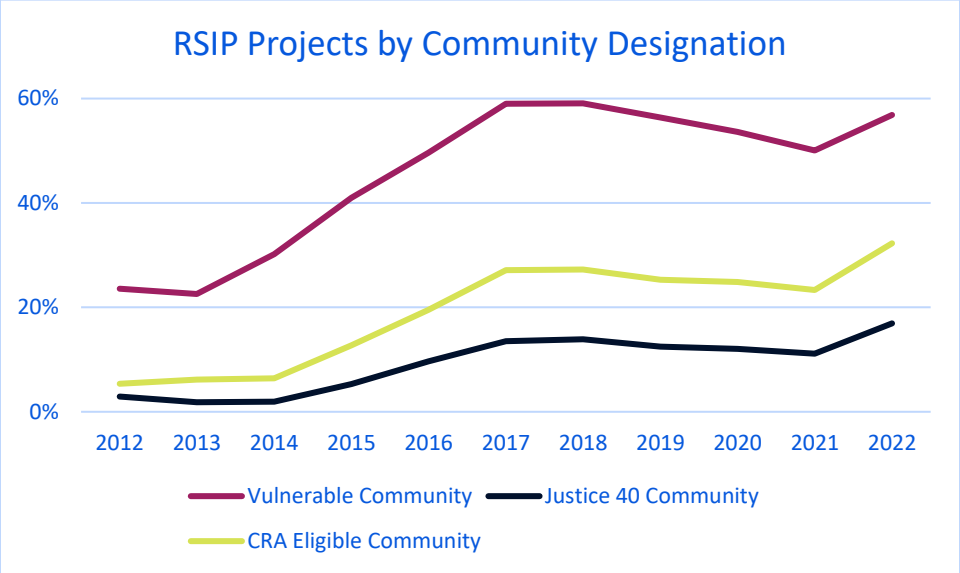


Figure 12 Change in RSIP Participation by Community Designation - Part 1

[33] A census tract or community may meet the qualifications for more than one designation.

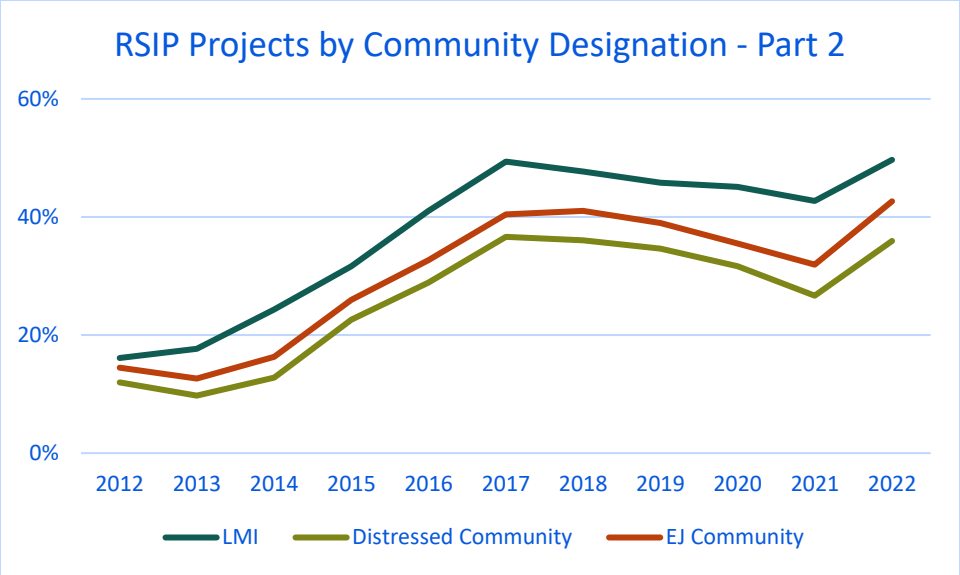


Figure 13 Change in RSIP Participation by Community Designation - Part 2

Table 7. Detailed RSIP Participation in Community Categories

CY	Majority Black	Majority Hispanic	Majority Asian	LMI	Distressed Community	EJ Community	Vulnerable Community	Justice 40 Community	Meet at least one Criteria
2012	0.4%	0.4%	0.0%	16.1%	12.0%	14.5%	23.6%	2.9%	23.6%
2013	0.8%	0.7%	0.0%	17.6%	9.7%	12.6%	22.6%	1.8%	22.9%
2014	1.7%	0.9%	0.0%	24.3%	12.8%	16.3%	30.2%	2.0%	30.6%
2015	2.5%	2.4%	0.0%	31.6%	22.6%	26.0%	41.0%	5.3%	41.4%
2016	6.2%	4.9%	0.1%	41.0%	28.9%	32.7%	49.6%	9.7%	50.6%
2017	6.1%	8.5%	0.0%	49.4%	36.6%	40.5%	59.0%	13.5%	59.8%
2018	7.8%	8.2%	0.1%	47.7%	36.0%	41.0%	59.1%	13.9%	60.2%
2019	7.0%	7.5%	0.1%	45.8%	34.6%	39.0%	56.4%	12.5%	57.2%
2020	5.7%	8.3%	0.0%	45.1%	31.7%	35.5%	53.6%	12.0%	54.4%
2021	5.1%	9.6%	0.0%	42.7%	26.7%	31.9%	50.0%	11.1%	50.6%
2022	8.1%	16.5%	0.0%	49.7%	35.9%	42.7%	56.9%	16.9%	57.7%
Total	**5.4%**	**6.4%**	**0.0%**	**41.3%**	**29.4%**	**33.5%**	**50.4%**	**10.3%**	**51.1%**

In 2014, the Green Bank recognized that Connecticut residents with low and moderate incomes, as well as residents who lived in vulnerable communities faced increased barriers to installing PV arrays on their homes and that additional support may be necessary to ensure equitable levels of participation by Connecticut residents. To support equitable participation in RSIP, in 2015, the Green Bank launched the enhanced LMI PBI offering, engaged residents in vulnerable communities through collaboration with Posigen, and leveraged Solarize campaigns to reduce barriers to participation by LMI residents and residents in vulnerable communities. With the exception of census tracts that are majority Asian or for which there is not a majority race, from 2012 through 2022, RSIP participation by residents in each of the tracked community categories increased.

As shown in Table 8, rates of cumulative participation by residents in all identified categories of communities increased significantly following the program adaptations that the Green Bank introduced in 2015.

Table 8. Change in Participation in Categorized Communities

Census Tract Category	2012 - 2014 Participation Rate	2015 - 2022 Participation Rate	Increase in Participation Rate
Majority Black	1.2%	5.7%	+359%
Majority Hispanic	0.8%	6.8%	+746%
Majority Asian	0.0%	0.1%	N/A
LMI	21.1%	42.6%	+102%
Distressed Community	11.6%	30.6%	+164%
CRA Eligible Community	6.2%	22.3%	+256%
EJ Community	14.8%	34.7%	+135%
Vulnerable Community	26.7%	51.9%	+94%
Justice 40 Community	2.0%	10.8%	+442%
At least one designation	**27.1%**	**52.7%**	**+95%**

The most direct means through which an on-site residential solar installation benefits a household is by reducing energy expenses through generation of electricity that offsets consumption or is sold to the electric utility (both at the same $/kWh rate). RSIP funded projects that customers financed through leases, power purchase agreements, loans, and cash payments. Customer cost savings are the difference between the value of the generated electricity (realized either through reduced purchases of electricity or by selling the energy) and the customer's periodic financing expenses.

The Green Bank sought to adapt RSIP so that it could most effectively reduce energy burden for LMI households. Figure 14 shows the annual cost reduction realized by RSIP customers in census tracts with median income below 100 percent of AMI, and for participants who received the LMI PBI incentive (introduced by Green Bank in 2015). Figure 14 shows the combined impacts of the reduced energy costs offset by the financing costs of leases or power purchase agreements. It does not account for costs of payments on loans used to finance customer-owned solar arrays.

[Note: The left axis in the chart applies to the vertical bars, which show energy cost savings for each customer group. The right axis applies to the lines, which show for each customer group, the percentage of household electricity use that would be offset by the project.]

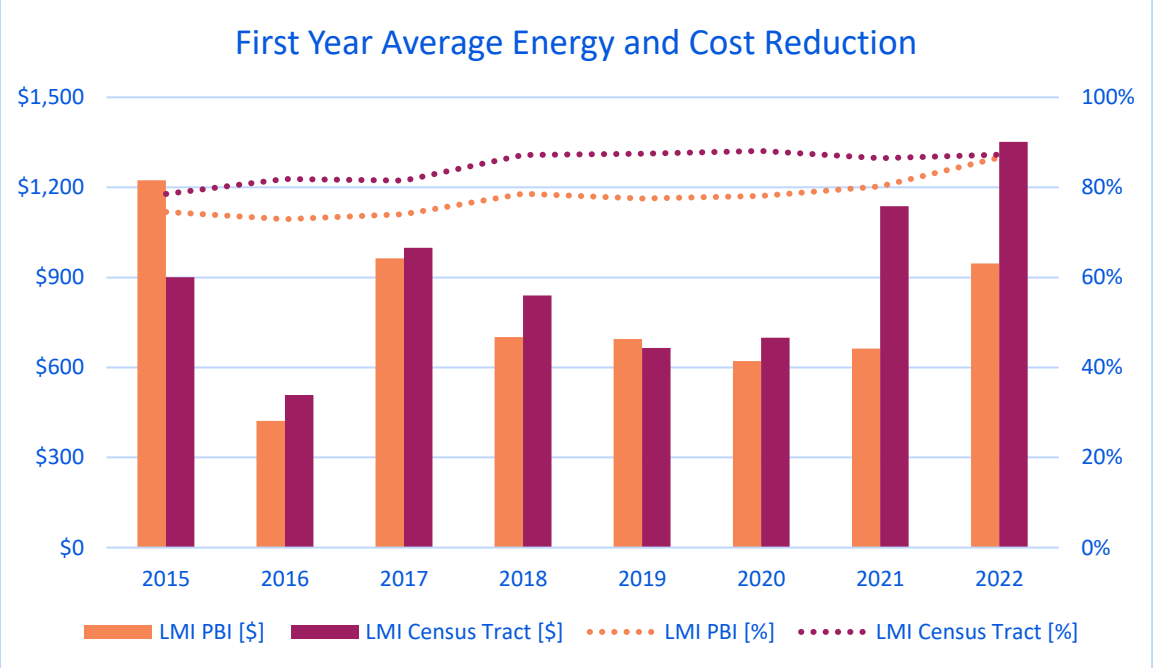


Figure 14. LMI Energy Cost Savings

As shown in Figure 14, following the Green Bank's introduction of the LMI PBI in 2015 and its concurrent intentional engagement in LMI communities, RSIP enabled significant benefits for income-qualified households and households in low- and moderate-income census tracts. RSIP participants in these groups realized average electricity consumption offsets of 75 percent or

more in each of the remaining years of the program. These groups of participants also achieved meaningful reductions in overall energy cost, even after accounting for ongoing solar financing expenses.

