



## Audit, Compliance and Governance Committee

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### **Meeting Date**

**October 18, 2019**





## **Audit, Compliance, & Governance Committee Members**

### **Matthew Ranelli, Chairman**

Partner, Shipman & Goodwin LLP

### **Thomas M. Flynn**

Managing Member, Coral Drive Partners LLC

### **Mary Sotos**

Senior Policy Advisor of Energy, DEEP

845 Brook Street, Rocky Hill, CT 06067  
T 860.563.0015  
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October 11, 2019

Dear Audit, Compliance and Governance (ACG) Committee Members,

We look forward to our meeting on Friday, October 18<sup>th</sup> at the Connecticut Green Bank in Rocky Hill from 8:30 a.m. to 9:30 a.m. We will be discussing the following agenda items:

1. Board Member Attendance Review and Notification Process
2. Severance Policy Revisions
3. Governance Review
4. Discuss Proposed Draft Comprehensive Annual Financial Report (CAFR)

As always, please let me know if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Brian Farn". The signature is written in a cursive style and is followed by a long horizontal line.

Brian Farnen  
General Counsel & Chief Legal Officer



## AGENDA

Audit, Compliance and Governance Committee of the  
Connecticut Green Bank – Special Meeting  
845 Brook Street  
Rocky Hill, CT 06067

Friday, October 18, 2019  
8:30 – 9:30 a.m.

Staff Invited: Jane Murphy, Brian Farnen, Bryan Garcia, Bert Hunter, Matt Macunas and Eric Shrago

Others invites:

1. Call to order
2. Public Comments –
3. Approve Meeting Minutes for October 10, 2018 and August 26, 2019\* – 5 minutes
4. Board Member Attendance Review and Notification Process - 5 minutes
5. Severance Policy Revisions\*\* – 10 minutes
6. Governance Review – 5 minutes
7. Discuss Proposed Draft Comprehensive Annual Financial Report (CAFR)\*\* - 35 minutes
8. Other – Legislative Update – (time permitting)
9. Adjourn

\*Denotes item requiring Committee action

\*\* Denotes item requiring Committee action and recommendation to the Board for approval

Join the meeting online at <https://global.gotomeeting.com/join/205318781>

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**Access Code: 205-318-781**

Next Regular Meeting: TBA  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT



## **RESOLUTIONS**

Audit, Compliance and Governance Committee of the  
Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067

Friday, October 18, 2019  
8:30 – 9:30 a.m.

Staff Invited: Jane Murphy, Brian Farnen, Bryan Garcia, Bert Hunter, Matt Macunas and Eric Shrago

Others invites:

1. Call to order
2. Public Comments – 5 minutes
3. Approve Meeting Minutes for **October 10, 2018 and** August 26, 2019\* – 5 minutes

### **Resolution #1**

Motion to approve the minutes of the Audit, Compliance and Governance Committee meeting for October 10, 2018 and August 26, 2019. Second. Discussion. Vote.

4. Board Member Attendance Review - 5 minutes – Brian Farnen
5. Severance Policy Revisions\*\* – 10 minutes – Brian Farnen

### **Resolution #2**

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

**NOW**, therefore be it:

**RESOLVED**, that the Audit, Compliance and Governance Committee hereby recommends to the Board of Directors for approval the proposed draft revisions to the Green Bank Severance Policy.  
Second. Discussion. Vote

6. Governance Review – 5 minutes – Brian Farnen
7. Discuss proposed draft Comprehensive Annual Financial Report (CAFR)\*\* - 40 minutes

– Jane Murphy & Eric Shrago

**Resolution #3**

RESOLVED, that the Audit, Compliance and Governance Committee hereby recommends to the Board of Directors for approval the proposed draft Comprehensive Annual Financial Report (CAFR) for the fiscal year ending June 30, 2019.  
Second. Discussion. Vote

8. Adjourn

\*Denotes item requiring Committee action

\*\* Denotes item requiring Committee action and recommendation to the Board for approval

Join the meeting online at <https://global.gotomeeting.com/join/205318781>

Or call in using your telephone:

Dial **+1 (224) 501-3412**

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**Access Code: 205-318-781**

Next Regular Meeting: TBA  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT



**Audit, Compliance and Governance Committee of the  
Connecticut Green Bank**

Draft Meeting Minutes

Wednesday, October 10, 2018

8:30am – 9:30am

A regular meeting of the Audit, Compliance and Governance Committee (“Audit Committee”) of the Board of Directors of the Connecticut Green Bank (the “Green Bank”) was held on October 10, 2018 at the office of the Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT in the Albert Pope Board Room.

1. **Call to order:** Mr. Ranelli, Chairperson of the Audit Committee, called the meeting to order at 8:32am.

Audit Committee members participating: Tom Flynn (by phone), Matt Ranelli (by phone) and Gina McCarthy (by phone).

Staff in Attendance: George Bellas, Brian Farnen, Bryan Garcia, Bert Hunter, Matt Macunas, Eric Shrago, Jane Murphy, Cheryl Samuels and Andrea Janecko.

Others in Attendance: Jess Aniskoff and Ron Nossek (from Blum Shapiro)

**Upon a motion made by Tom Flynn and seconded by Matt Ranelli, the Committee unanimously voted to take meeting agenda items out of order.**

2. **Public Comments:** No members of the public and no public comments

3. **Approve Meeting Minutes for June 8, 2018:**

**Resolution #1**

**Upon a motion made by Tom Flynn and seconded by Matt Ranelli, the Committee unanimously voted to approve the Minutes from the June 8, 2018 meeting.**

4. **Board Member Attendance Review:**

- Mr. Farnen noted there are no members out of compliance with the attendance Bylaws and that this is something that will be continuously monitored. There have been issues with achieving full attendance and participation for specially scheduled meetings that often require the expertise of our very valued members.
- Mr. Flynn stated that he does have problems with and has expressed his frustration with special meetings as they seem to occur quite frequently.
- Mr. Ranelli acknowledged that other members may have similar feelings due to their full outside schedules. He further acknowledged that due to last year’s needs there were more but that hopefully there will be a reduction of special meetings in the future.

- Mr. Farnen related that they are trying to communicate with staff to plan accordingly to fit requests into the regularly scheduled board meeting schedule.
- Mr. Ranelli asked for a report on board term expiration dates. He thought there would be statutory reports.
- Mr. Farnen stated he would be sure to send the reports later today.
- Mr. Garcia pointed out that there is still a vacancy for Reed Hundt and that Kevin Walsh's term ended; these were Governor Malloy's appointees. Furthermore, at the end of next fiscal year, Mr. Ranelli's and John Harranty's board appointments come to an end. The elections next month will have an impact on the future makeup of the Connecticut Green Bank Board.

## **5. Discuss Proposed Draft Comprehensive Annual Financial Report (CAFR)**

- Mr. Bellas stated that the CAFR is 95% complete pending some minor adjustments and formatting. Mr. Bellas stated that a few adjustments to the liability for other post employment benefits (OPEB) remained to be made once the Green Bank receives a final report from the Comptroller's office. The adjustments are not expected to be material. Mr. Bellas then turned over further agenda to Ron and Jessica from Blume Shapiro.
- Mr. Nossek stated that most important is the engagement scope of reporting and that he just wanted to clarify that the audit was performed under generally accepted auditing standards.. Under these standards, Blum Shapiro is required to gain an understanding of CGB's financial statements as well as perform a review of CGB's major federal programs and issue an opinion. The results of all of this;
  - It is anticipated that an unmodified opinion will be issued stating that the financial statements are presented in accordance with generally accepted accounting standards.).
  - No violations or issues of noncompliance with laws or accounting standards were identified.
  - Finally, under internal controls there were no material weaknesses or deficiencies.
  - Mr. Nossek discussed the financial results of operations and reviewed various balance sheet and income statement variances year over year with the Committee members. He answered questions on financial statement ratios and whether these ratios indicated that had adequate levels of current assets to meet current liabilities.
- Mr. Nossek discussed the increase in CGB's liabilities when compared to the prior fiscal year. There were two areas in which new liabilities were incurred. In the first instance CGB incurred an additional \$14 million in liability for the payment to be made to the State Treasurer in fiscal year 2019 to help mitigate the budget deficit. In the second instance, CGB recorded its portion of the overall State liability for OPEB as required with the adoption of a new accounting standard in fiscal year 2018 in the amount of approximately \$25 million.
- Mr. Bellas stated that he will speak with the State Comptroller's office regarding the payment of the \$14 million.