6.0 COMPARATIVE EFFECTIVENESS OF RSIP

According to the U.S. National Renewable Energy Lab (NREL), the average installed cost of a 22-panel residential PV array fell from $7.53/watt in 2010 to $2.71/watt in 2022[34]. The Federal Investment Tax Credit; state and utility-based incentive programs; the rapid development of PV technology; and the maturation of the solar industry, among other factors, all contributed to cost reductions and increased solar adoption nationally.

An analysis of over 400 residential solar incentive structures[35] found significant variation among the estimated impact and cost-effectiveness of various incentive types. In the context of an evolving solar market, multiple potential program frameworks, and a mandate to be an effective steward of public funds, the Green Bank is interested in understanding the relative cost-effectiveness and impact of RSIP compared to other states in the region and to national averages. This section compares the results produced by RSIP to several national metrics. Acknowledging that residential solar markets, energy costs, and insolation may vary regionally, this section also provides a detailed comparison of solar deployment in Connecticut with the results achieved by other states in the region.

6.1 NATIONAL COMPARISON

Electricity costs, the local installed cost of solar, and location-based solar energy potential may all influence rates of solar deployment. Figure 15 compares Connecticut to national averages for these key influences on rates of solar installations and Figure 16 compares the growth of solar installations in Connecticut to national averages.

[34] NREL. “Solar Market Research & Analysis | Solar Installed System Cost Analysis.” Viewed November, 2022. https://www.nrel.gov/solar/market-research-analysis/solar-installed-system-cost.html
[35] Matisoff, D. Johnson, E. “The comparative effectiveness of residential solar incentives.” Energy Policy 108 (2017) 44-54.

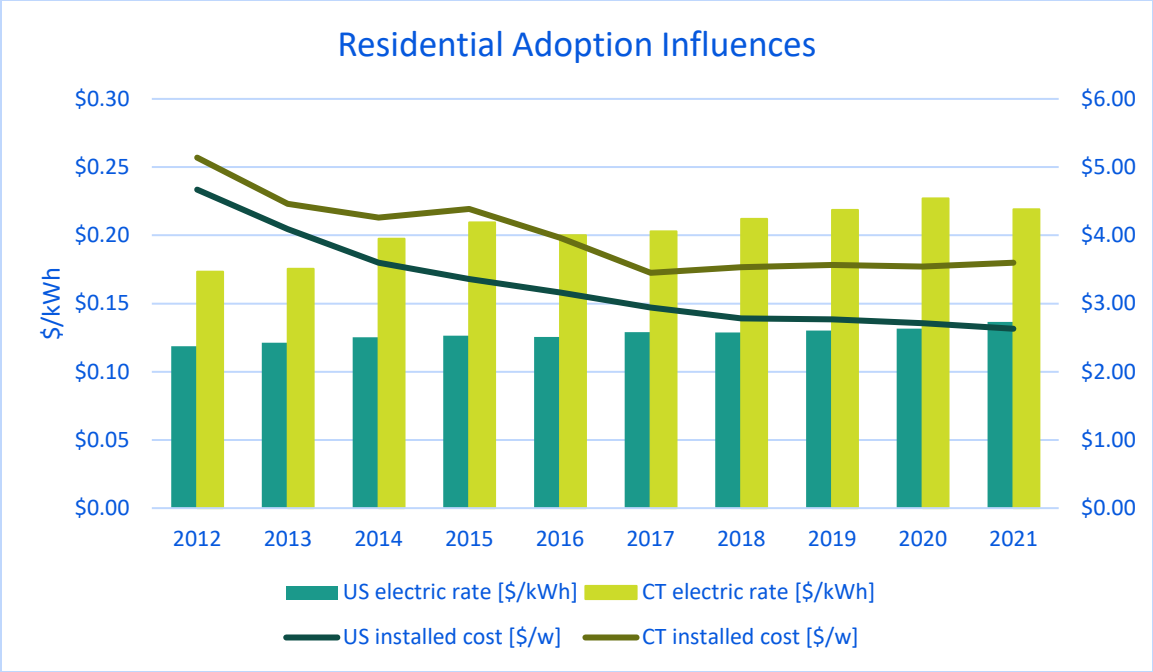


Figure 15. Changes in Electricity Prices and Installed Cost of Solar

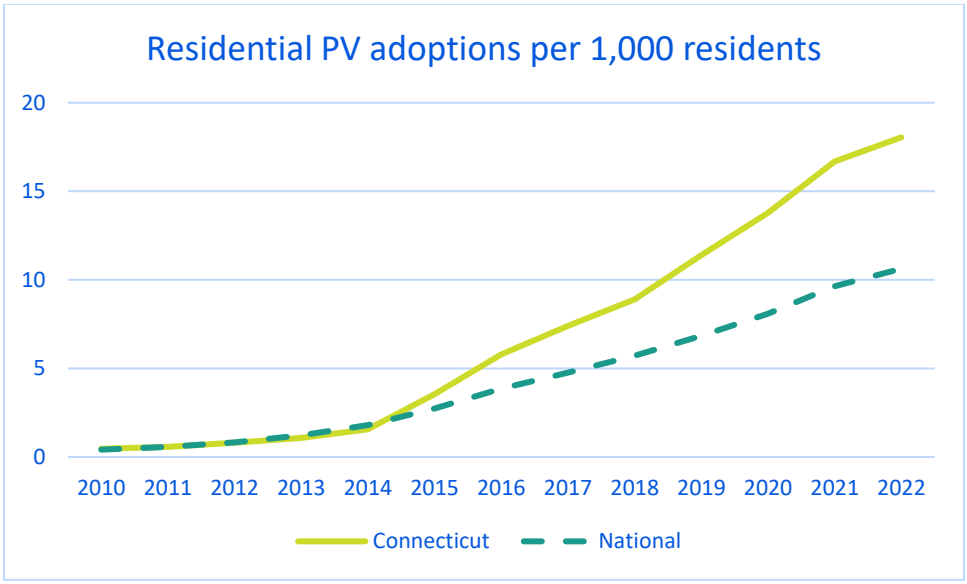


Figure 16. Trends in Rate of Residential Solar Adoption

As described above, nationally, solar adoption has skewed greatly toward higher income households. The Green Bank designed and adapted RSIP to increase access and participation by LMI households. Table 9 compares rates of solar adoption by AMI band in Connecticut to national averages.

Table 9. Residential Solar Adoption by AMI Band

Census tract AMI Band	Connecticut	National Average
Less than 60%	17.8%	12.0%
60% - 80%	13.4%	9.1%
80% - 100%	12.2%	10.8%
100% - 120%	12.0%	11.3%
Greater than 120%	44.6%	56.7%

6.2 REGIONAL COMPARISON

Slipstream compared RSIP to strategies that other states in the region have implemented to support residential solar adoption. We investigated the following:

1. State-level program and market context
2. Total residential solar adoption
3. Residential solar adoption in LMI communities
4. Cost of emissions reductions
5. Cost-effectiveness of state and utility-based incentives

Each state in the region has taken a different approach to supporting residential solar installations. Additionally, during the past 20 years, states and electric utilities have implemented new programs, terminated programs, and revised rules and structures for other programs. Program changes and differences in program sponsors contribute to diverse residential solar markets in the Northeast and to challenges in obtaining comprehensive and consistent data on program participation throughout the region. In addition to programs sponsored by states and investor-owned electric utilities (IOUs), some municipal utilities and municipal governments have also sponsored residential solar programs.

For this analysis, Slipstream focused on data for statewide residential solar programs, as well as for programs and tariffs offered by IOUs in the region. The analysis excluded Federal, state, and local tax credits and tax exemptions, as well as programs offered by municipal utilities and electric cooperatives. While we attempted to obtain data for all state and IOU-sponsored programs in the region, we recommend that the data used to analyze programs outside of Connecticut not be viewed as comprehensive data that describes all residential solar installations in each state. Table 10 identifies the programs what were considered for the comparison:

Table 10. Residential Solar Programs Reviewed

State	Program(s)	Program Years
Connecticut	RSIP + net metering	2012 – 2022
Maine	Net Energy Billing	2009 – 2022
Massachusetts	Solar Massachusetts Renewable Target (SMART)	2018 – 2022
New Hampshire	Renewable Energy Fund (REF)	2011 – 2022

New Jersey	• SREC Registration Program (SRP) • Transitional Incentive (TI) • Administratively Determined Incentive (ADI)	• 2000 – 2022 • 2016 – 2022 • 2020 - 2022
New York	NY-SUN	2000 – 2022
Rhode Island	• Renewable Energy Fund (REF) • Renewable Energy Growth Program (REG)	• 2014 – 2021 • 2015 - 2022
Vermont	Net metering	2017 - 2022

Programs may be categorized by the type of incentive structure that they offer. Table 11 compares the types of residential solar programs that were reviewed, according to the following definitions:

- *Capacity based buy downs* pay an incentive to customers, typically at the time of installation. The incentive amount is based on the rated capacity (kW-DC or kW-AC) of the system.
- *Performance based incentives (PBIs)* offer ongoing payments to customers. The amount of the payment depends on actual electricity generated. The incentive rate may be fixed for the lifetime of the PBI payments, or it may be adjustable.
- *Solar Renewable Energy Credit (SREC)* programs are a sub-type of PBI in which customers have the ability to sell the environmental attributes of each MWh of electricity that their solar installation generates. SREC programs may establish an SREC purchase price or may allow customers to sell the SREC at a floating market rate.
- *Tariffed solar programs* are a third type of PBI, which allows customers to sell all electricity produced by their solar panels at a designated advantageous (greater than or equal to the retail rate) purchase price.

To help fund RSIP, the Green Bank developed a Solar Home Renewable Energy Credit (SHREC) instrument. The Green Bank retained ownership of the environmental attributes of the energy generated by RSIP projects. It then aggregated the environmental attributes of groups of RSIP projects to create renewable energy credits, which it sold to Connecticut's electric utilities through long-term contracts. Revenue generated from these sales was used to recover previously sunk costs in the RSIP, as well as future RSIP projects. Table 11 does not list SHRECs as a separate program type because the SHREC is not the incentive provided to the end-user.