- Mr. Garcia stated the challenge is the upcoming elections, but our focus is to try and have the payment made by the of the fiscal year in June of 2019.
- Mr. Flynn stated that he felt this decision should go to the full board and to assess how much time to manage the necessary cash.
- Mr. Bellas stated that long-term debt increased due to the CREBS bond that CGB issued in the amount of \$9.1M to finance Solar PV projects on the campuses of several of the State's colleges and universities.
- Lastly, the net position itself, or retained earnings, has decreased approximately \$17 million when compared to the prior year primarily as a result of the \$14 million payment made to the State Treasurer in fiscal year 2018 as part of the budget deficit mitigation plan enacted by the State legislature.
- Mr. Farnen stated that legislative aids may have interpreted the \$91M total net position as potential cash or liquid assets when in fact they were not liquid assets.
- Mr. Bellas pointed out that net position represents assets less liabilities not available cash balances. Mr. Bellas indicated that CGB staff will work with staff in the Office of Fiscal Analysis which provides financial information to legislators to continue to clarify this point.
- Regarding the liability of \$25 million incurred this year pertaining to OPEB, Mr. Ranelli asked "What does that represent, future payments of benefits system?"
- Mr. Bellas responded that it represents CGB's allocation of the State's total unfunded liability to provide health care to state retirees..
- Mr. Ranelli posed a question to the board; "Are there any questions the board would like to ask without the presence of staff?" The question was flipped to auditors who did not feel the need to share information without staff.

### **Resolution #3**

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

NOW, therefore be it:

RESOLVED, that the Committee hereby recommends to the Board of Directors for approval the proposed draft Comprehensive Annual Financial Report (CAFR) for 2018 and with the associated Federal Single Audit Report contingent upon no further adjustments to the financial statements or additional required disclosures which would materially change the financial position of the Green Bank as presented.

**Upon a motion made by Tom Flynn and seconded by Gina McCarthy, the Committee unanimously voted to approve Resolution #3.**

Mr. Ranelli thanked the Blum Shapiro personnel in attendance and their staff for their work on this audit review.

## 6. Governance Review

- Mr. Farnen stated that as part of annual house-keeping the Green Bank completes a review of our governance documents, which includes Bylaws, Operating Procedures and enabling statutes. There are currently no recommendations for change except we are considering one statutory change related to the tax treatment of Green Bank subsidiaries which are currently taxable to tax exempt similar to other quasi-public subsidiaries.

## 7. Tax Methodology

- Mr. Shrago stated that 3 years ago CGB began the evaluation framework. CGB has worked on our data collection analysis protocol.
  - Societal benefits is what we're getting out of our metrics. In 2017 we updated our environmental methodology at the same time we adopted EPA's risk assessment model for evaluating health impact.
  - On the economy side we have adopted a study that helps with jobs associated. The Green Bank now decided to take a look at what else we can do. Building off the jobs study, the Green Bank engaged Navigant Consulting.
  - What are the taxes being generated in the state? Three areas that we should investigate; income tax, corporate income tax and sales tax.
  - For Personal Income Tax, the calculator looks at what jobs were created, wages associated with the jobs and the applicable state tax rates.
  - For Corporate taxes Navigant worked with industry contacts and CGB's finance team to look at the various models and profit margin assumptions then they applied CT corporate tax rates to that. For Sales Tax, the tool looks at the portions of projects that are estimated to be on hardware and applies the state sales tax to that.
  - The end result is a calculator that shows how much tax CGB generated. The calculator that Navigant built we took to the department of revenue series and they are endorsed the model.
- Mr. Garcia stated one of the materials you saw was commissioner Jackson of the DRS stating that this is a reasonable assessment of tax revenue generated in the state.
- Ms. McCarthy stated this is great. She worried about this being taken as a measure of the mission of CGB. She pointed out that this is not a benefit—it is a co-benefit. She asked "How do you marry this in a more wholistic way of the work that CGB [does]?"
- Mr. Garcia asked why doesn't CGB frame this up at the board level? He further pointed out that society is getting all these benefits as well, included environmental, public health, and economic development
- Mr. Ranelli would like to amend the motion to remove this issue from the consent agenda and recommend it for review to the board.