Table 11. Categorization of Northeast Solar Programs

State	Buy Down	PBI	SREC	Tariffed Solar
Connecticut	RSIP EPBB	• RSIP PBI • RSIP LMI PBI		[Post-RSIP]
Maine	*No incentives offered*			
Massachusetts		SMART		
New Hampshire	REF			
New Jersey			• SRP	

			• TI • ADI	
New York	NY-SUN			
Rhode Island	REF			REG
Vermont	*No incentives offered*			

The diverse strategies implemented by Northeast states and differences in demographic factors and homeownership rates, among other factors, have contributed to different levels and patterns of solar adoptions in each state. Figure 17 shows the growth in the residential PV adoption rate as a share of estimated owner-occupied households, while Figure 18 compares the increases in average residential PV capacity (W-DC) per residential electric customer and Figure 19 shows the estimated percentage of all residential sales that were generated by residential PV. These charts build on the findings shown in Figure 1 (see Executive Summary), which showed that, in each year since 2017, the rate of residential PV capacity growth (W-DC/capita) in Connecticut has exceeded the national average, as well as the comparable rates for all states in the Northeast.

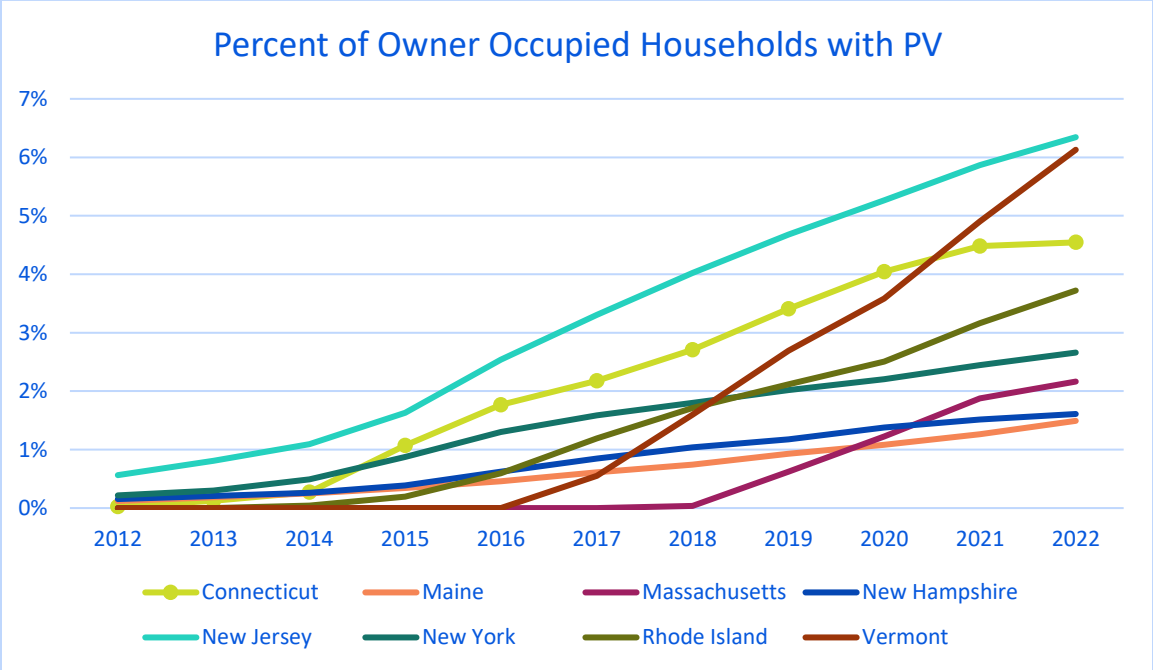


Figure 17. Comparative Rates of Solar Adoption in the Northeast

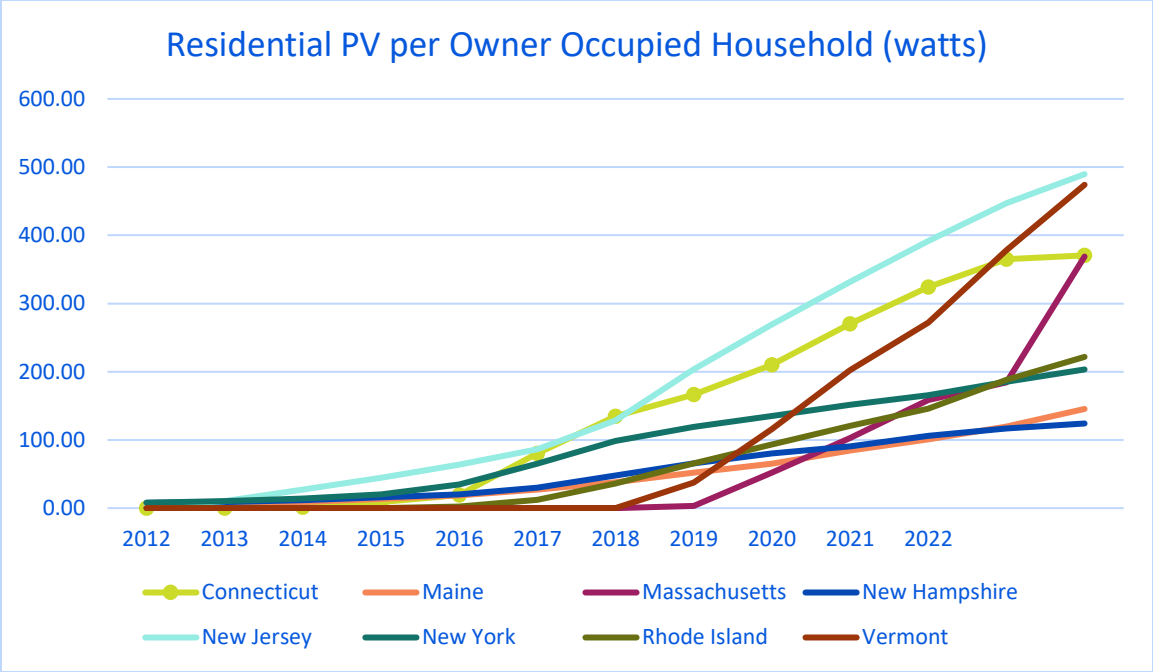


Figure 18. Residential PV Capacity per Owner-Occupied Household

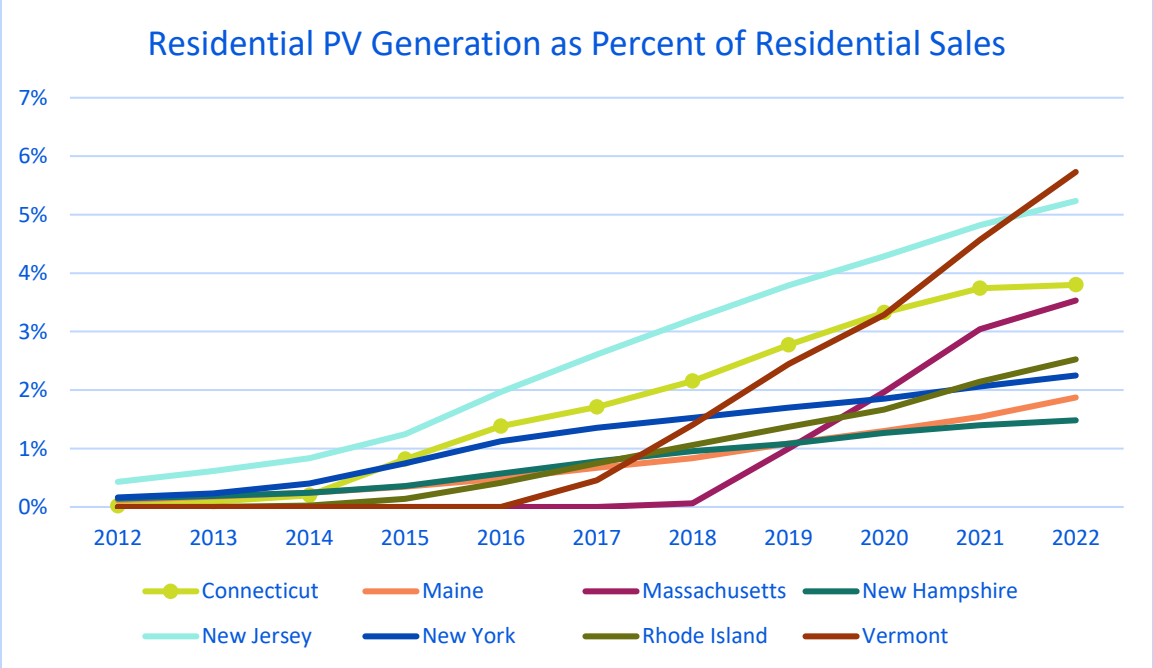


Figure 19. Residential PV Generation vs. Total Residential Electric Sales

6.3 PROGRAM COST EFFECTIVENESS

Differences in the categories of programs used in the region create challenges in comparing incentive costs and program cost-effectiveness. Differences between programs funded by taxpayers, ratepayers, and public-private partnerships present additional obstacles to conducting meaningful comparisons.

While we acknowledge the challenge of comparing the impact and cost-effectiveness of different program types, we sought to analyze common metrics across multiple states in order to offer a meaningful cost-benefit assessment of RSIP in comparison to parallel approaches in other states in the region. We applied national or regional averages to address informational gaps. All assumptions and calculation methodologies are described in Appendix 1.

To compare the cost of one-time capacity-based incentives with the costs of programs offering periodic incentive payments over multiple years (such as PBI, SREC, and tariffed solar programs), we converted all incentive rates to the amount of the incentive paid per REC[36] generated by the installed project. All states in the region have established renewable portfolio standards (or equivalent frameworks), under which utilities must procure and retire renewable energy credits (RECs) that are equal to a given percentage of the utility's total electricity sales. While not all states have solar carve outs within their RPS and not all programs generate RECs for utilities, an SREC offers a common production-based factor through which we may compare diverse structures.

Most tariffed solar, REC, and PBI programs establish the period during which the customer will receive the incentive. After the expiration of this period, customers no longer receive performance-based credits; most revert to a default electric rate; or are no longer eligible to sell the RECs that their system produces. For programs that define a maximum participation term, we calculated total RECs that the installed generating capacity would be expected to produce within that period of time. If a program does not set an endpoint for eligibility to receive incentives, we assume that the system will continue to produce qualifying electricity throughout a standard 25-year useful equipment life.

After calculating the total incentive cost for each program, we normalized the total cost based on the amount of generating capacity that the incentive payments funded (Figure 20) and by the amount of the incentive paid per REC generated by participating projects (Figure 21).

[36] In this context, "REC" is used to mean one megawatt hour (MWh) of electricity generated by a residential solar installation.