**Upon a motion made by Gina McCarthy and seconded by Matt Ranelli, the Committee unanimously approved the following:**

RESOLVED, that the Audit, Compliance and Governance Committee hereby recommends to the Board of Directors for approval the proposed Tax Calculator for the Evaluation and Measurement of the tax revenue generated by Green Bank supported projects

## 8. Auditors of Public Accounts Overview

- Mr. Garcia brought up severance agreements. Per CGB's bylaws the B&O committee has the ability to address severance agreements but what the auditors recommend is that any severance agreement be presented to the Board of Directors for their approval.
- Mr. Garcia maintained that in the context of the most recent severance, those were done in December with approval by the Board of Directors.
- Mr. Ranelli stated that absent a strong rational reason not to bring to the board, he felt that the Board should be engaged in these decisions.

Mr. Garcia stated that the practice will be to go to the B&O and then be followed-up with a recommendation to the Board of Directors.

Mr. Ranelli asked if CGB needs to change the bi-laws to make this change? Mr. Farnen will look into that but the decision to revise the Bylaws will ultimately come down to how the Board wants to handle severances.

## 9. 2019 Legislative and Regulatory Update

- Mr. Farnen stated with a new governor being elected and two large energy related public acts passing last legislative session, this will likely not be a big year for energy policy.

## 10. Adjourn

**Upon a motion made by Gina McCarthy and seconded by Matt Ranelli, the Committee unanimously voted to adjourn the meeting.**

Meeting adjourned at 9:35am.

Respectfully Submitted,

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Matthew Ranelli, Chairperson of the Audit,  
Compliance, and Governance Committee



**Audit, Compliance and Governance Committee of the  
Connecticut Green Bank  
Special Meeting Minutes**

Tuesday, August 26, 2019  
2:00pm – 3:00pm

A special meeting of the Audit, Compliance and Governance Committee of the Connecticut Green Bank (the “Green Bank”) was held on Tuesday, August 26, 2019 at the office of the Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT, in the Bernard Baker Conference Room.

**1. Call to Order**

Mr. Matt Ranelli called the meeting to order at 2:07pm

Committee members participating: Matthew Ranelli (by phone), Mary Sotos (by phone)

Members absent: Thomas M. Flynn

Others attending:

Staff attendees: Brian Farnen, Bryan Garcia, Matt Macunas, Jane Murphy, Selya Price, Eric Shrago

**2. Public Comments**

There were no public comments.

**3. Approve Meeting Minutes for October 8, 2018**

Not approved at this time.

**4. Review and discuss the Audit Report of the APA**

Audit Report of APA (State of Auditors of Public Accounts). Mr. Ranelli explained that the auditors had 7 findings (a-g) from the recent FY16-FY17 audit of the Green Bank—some of which require follow-up. Mr.

Ranelli explained this committee's role as to review the APA's findings and recommendations and staff responses to the findings and recommendations.

- a. *The Connecticut Green Bank should strengthen internal controls over payroll to include a reconciliation between internal and Core-CT records.*

Jane Murphy responded that the Green Bank will annually reconcile the Intacct financial management payroll records to CORE-CT payroll records beginning with FY19 – and revisiting for FY18 for the upcoming audit. FY19 is complete with follow-up items relating to retiree health still to be addressed. The FY18 reconciliation has not yet been performed. The staff will report out to the ACG Committee on FY18 and FY19 when complete.

The ACG Committee members were fine with this response by the staff.

- b. *The Connecticut Green Bank should revise its bylaws to require separation agreements be approved by its board of directors based on the recommendations of the Budget & Operations Committee.*

Bryan Garcia explained that the Green Bank is working through its Audit, Compliance and Governance Committee and Board of Directors to review the severance agreement policy and associated agreements to ensure that they are consistent with Public Act 18-137. Moving forward, the Green Bank will revise its processes and procedures to require that all severance agreements be approved by the Board of Directors.

The ACG Committee members were fine with this response by the staff after discussion and noted the need for continued compliance with Public Act 18-137.