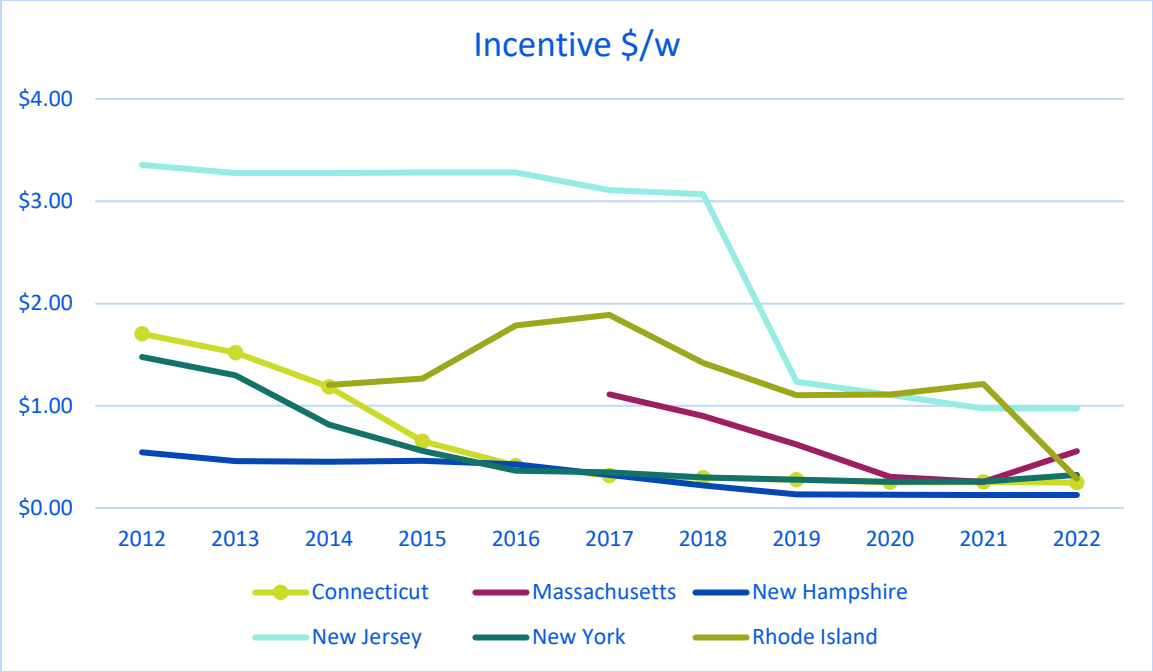
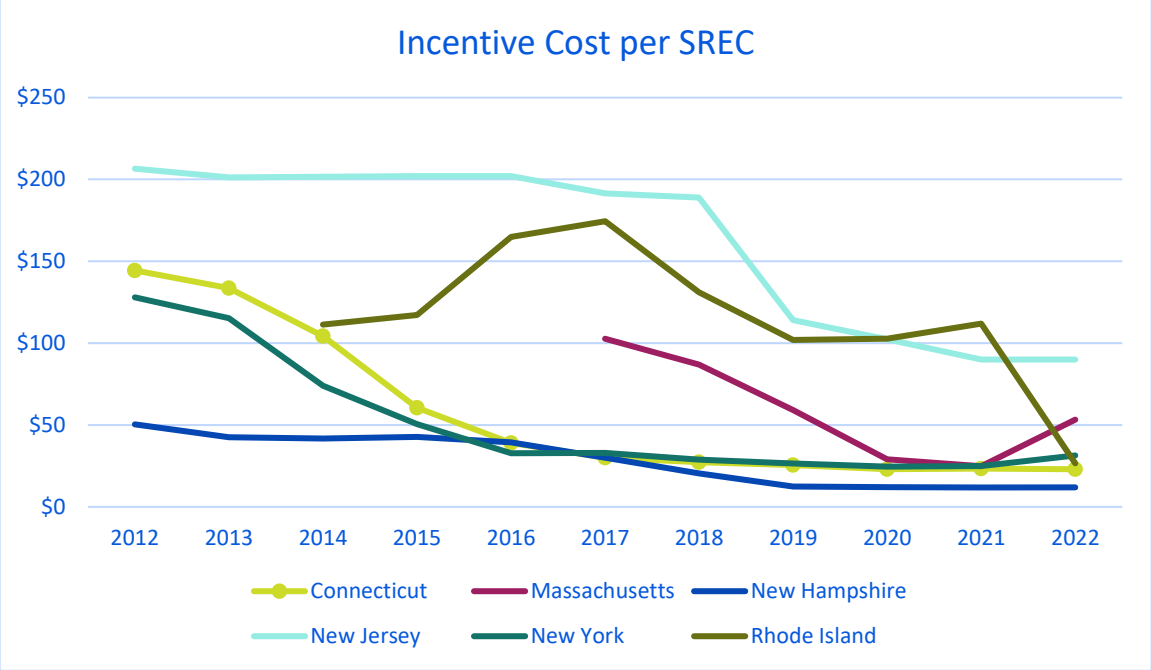


Figure 20. Trends in Comparative Incentive Cost ($/w)



[37]

Figure 21. Trends in Comparative Incentive Cost per SREC

Figure 22 shows that the Green Bank successfully and cost-efficiently used RSIP incentives, in combination with support for financing tools and technical assistance, to support the

[37] SREC costs shown assume that customers may sell SRECs for 10 years following installation.

development of the Connecticut residential solar market. As shown in the figure, by 2017, Connecticut had achieved the highest annual per capita addition of residential PV capacity, while applying one of the lowest incentive rates in the region.

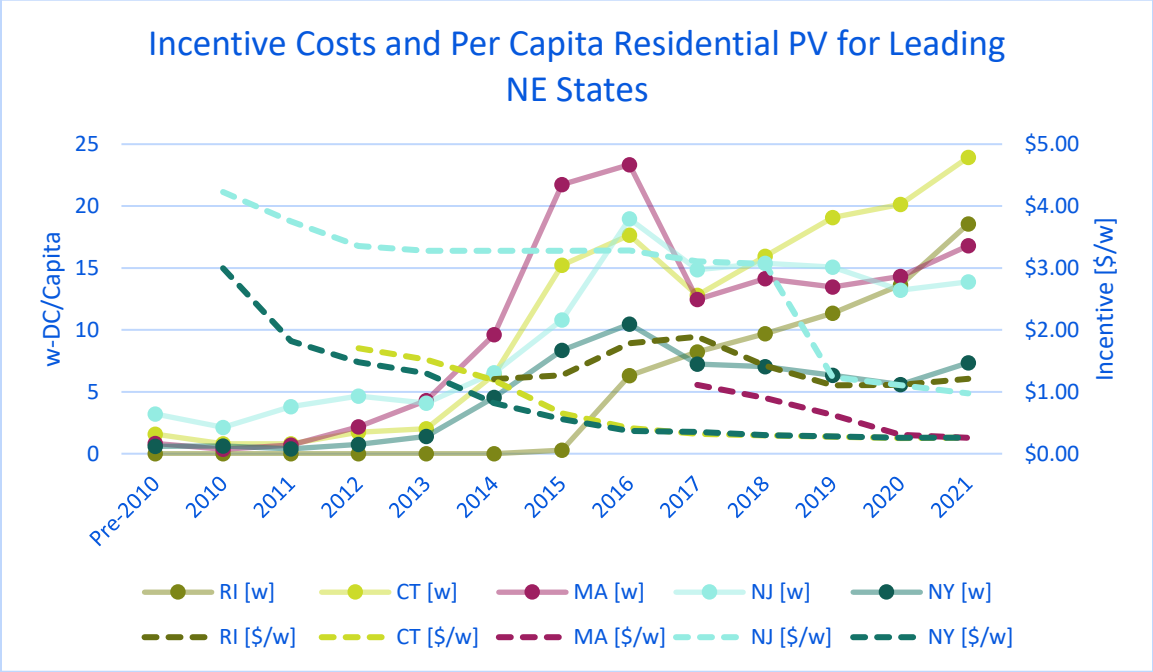


Figure 22 Comparative capacity growth and Incentive Rates

6.4 LEVERAGE

Many solar programs are designed to create incentives and/or fill cost-effectiveness gaps in order to facilitate private investment in residential solar installations. The most direct way of evaluating effectiveness in facilitating entry of private investment is to compare the amount of the program incentive to the private funds invested in projects.

Calculating the leverage ratio that a program achieves requires information about both the total installed cost of the project and the cost of the incentive that the program paid to the customer. Data was available to calculate incentive costs for all of the programs that were reviewed. Project cost information was also available for programs in Massachusetts, New Hampshire, New York, and Rhode Island. For states that did not publish project cost data, we used data published by NREL on the average installed cost per watt for residential solar arrays for the applicable year[38].

Figure 23 shows that annual leverage ratios generally increased for all programs from 2012 – 2022. Falling installation and equipment costs and maturation of the solar industry allowed for

[38] NREL. “Solar Market Research & Analysis | Solar Installed System Cost Analysis.” Viewed November, 2022. https://www.nrel.gov/solar/market-research-analysis/solar-installed-system-cost.html

progressively reducing incentive levels over time. While several states observed moderate decreases in leverage ratios for some years, RSIP's leverage ratio increased in each year of the program and, with Massachusetts, achieved the highest leverage ratio of any state in the region in 2021.

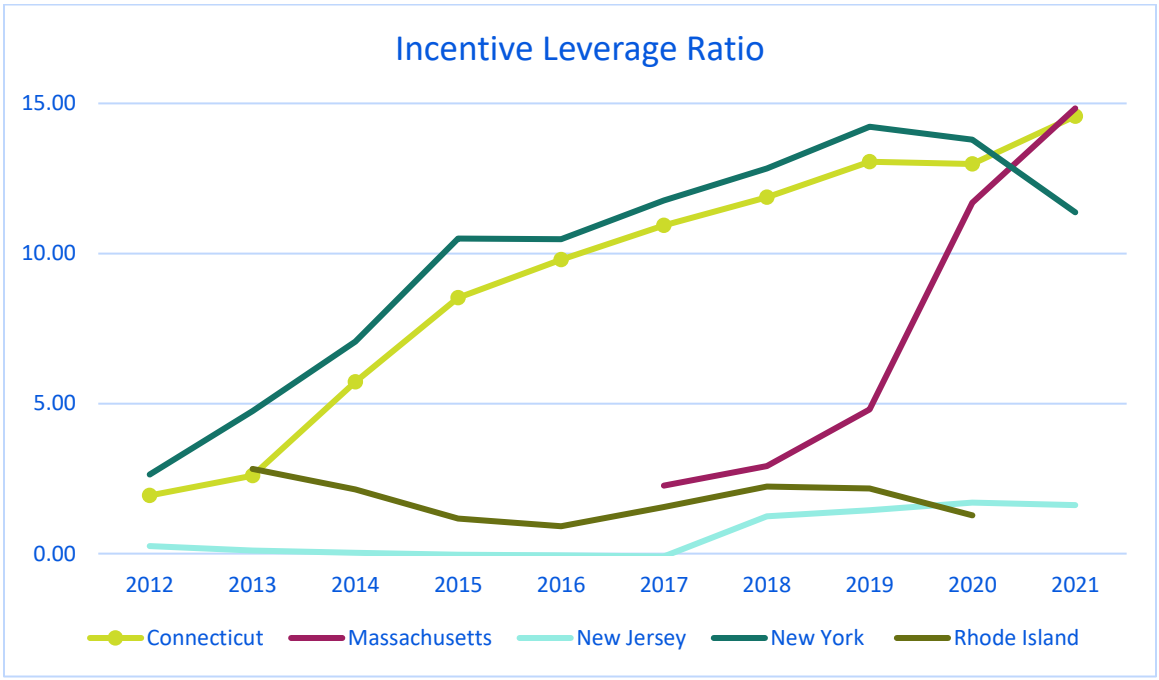


Figure 23. Trends in Comparative Incentive Leverage Ratios

Figure 24 shows that RSIP's cumulative leverage ratio of 8.15 was the second highest of all states that were evaluated. While New Hampshire achieved greater leverage than Connecticut, RSIP has supported a statewide rate of solar adoption per owner-occupied home (4.55%) that is nearly three times the parallel rate achieved by New Hampshire (1.61%). The figure does not include values for Maine and Vermont because no programs were identified for these states that provided direct incentives for residential solar installations.

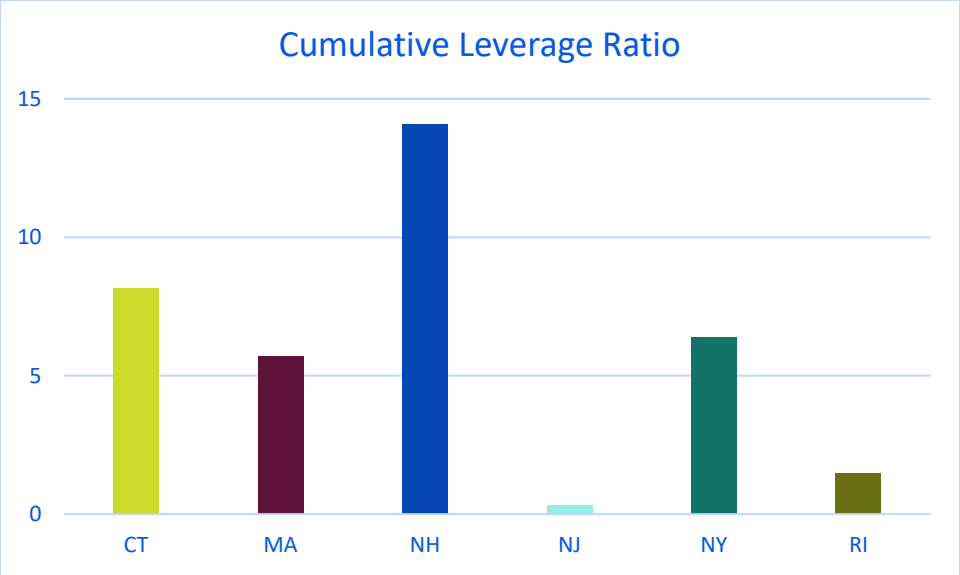


Figure 24. Comparative Cumulative Leverage Ratios

A residential solar program may create a spillover effect if the market effects created by the program lead to non-participants installing solar. A complete spillover analysis is outside the scope of this evaluation; however, insights on potential spillover effects may be extracted from information on the comparative cost of installed residential solar in each state. National data shows that residential PV capacity has increased as the installed cost of solar has decreased. Therefore, if a program stimulates that state's solar market, causing the installed cost of solar to decrease, that decrease may prompt additional residential installations that occur outside of the program. Figure 25 shows changes over time in the installed cost of solar in each state, as well as the national average installed cost.

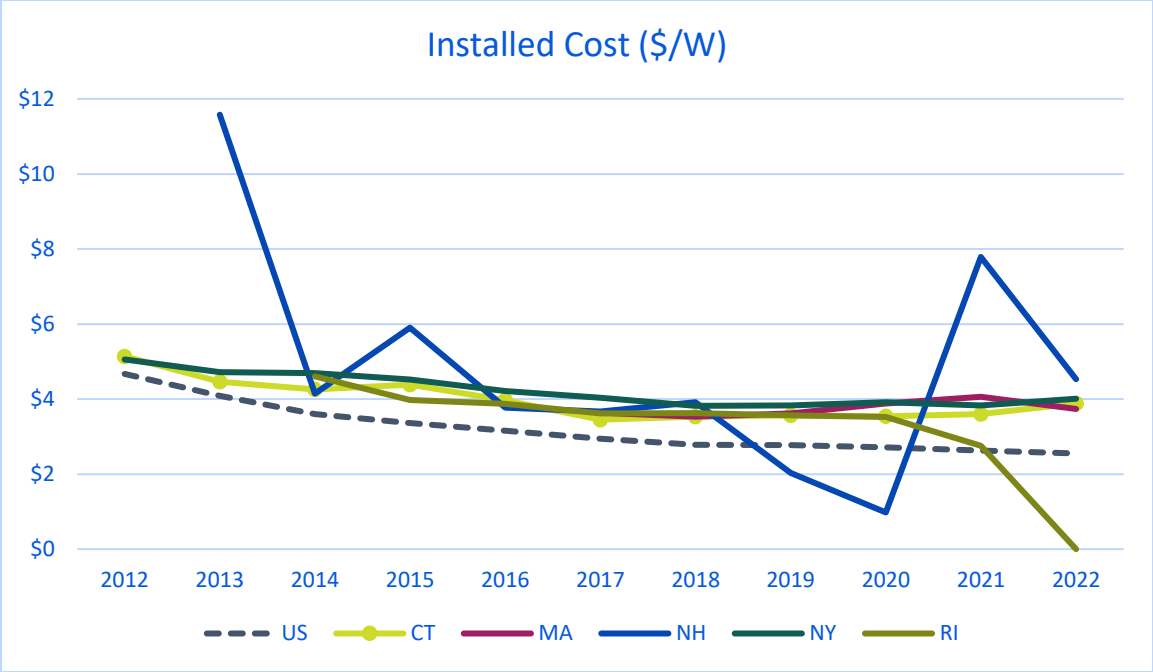


Figure 25. Comparative Trends in Installed Cost ($/W). No state-specific data available for ME, NJ, or VT.

6.5 LMI PARTICIPATION

As discussed above, the Green Bank recognized that LMI households and households living in high-burden areas may face greater challenges in accessing the benefits of solar energy and created the LMI PBI incentive, as well as the Solar for All initiative to increase participation by LMI and households with high energy burdens. The barriers to solar adoption by LMI households have been identified as an obstacle nationally, and some states have deployed targeted strategies to address these barriers. In the Northeast these states include Massachusetts, Rhode Island, and New York, in addition to Connecticut. However, since LMI households may install a solar array through a non-LMI program, or outside of a utility or state supported program, LMI program participation may not provide a comprehensive view of LMI adoption.

For the four states that offer dedicated LMI programs, Figure 26 shows the share of total participation in each state's residential solar program that was in the state's LMI sub-program. The 3.67 percent of RSIP participants who have benefited from the enhanced LMI PBI incentive is similar to participation rates in Massachusetts and Rhode Island.

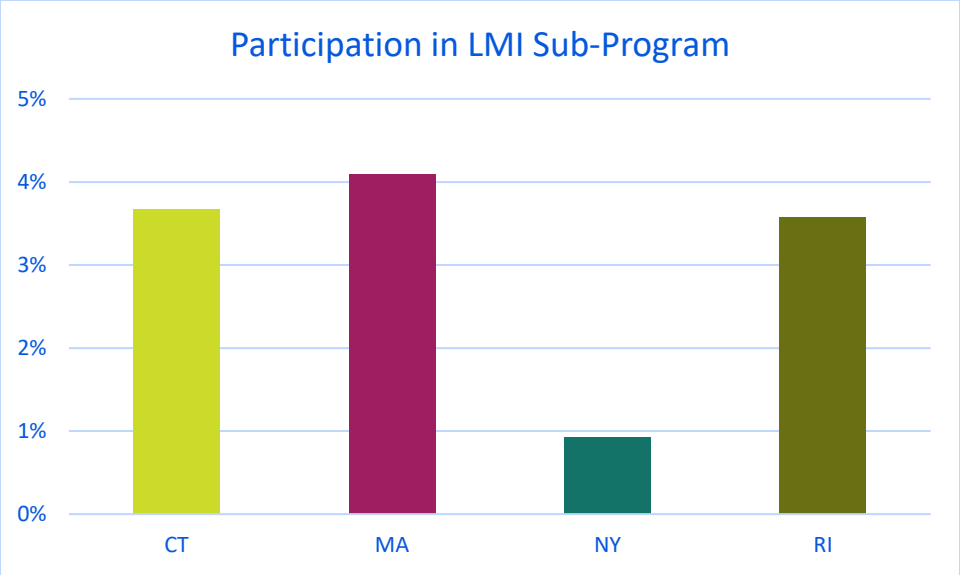


Figure 26. Comparative LMI Program Participation

In Tracking the Sun: Pricing and Design Trends for Distributed Photovoltaic Systems in the United States, Lawrence Berkeley National Lab (LBL) collected data from electric utilities, public utilities commissions, and state energy offices across the country about the locations of interconnected solar installations[39]. LBL's Solar Demographics Trends and Analysis research group used this data to map the location of each installation to a census tract and then cross-referenced the locations with median income characteristics of the tract collected through census data. Slipstream used the LBL dataset to assess levels of LMI solar adoption for each state in the region.

Figure 27 shows the share of each state's solar adoption that took place in census tracts with median incomes that are in each AMI band.

[39] LBL estimates that the *Tracking the Sun* dataset includes 77% of total installations in the U.S. through 2021.