- c. *The Connecticut Green Bank should consider requiring a refundable application fee that would cover costs related to the review of potential C-PACE projects.*

Bryan Garcia explained that the Green Bank, in October of 2018, revised its contract structure and pricing model with SRS eliminating project cancellation fees for the C-PACE program. The Green Bank is charging all third-party C-PACE capital providers a program administration fee to offset the administrative costs of the program.

After discussion, ACG Committee members were fine with the proposed response by the staff.

- d. *The Connecticut Green Bank should strengthen internal controls to ensure compliance with reporting requirements as prescribed by the Connecticut General Statutes.*

Acknowledging that this is a repeat finding of the APA from the FY14 and FY15 audit, and then again in the FY16 and FY17 audit, the Green Bank has had a difficult time meeting the statutorily required filing dates. The Green Bank has filed all required reports, but on several occasions, it has not been done in a timely manner. For example, in FY19 as the former Vice President of Finance retired, and the Controller was promoted to Vice President of Accounting and Financial Reporting, we were unable to complete two

(2) quarterly financial reports to the Office of Fiscal Analysis in a timely manner given the challenges with the leadership transition.

Discussions focused on the need to make timely submission of statutorily required reports a priority goal for FY20 and beyond. In doing so, the Green Bank will (1) meet with the appropriate authorities (e.g., OFA, OLR, etc.), including the APA, to confirm the appropriate reporting requirements and filing schedules;; (2) prioritize timely filing of such reporting as a performance goal for relevant staff, (3) establish automated reminders for relevant staff and confirm the submission schedules against such reminders at the beginning of each fiscal year, and (4) report out status twice a year to the Audit, Compliance and Governance Committee.

It was noted that reports were done on January 1, 2019 but not filed until January 11, 2019 because of swearing in of new Governor (Lamont). Mr. Ranelli asked about a Reporting Calendar and Mr. Garcia confirmed there is a calendar reminder/schedule. Mr. Garcia stated he would provide guidance to senior staff regarding reports they are responsible for and employee performance will be measured by meeting those deadlines. Mr. Ranelli asked that this Report Calendar be sent to this Committee for review and confirmation of reporting. Ms. Sotos approved suggestions.

*e. The Connecticut Green Bank should strengthen internal controls by ensuring that applications are properly completed prior to the execution of a financing agreement.*

Bryan Garcia explained that the Green Bank currently administers (or co-administers) the following programs that require contractors, capital providers, and customers to complete and application:

<b>Program</b>	<b>Contractor</b>	<b>Capital Provider</b>	<b>Customer</b>	<b>Utility</b>
<b>Smart-E Loan</b>	X	X	N/A (via Capital Provider)	N/A
<b>C-PACE</b>	N/A	X	X	N/A
<b>Solar PPA</b>	X	N/A	X	N/A
<b>RSIP</b>	X	N/A	X	N/A
<b>SBEA (loan purchase)</b>	N/A	N/A	N/A (via Utility)	N/A

It was further explained that in general, the Green Bank onboards contractors that install clean energy projects for customers. Contractors often are the conduit in providing incentive and/or financing on behalf of the Green Bank for participating customers.

The Green Bank onboards capital providers to offer customers access to incentives and/or financing through programs that it administers.

The Green Bank provides incentives (e.g., RSIP) and/or financing (e.g., C-PACE, Solar PPA, etc.) directly or indirectly to customers through partnerships with contractors and capital providers.

Applications for program participation are properly completed, as appropriate, prior to the execution of a financing agreement with the customer. The Green Bank staff will ensure that the application is more easily accessible within the organization’s data storage systems.

With regards to special projects (i.e., strategic investments), beyond prior RFP's (e.g., Bridgeport Fuel Cell Park, Colebrook Wind, Southington AD and Meriden Hydro), there will be opportunities for the Green Bank to invest in special projects (e.g., community solar). I will direct the Investment and CI&I teams to develop an application form for special projects.

Ms. Sotos stated there should be consistent information for review. Mr. Ranelli suggested staff reverse engineer a form to fit necessary projects. The ACG Committee members were overall fine with this response by the staff with this additional guidance.