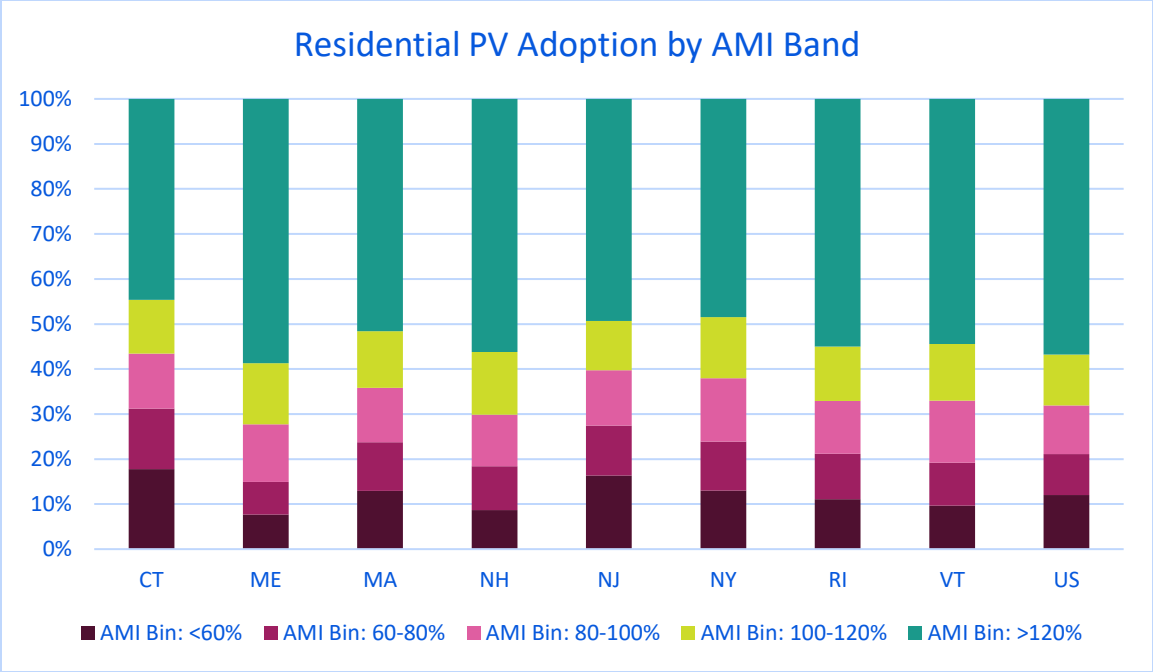


Figure 27. Comparative PV Adoption by AMI Band

The chart shows that the portion of installations taking place in the most affluent areas is lower in Connecticut than in any other state in the region. Additionally, Connecticut had a higher rate of solar adoption in low-income (< 80% AMI) census tracts than any other state in the region.

6.6 ENVIRONMENTAL IMPACT

States may enact residential solar programs to achieve environmental objectives, as well as to support residents in reducing energy costs. Shifting generation from fossil fuel powered facilities to distributed renewable resources reduces greenhouse gas (GHG) emissions, including CO_2, as well as particulate emissions, including PM2.5, NOx, and SO_2, that can cause and aggravate health conditions, such as asthma. Table 12 translates the reduced annual electricity generation needed, due to program-supported residential solar installations, to corresponding reductions in GHG and particulate emissions.

Table 12. Annual Emissions Avoidance by State

	Annual emissions avoidance			
	Mt CO_2e	**Lbs. PM2.5**	**Lbs. NOx**	**Lbs. SO_2**
Connecticut	130,327	63,409	36,888	9,096
Maine	24,883	12,248	7,285	1,743
Massachusetts	162,032	66,905	29,561	10,895
New Hampshire	17,804	9,284	5,876	1,257
New Jersey	562,156	628,207	904,630	80,012
New York	224,839	115,897	73,234	15,932

Rhode Island	25,546	12,809	7,864	1,804
Vermont	50,790	24,388	14,189	3,570

Figure 28[40] shows changes over time in the cost per unit of reduced CO_2 emissions.

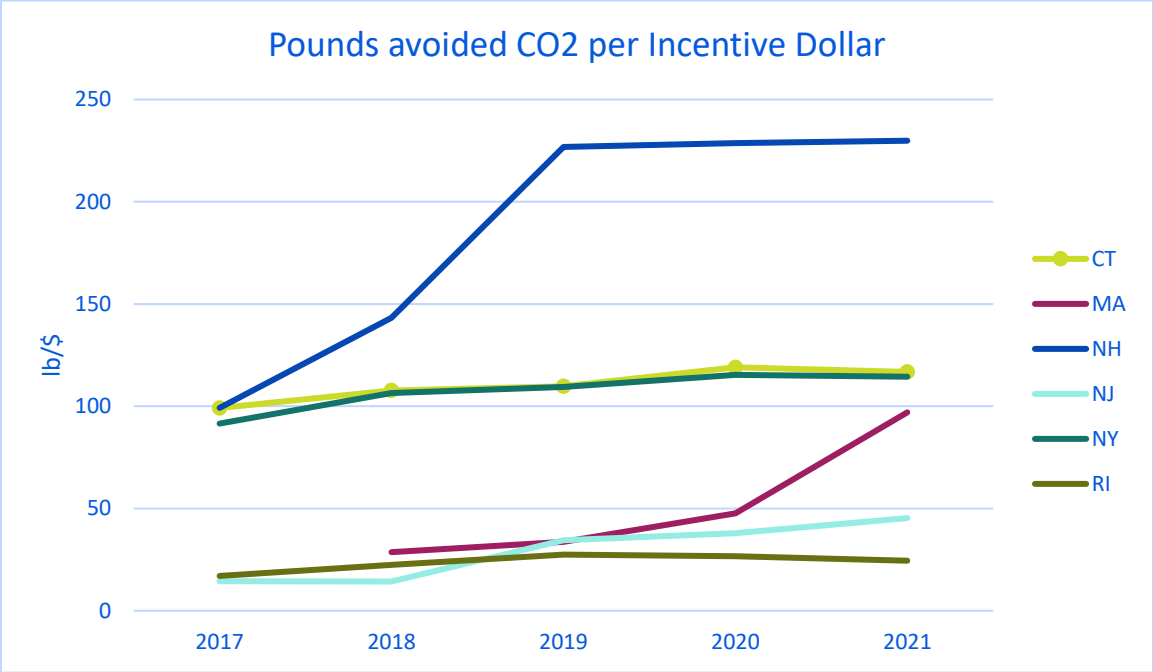


Figure 28. Trend in Comparative Cost of GHG Emissions Reductions

As a part of the ISO New England (ISO-NE) wholesale energy market, marginal emissions in Connecticut are roughly equivalent to that of the neighboring states which are also members of ISO-NE: Maine,

[40] The figure assumes that installed projects will have a 25-year useful life and that the full incentive cost of lifetime emissions reductions is paid at the time the project is installed.

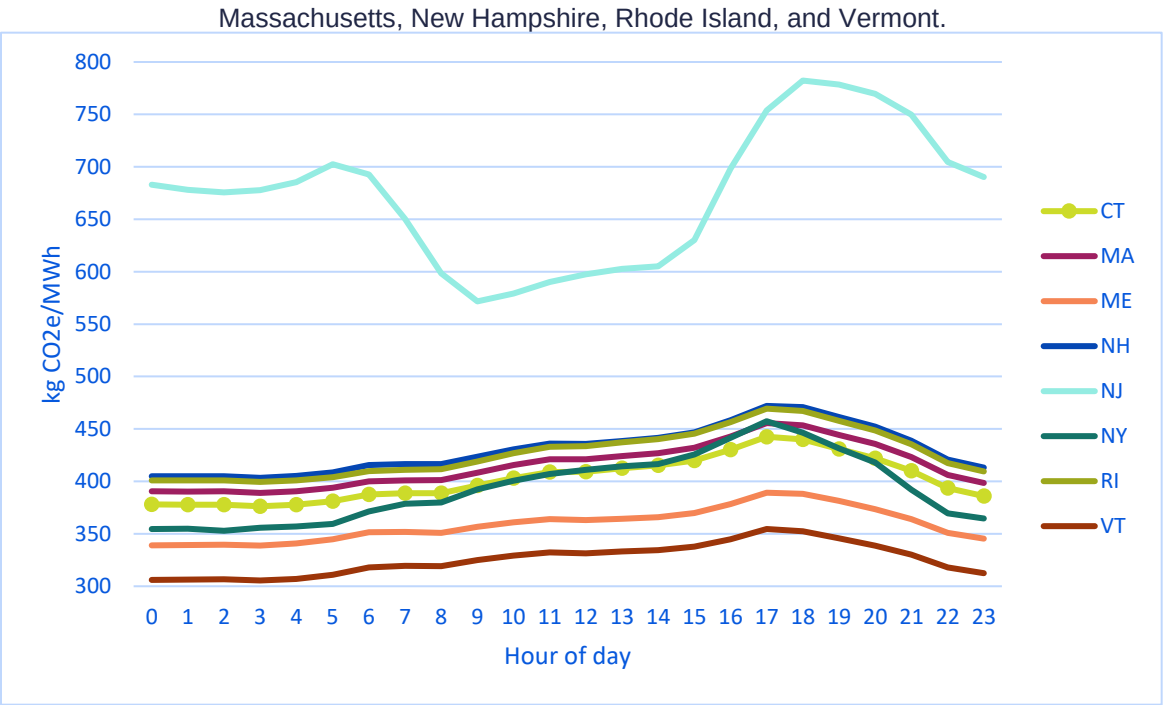


Figure 29[41] shows the modeled 2022 annual average of hourly long-run marginal emissions rates (LRMER, in kg CO_2e/MWh) for all ISO-NE states as well as New York and New Jersey. LRMER is the emissions rate of the change in generation (increase or decrease) that would result from a marginal change in electric load, calculated using a model that allows for structural changes (such as new or retired capacity, changes in transmission constraints, etc). Because rooftop solar PV is a permanent capacity change which results in time-varying generation and is small relative to other generation sources, LRMER is a useful metric to quantify the effect of PV on emissions rates.