*f. The Connecticut Green Bank should strengthen internal controls by ensuring that inspection reports are properly documented and contain the date and time of the inspections.*

Selya Price was the lead for this item and explained that given the APA's concerns raised about employees of the State Department of Education who have dual employment with the Green Bank as inspectors, the Green Bank has asked for copies of the inspectors' State Dept of Education Outside Employment forms. Currently, there are five (5) employees of the State Department of Education who are Green Bank inspectors. As of this fall, there will be 6.

Also, the Green Bank has revised inspection reports, specifically Smart-E inspection reports, to include site arrival and departure times and travel time. Also, the Green Bank now requires site arrival and departure times and travel time on invoices submitted for payment. One type of inspection report was not previously updated with all details but will be going forward.

Mr. Ranelli asked if the form is a paper or electronic/application entry inspection form. Ms. Price stated that photos are uploaded to the online platform, PowerClerk. Inspection checklists completed by inspectors are now completed online. Self-inspection reports are completed in hard-copy format and are uploaded to PowerClerk by installers. Mr. Ranelli asked the question because he feels the inspection forms may be easier to fill out on-line.

*g. The Connecticut Green Bank should strengthen internal controls to ensure compliance with the General Statutes and bylaws. If the Connecticut Green Bank determines that any of its statutes are impractical or outdated, it should request a legislative change.*

Brian Farnen explained that the Green Bank has in both the 2018 and 2019 legislative sessions requested a technical fix through the Energy & Technology Committee of the Connecticut General Assembly to resolve this matter. The technical fix has not been passed. The Green Bank will request in the 2020 legislative session that this technical fix will once again be considered.

Ms. Sotos asked if auditors want proof of request (for new legislation) or success of legislative changes? She also stated that legislative changes/getting laws passed are out of the Green Bank's hands as Mr. Farnen described as well. Mr. Macunas stated that though not initially passed, legislative change ("technical fix") is now on the agenda again.

As it relates to Board attendance and the Bylaw requirement to provide notice of three consecutive missed meetings, it was explained that moving forward, a letter will be issued to Board of Director/Committee members to ensure and improve attendance to scheduled meetings. After missing 3 consecutive meetings, Board member would receive a letter of notice to improve attendance. Per Mr. Garcia there has been a prior hands-off approach, but the APA is asking for more review and control. Mr. Farnen pointed out that committees should try to keep special meetings to a minimum whenever possible to respect members unpaid positions to the Green Bank Board. Mr. Ranelli stated he approves issuing letters to Board/Committee members to improve attendance and asked who is authorized to issue said letter? Mr. Garcia stated that assistant to Brian Farnen, Ms. Loyola French, keeps an attendance record and will notify Mr. Farnen to issue said letter when necessary. Mr. Ranelli stated all appears manageable and Ms. Sotos agreed.

**5. Update on Statutory Report status for 2019**

Mr. Garcia will send report out to the ACG Committee. As mentioned earlier, some financial reports are delayed.

**6. BOD Membership terms update**

With Board resignations or terms expiring (e.g., Ms. Gina McCarthy resigned when Governor Malloy left office), Mr. Garcia has been working with Governor Lamont's office to finalize appointments—potentially within the next month. Currently Mr. Tom Flynn and Mr. Matt Ranelli's terms are up on June 30, 2019 however, they may continue in their position until a successor is appointed. Mr. Macunas reached out to the appropriate political parties to ensure any changes to appointees for the Green Bank Board.

DRAFT



**7. Adjourn**

Mr. Ranelli and Ms. Sotos both stated they had nothing further and thanked staff for putting meeting and information together.

**Meeting was adjourned at 3:01pm**

Respectfully submitted,

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Matt Ranelli, Chairperson

DRAFT



# Memo

**To:** Board of Directors of the Connecticut Green Bank

**From:** Brian Farnen, CLO and General Counsel, Matt Ranelli, Chair of the Audit, Compliance and Governance Committee

**Date:** July 18, 2019

**Re:** Overview of Compliance Reporting and the Board of Directors and Committees for FY 2019

## Overview

This memo provides a summary report of the FY 2019 governance as it pertains to the Board of Directors and its Committees.

This summary report also includes status of Statement of Financial Interest (SFI) filing requirements, report filings that are statutorily required by the Connecticut General Assembly for the Connecticut Green Bank (Green Bank), and review of governance documents (i.e., bylaws, operating procedures, etc.).