[41] Source: Gagnon, Pieter; Frazier, Will; Cole, Wesley; Schwarz, Marty; Hale, Elaine (2021): Cambium data for 2021 Standard Scenarios. National Renewable Energy Laboratory. https://cambium.nrel.gov/

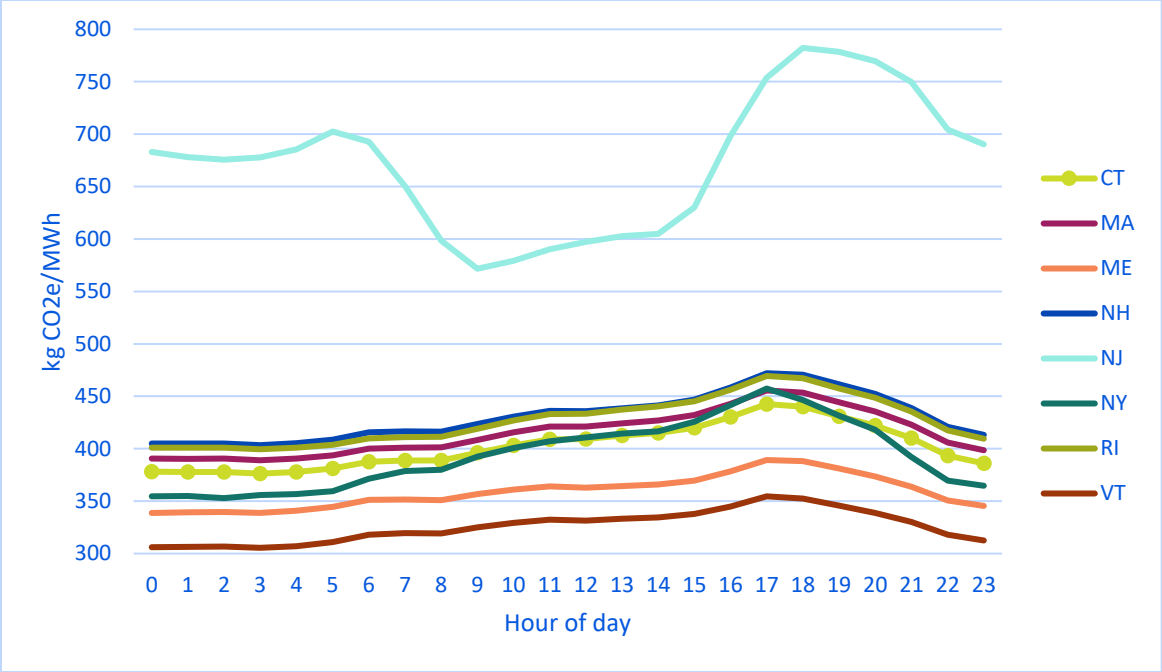


Figure 29. Long Run Emissions Rates for Northeast States

The LRMER profile for New York is similar to ISO-NE because, although New York is its own ISO (NYISO), it is similar in size to ISO-NE, and ISO-NE is its most significant interchange. By contrast, New Jersey is part of the PJM ISO, which is the largest ISO in the U.S., with roughly 10 times the capacity of either ISO-NE or NYISO.

Thus, while a comparison between New York or the ISO-NE states would be similar in terms of emissions impact per kW of solar installed, a comparison to New Jersey is instructive.

To compare the emissions impact per dollar invested, we used AVERT emissions factors from 2017 through 2021 (earlier data does not include an avoided emissions rate for distributed solar PV). NJ is in the Mid-Atlantic region with an average avoided CO_2 rate of 1607 lb/MWh across the five years; all other states are in the New England region with an average avoided CO_2 rate of 1135 lb/MWh. The emissions rates were then combined with the solar PV capacity and generation data available for each neighboring state, along with the total program dollars for those states with incentive programs active in the analysis years. The data is summarized in Table 12.

The total solar PV capacity and generation are for the five years of analysis (2017 – 2021), while lifetime emissions reductions assume a lifetime of 25 years for each solar array. Because avoided CO_2 rates are expected to decline over time, this will tend to over-estimate the total reduction. Total incentive dollars includes all program times, and for states with a REC or SREC program, includes the lifetime of the REC (typically 15 years). Figure 30 shows a graphical comparison of the effectiveness and per capita emissions reduction impact of program dollars in reducing CO_2 emissions for those states with solar incentive programs. As seen in the figure, despite having an electrical grid with lower rates of GHG emissions per MWh of generation than

some other states in the region, Connecticut supported avoided GHG emissions at a comparable incentive cost per unit of avoided carbon dioxide emissions.

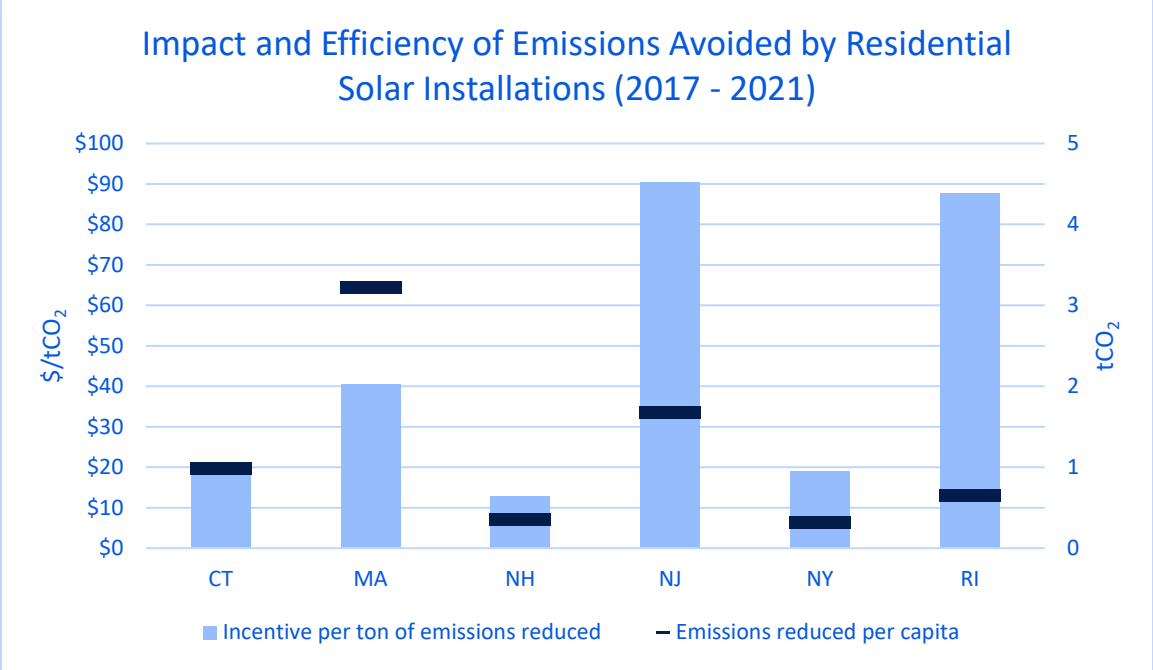


Figure 30. Comparative Average Emissions Reduction Cost

7.0 RECOMMENDATIONS

In 2022, the Green Bank achieved its statutory requirement for RSIP of deploying 350 MW of residential solar generation capacity. The Green Bank used supplementary financing to fund the deployment of an additional 26.88 MW of capacity through the RSIP-E incentive blocks. RSIP-E served as an effective bridge between the achievement of the 350 MW RSIP objective and the launch of the RRES tariffed solar offering in early 2022. Data on installed residential solar in Connecticut, in combination with feedback from stakeholders who were interviewed for this evaluation confirms that the Green Bank also achieved its parallel mandate of supporting the "orderly and sustainable development" of the Connecticut residential solar industry.

The Green Bank remains committed to supporting the orderly and sustainable development of the Connecticut residential solar industry, but is no longer able to implement RSIP to support the industry. The Green Bank is working internally and with stakeholders, including the Connecticut Public Utilities Regulatory Authority (PURA), to discern how it can most effectively support the industry post-RSIP and in the context of the RRES tariffed solar framework.

RSIP program data, comparisons between the Connecticut market and other residential solar markets in the region, stakeholder feedback, and lessons learned from other states that have

transitioned from incentive programs to tariffed solar structures can all offer guidance to the Green Bank in determining how to support the market moving forward. The following sections describe the current status of the transition to tariffed solar in Connecticut; market segments that may benefit from ongoing Green Bank support; and recommendations for how the Green Bank can continue to support sustainable and orderly development of the Connecticut solar industry.

7.1 TRANSITION TO RRES

In 2020, the last full year in which RSIP was active, RSIP supported the deployment of 54.9 MW of residential solar generating capacity. The Green Bank has determined that ongoing orderly and sustainable development of the market would be represented by the addition of 50MW – 60 MW of residential solar generation per year without RSIP. Multiple stakeholders confirmed that this target range of deployment would demonstrate orderly and sustainable development of the market.

Per the design of RSIP's declining incentive block structure, at RSIP's conclusion the incentive rates of $0.358/WPTC (for systems <10 kW) and $0.207/WPTC (for systems 10KW – 20KW) had fallen over 92 percent from the rates offered for the RSIP Step 1 incentive in 2012. Reduced incentives, in combination with dramatically reduced installed costs and a robust private market led to some projects being cost-effective for residents, even in the absence of RSIP support. Anecdotal feedback from stakeholders confirmed that reductions in incentives were effective in enabling a smooth transition at the conclusion of RSIP. Stakeholders offered further anecdotal support by noting that, as RSIP reached the 350 MW threshold, more customers were able to install solar without applying for an incentive.

In early 2022, Eversource and United Illuminating (UI) launched tariffs in compliance with the Residential Renewable Energy Solutions (RRES) Program. Under the RRES authorization, both utilities are required to file periodic reports[42] with the Connecticut Public Utilities Regulatory Authority (PURA), which indicate the number of RRES participants and the capacity installed under each utility's tariff.

Interviews with representatives from Connecticut's electric utilities and reviews of compliance filings indicate that the utilities approved over 75 MW-DC of residential capacity in 2022 and it is likely that the actual capacity installed will meet or exceed the Green Bank's capacity objective for orderly and sustainable development of the market. These initial levels of participation in the RRES tariff suggest that the Green Bank effectively implemented RSIP's declining incentive structure so that the sunsetting of the program did not create significant disruptions in annual production. Initial filings also suggest that total production in Connecticut's residential solar market remains robust post-RSIP. We recommend that the Green Bank regularly review the

[42] See compliance filings under order number nine of PURA docket 21-08-02

RRES regulatory filings and monitor participation rates and the rate at which new generation is added.

7.1.1 Market Monitoring

During its implementation of RSIP, the Green Bank developed a robust dataset, including over 200 unique data points for all 46,226 completed projects, as well data from customer applications that did not result in an installation. The dataset reflects how RSIP's financial value proposition to customers developed over time and characteristics of the customers who participated in the program. The Green Bank can leverage insights from the RSIP project data set to both provide baseline information against which it may compare data that it will collect on future RRES participation and residential solar adoption in Connecticut.The Green Bank can use the RSIP dataset to inform its strategy for how it will support the orderly and sustained development of Connecticut's residential solar market in the future.

One of the Green Bank's central roles is to facilitate financing for emerging clean energy industries and markets in Connecticut. While each clean energy market is unique, there may be common characteristics in what interventions are effective in supporting the growth of early-stage residential clean energy markets, such as the solar + storage market that is discussed in more detail below. The Green Bank can leverage insights from its RSIP dataset to guide its strategy for facilitating the growth of other clean energy industries in the state.