Pursuant to Section 16-245n of the General Statutes of Connecticut, the powers of the Green Bank are vested in and exercised by the Board of Directors that is comprised by up to eleven voting and one non-voting member, each with knowledge and expertise in matters related to the purpose of the organization (see Table 1).

**Table 1. Composition of the Board of Directors of the Green Bank in FY 2019**

Position	Name	Status (as of 06-30-19)	Voting
Commissioner of DECD (or designee)	Catherine Smith <sup>1</sup> Binu Chandy	Ex Officio	Yes
Commissioner of DEEP (or designee)	Rob Klee <sup>2</sup> Mary Sotos	Ex Officio	Yes
State Treasurer (or designee)	Bettina Bronisz	Ex Officio	Yes
Finance of Renewable Energy	Vacant	Vacant	Yes
Finance of Renewable Energy	Kevin Walsh	Appointed	Yes
Labor Organization	John Harrity	Appointed	Yes
R&D or Manufacturing	Gina McCarthy <sup>3</sup>	Vacant	Yes
Investment Fund Management	Eric Brown	Appointed	Yes
Environmental Organization	Matthew Ranelli	Appointed	Yes
Finance or Deployment	Tom Flynn	Appointed	Yes
Residential or Low Income	Betsy Crum	Appointed	Yes
President of the Green Bank	Bryan Garcia	Ex Officio	No

<sup>1</sup> Last board meeting for Catherine Smith was December 14, 2018. She was replaced by Binu Chandy.

<sup>2</sup> Last board meeting for Rob Klee was December 14, 2018. He was replaced by Mary Sotos.

<sup>3</sup> Last board meeting for Gina McCarthy was December 14, 2018. As of the date of this memo a new appointee has not been named.

## Board of Directors

The Board of Directors of the Green Bank is comprised of eleven (11) ex officio and appointed voting members, and one (1) ex officio non-voting members. A quorum for a meeting of the Board of Directors is six (6) voting members at each meeting. Please note that the Board of Directors currently has nine (9) appointees and requires five (5) voting members for a quorum. The Green Bank is actively working with the Governor's Office to fill these positions.

The leadership of the Board of Directors, includes:

- **Chair** – Vacant
- **Vice Chair** and Acting Chair– Mary Sotos, Commissioner of DEEP (voted in by her peers of the Connecticut Green Bank Board of Directors)
- **Secretary** – Matthew Ranelli, Partner at Shipman and Goodwin (voted in by his peers of the Connecticut Green Bank Board of Directors)
- **Staff Lead** – Bryan Garcia, President and CEO

For FY 2019, the Board of Directors of the Green Bank met nine (9) times, including seven (7) regularly scheduled meetings and two (2) special meetings (see Table 2).

**Table 2. Summary of Board of Directors Meetings for FY 2018**

Date	Regular or Special Meeting	Attendees / % Attendance	# of Resolutions Approved <sup>4</sup>
July 27,2018	Regular	8 / 80%	6
August 21, 2018	Special	7 / 70%	4
September 18, 2018	Special	8 / 80%	1
October 26,2018	Regular	6 / 60%	6
December 14, 2018	Regular	7 / 70%	4
February 22, 2019 <sup>5</sup>	Regular	6/66%	0
March 29, 2019	Regular	6/66%	3
April 26, 2019	Regular	5/55%	4
June 28, 2019	Regular	6/66%	2
<b>Total</b>	2 Special Meetings 7 Regular Meetings <b>9 Total Meetings</b>	75% 66% <b>70%</b>	5 37 <b>42</b>

Overall, the attendance for each meeting established a quorum – 6 of the 10 (or 5 of the 9) voting members present – in order to enable business decisions, and on average there were 7 of 10 (or 6 of 9) members present at each meeting, of which 5 attended on average by phone.

For a link to the materials from the Board of Directors meetings that is publicly accessible – [click here](#).

### *Statement of Financial Interest*

<sup>4</sup> Excludes approval of meeting minutes.

<sup>5</sup> With the resignation of Gina McCarthy on 12/14/2018 there are 9 board members.