7.1.2 Trusted Convener

The Green Bank has been recognized nationally as an innovator and RSIP's success has also received recognition. As described in Section 5.1, interviews with stakeholders confirmed that the Green Bank is viewed by solar installers, industry representatives, and the electric utilities as a trusted convener of parties with diverse interests. This function contributed to the success of RSIP. Post-RSIP, Industry stakeholders continue to look to the Green Bank as a leader in supporting the residential solar industry. We recommend that the Green Bank maintain its partnerships with residential solar developers, community organizations, and the electric utilities and that it seek out opportunities to convene these stakeholders to address emerging challenges to the industry.

7.2 SUPPORT FOR LMI ADOPTION

While initial indicators show that the rate of residential solar adoption post-RSIP remains strong, participation in RRES may not occur equitably across income strata and demographic groupings. While the RRES tariffs offered by both utilities include enhanced rates available to customers who meet certain income-eligibility or environmental justice community standards, initial data and insights from stakeholders suggests that there have been low rates of participation in the LMI-focused tariffs.

Interviews highlighted that residential solar projects are "sold, not bought." This statement asserted that most installations result from an effective sales engagement by a solar developer with a homeowner, rather than as a result of a homeowner proactively reaching out to a

contractor to initiate a project. Solar developers are typically private businesses which must earn a profit to remain solvent. In addition to having fewer financial resources than more affluent customers, LMI households and residents in EJ communities may face additional barriers to residential solar, such as older homes that require pre-installation repairs, along with other barriers. Recognizing that LMI communities may present more barriers to developing projects and less potential revenue, solar developers may be expected to engage less in these communities and more on affluent communities that offer greater potential profits.

The Green Bank used the Solar for All program and Solarize campaigns to facilitate intentional market development in LMI communities. The impact of these strategies is demonstrated in Figure 27 above, which shows higher rates of participation in LMI census tracts in Connecticut than in other states in the region. While RRES offers enhanced terms for LMI customers, RRES is a utility tariff offering, while RSIP was a market development and transformation program. As a market development program, RSIP supported engagement between stakeholders and guided the growth of the industry. RRES offers attractive financial terms to customers who adopt solar, but is not structured to facilitate stakeholder engagement or promote participation by underserved market segments.

The Green Bank has developed relationships with CBOs that serve LMI communities and has successfully deployed program features to increase participation by LMI households. We recommend that the Green Bank continue to develop its relationships with CBOs and works with them to monitor participation in LMI communities that the CBOs serve. To support market development in LMI areas, the Green Bank may facilitate additional Solarize campaigns to support participation in LMI communities.

Since the completion of RSIP limits the financial resources available to the Green Bank to support solar development in LMI communities, the Green Bank may need to pursue alternative financing mechanisms for this work. Funds available to states through the Federal Inflation Reduction Act (IRA) may offer resources that the Green Bank could use to support solar adoption in LMI communities. For example, the Rhode Island Office of Energy Resources and the Rhode Island Commerce Corporation's Renewable Energy Fund recently released an "Affordable Solar Access Pathways RFP." The program developed from this RFP will leverage the higher Investment Tax Credits for EJ Focus Areas that the IRA enabled to support intentional market development in EJ communities, which may have greater numbers of LMI households.

The Green Bank developed key partnerships with SmartPower and PosiGen, among other organizations, which were instrumental in supporting RSIP participation by LMI households and by residents in vulnerable communities. Both SmartPower and PosiGen have created innovative business models that contributed to their effectiveness in reaching LMI communities. The Green Bank may support ongoing solar adoption in vulnerable communities by seeking out additional innovative organizations that are well-positioned to work in vulnerable communities and using funding through the Green Bank Capital Solutions program to catalyze the growth and success of these organizations.

In addition to supporting market development in LMI communities, the Green Bank may consider how to provide credit enhancements to address gaps left by the primary financing mechanisms used in the solar industry. Stakeholder interviews indicated that there are well established solar loans and leases that provide attractive financing options for customers with strong credit and sufficient income. However, the same stakeholders noted that customers with lower income levels and/or poor credit may not be able to access these industry-standard financing options. To increase access to solar for LMI households, the Green Bank may follow on the success of the credit enhancement that it created to offer the Solar for All program and assess options to create another credit enhancement tool that would minimize default risk for private firms that finance residential solar in LMI communities. Offering a credit enhancement could greatly reduce or eliminate, financing decline rates in LMI communities. Since lack of financing typically leads to a lost sales opportunity for a developer, developers may avoid working in areas where they anticipate customers are less likely to be approved for financing. A credit enhancement could both enable more LMI households to finance solar installations and encourage more developers to work in LMI communities.

7.3 SOLAR + STORAGE ADJACENCY

When RSIP was introduced, participants in the program were early adopters of PV technology, while customers who participated at the conclusion of the program may have been early majority adopters who installed solar on their homes in a more well-developed market. As described above, the Green Bank's role as a convener and facilitator of diverse industry stakeholders helped to establish the Green Bank as a valued and trusted resource for the Connecticut solar industry. The electric utilities do not have a parallel market development role related to the RRES tariff as the Green Bank established for RSIP. We recommend that the Green Bank maintain its role as a trusted partner in the industry as focus evolves from residential solar to growing "Solar Plus" industries.

As the solar industry members with which the Green Bank has developed partnerships through RSIP evolve their businesses to offer battery storage, EV charging, and other electrification technologies alongside residential solar installations, the Green Bank may use funding that is available to grow battery storage and electrification industries to apply the market development expertise it applied to residential solar to ensure the orderly and sustainable development of that market, while simultaneously supporting the growth of adjacent and complementary "solar plus" industries in Connecticut. Maintaining the role of trusted partner and facilitator will enable the Green Bank to both better monitor the residential solar market and build on RSIP's success to increase adoption of related technologies.

The Green Bank currently supports the SEEDS 3 project, which is investigating opportunities to support adoption of battery storage and electrification technologies by households who have already installed residential solar. We recommend that the Green Bank use the findings from the SEEDS 3 research, as well as new funding available through the IRA and other sources to leverage its standing in the Connecticut solar industry to advance adoption of adjacent residential clean energy technologies. In particular, given the variety of incentives available, lack

of clarity around who and what qualifies, and ability to combine incentives, we see an important role for the Green Bank in working with homeowners to combine and maximize incentives across federal, state, and utility offerings. Because rules for many of the IRA incentives are still in active development by the IRS, it will be important to begin planning soon to prepare for late 2023 when more clarity is expected.

8.0 CONCLUSION

This evaluation find that the Green Bank successfully achieved its legislative objective of using RSIP to facilitate the addition of 350 MW-DC of residential solar electricity generating capacity in Connecticut. The Green Bank surpassed the 350 MW goal by cost-effectively managing the RSIP declining incentive step structure so that the funding offered customers and solar developers incentives to install new capacity while reducing rebate levels as market-based project costs fell. This strategy maintained the value of RSIP incentives to customers and solar developers while avoiding free ridership or poor cost-effectiveness that could result from offering overly generous incentive rates.

In addition to adding generating capacity, RSIP leveraged $8.15 of private investment for every incentive dollar, fostered the creation of 15,733 direct, indirect, and induced job years, and created economic activity that generated nearly $45 million in state tax revenue. The renewable energy generated by RSIP-funded solar arrays will result in an estimated annual avoidance of 231,419 tons of carbon dioxide, 17,169 lbs of PM 2.5, 182,210 lbs of NOx, and 144,586 lbs of SO_2 each year for the next 25 years.

The Green Bank demonstrated leadership in the Northeast and nationally in using program innovations, like the LMI PBI and Solar for All, to address higher barriers to residential solar adoption faced by households in LMI communities. Throughout its work, the Green Bank established itself as an essential convener and facilitator of stakeholders in Connecticut's residential solar industry.

Post-RSIP, we find that the Green Bank successfully implemented RSIP to grow the state's residential solar industry in an orderly and sustainable fashion. Success is demonstrated by the continued growth of the market during the first year of RRES. We recommend that the Green Bank maintain its role as a trusted industry partner and identify new resources that it may apply to grow adjacent and synergistic markets and to ensure continued high rates of adoption among LMI communities.

APPENDIX 1. SUPPLEMENT TO METHODOLOGY

Incentive Cost Calculations

To compare RSIP's cost-effectiveness with residential solar programs offered in other states, this evaluation calculated the current and expected future cost of three categories of financial incentives. While net-metering tariffs offer customers a higher rate for solar electricity than the utility's wholesale costs, this evaluation did not calculate a financial value to customers for participating in net-metering tariffs.

1. Installation incentives are paid to the customer at the time of the installation. Our calculations used the face value of the incentive at the time it was issued.
2. Performance based incentives are paid to the customer over a specified period of time as a higher credit rate for solar energy production or as an ongoing "adder" for solar energy. The cost of performance based incentives is calculated as the difference between the standard residential electricity rate and the higher rate or adder value paid to the customer for solar energy produced. The analysis uses current or documented historical (where available) electricity rates and does not assume a given escalation factor. The incremental rate is applied to the expected annual energy produced by the system and extended over the number of years allowed by the applicable tariff or agreement.
3. Solar Renewable Energy Credits (SRECs) may be sold by a customer based on the solar energy produced by the customer's residential solar array. The number of SRECs generated was calculated based on total estimated electricity produced by the installed capacity during the time period allowed by the state's SREC regulations. The cost of the SRECs was calculated based on the average market price for SRECs in the applicable state for each year of a program. If a state specified the price at which a customer may sell SRECs the calculation applied the specified price.

ZREC Equivalency

A ZREC is a 15-year agreement between a customer and either Eversource or United Illuminating under which the utility will purchase renewable energy produced by a customer's solar array.

Program Data Availability

Residential solar program participation data availability varied significantly among the eight states in the region. Table 13 summarizes the information that was reviewed for each state.

Table 13. Data Availability by State

	CT	MA	ME	NH	NJ	NY	RI	VT
Years	2012-2022	2018-2022	2009-2022	2009-2022	2009-2022	2000-2022	2014-2022	2017-2022
# Projects	X	X	X	X	X	X	X	X
Capacity	X	X	X	X	X	X	X	X
Incentive cost	X	X	N/A	X	Partial	X	X	N/A
Installation cost	X	X		X		X	Partial	
Electricity Production	X					X		
LMI Participation	X	X				X	Partial	
Project-level data?	X	X			X	X		X

Production data was used for the analysis for all programs for which this data is available. To include programs that do not publish production data, we estimated production based on the capacity (kW-DC) of the installed solar arrays. We used the average annual production efficiency rate[43] found in programs for which production data is available, in combination with the generating capacity data for those programs lacking production data to estimate annual production for these programs.

[43] The average production efficiency rate for programs with published production data was 1,082.50 kWh/kW/Year.

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