It is required by state ethics laws that senior-level staff (i.e., Director level and above) and members of the Board of Directors annually file a Statement of Financial Interest (SFI). With respect to the 2018 SFI filing – required by May 1, 2019 – the Connecticut Office of State Ethics received the following from the Connecticut Green Bank (see Table 3):

**Table 3. Summary of State of Financial Interest Filings with the Office of State Ethics for CY 2017**

	<b>Number of SFIs Submitted</b>	<b>% Submitted on Time</b>
Senior Staff	7	100%
Board of Directors	6	100%

Of the 13 SFI filings by Senior Staff and the Board of Directors, all were filed online. The Green Bank was recognized in the May 2019 OSE newsletter for being one of only forty-two state agencies to earn the distinction of not only achieving 100% timely compliance but also had 100% submit filings electronically.

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

The Audit, Compliance and Governance Committee (ACG Committee) of the Green Bank is comprised of three (3) ex officio and appointed voting members. A quorum for a meeting of the ACG Committee is three (3) voting members at each meeting. Note, that if there aren't enough voting members of the ACG Committee present at a meeting, then the Chair and/or Vice Chair of the Connecticut Green Bank can participate in the meeting to establish a quorum. The leadership of the ACG Committee, includes:

- **Chair** – Matthew Ranelli, Partner and Shipman and Goodwin (designated as the Chair by Catherine Smith)
- **Members** – Tom Flynn and Gina McCarthy (designated as a member of the Committee by Catherine Smith)
- **Staff Lead** – Brian Farnen, CLO and General Counsel

For FY 2019, the ACG Committee of the Connecticut Green Bank met one time with one scheduled meeting cancelled. (see Table 4).

**Table 4. Summary of Audit, Compliance and Governance Committee Meetings for FY 2018**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>	<b># of Resolutions Approved</b>
October 10, 2018	Regular	3 / 100%	2
May 22, 2019	Regular	CANCELLED	
<b>Total</b>	1 Regular Meeting	<b>3 / 100%</b>	<b>2</b>

The attendance established a quorum with 3 of the 3 voting members present – in order to enable business decisions, of which 100% attended on average by phone.

For a link to the materials from the ACG Committee meetings that is publicly accessible – [click here](#).

### *Review of Governance Documents and Statutory Reporting*

With respect to annual review of governance documents and statutory reporting, the following applies:

- Annual review by the ACG Committee of the Governance Documents (i.e., Bylaws, Operating Procedures, and Statement of Purpose) completed on October 10, 2018.
- Statutory Responsibilities and Reporting Checklist attached hereto as Exhibit A for continuous reporting tracking. Of note, George Bellas retired from his position as Vice President of Finance effective January 31, 2019. While Jane Murphy transitioned from Controller to VP of Finance, we were unable to complete these reports in a timely manner.

## Budget and Operations Committee

The Budget & Operations Committee (B&O Committee) of the Green Bank is comprised of three (3) ex officio and appointed voting members. A quorum for a meeting of the B&O Committee is three (3) voting members at each meeting. Note, that if there aren't enough voting members of the B&O Committee present at a meeting, then the Chair and/or Vice Chair of the Green Bank can participate in the meeting to establish a quorum. The leadership of the B&O Committee, includes:

- **Chair** –John Harrity, Labor Union Representative (designated as the Chair by Catherine Smith)
- **Members**<sup>6</sup> –John Harrity, Rob Klee, Commissioner of DEEP<sup>7</sup> and Eric Brown (designated as a member of the Committee by Catherine Smith)
- **Staff Lead** – Eric Shrago, Director of Operations

For FY 2019, the B&O Committee of the Green Bank met four (4) times, three (3) were regularly scheduled and one (1) was special (see Table 5).

**Table 5. Summary of Budget and Operations Committee Meetings for FY 2018**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>	<b># of Resolutions Approved</b>
July 6, 2018	Special	4 / 100%	1
December 6, 2018	Regular	3 / 75%	1
May 15, 2019 <sup>8</sup>	Regular	1 / 50%	0
June 12, 2019	Regular	2 / 66%	0
<b>Total</b>	1 Special Meeting 3 Regular Meetings <b>4 Total Meetings</b>	100% 64% <b>73%</b>	1 2 <b>3</b>

Overall, the attendance for each meeting established a quorum – 3 of 4 (or 2 of 3) voting members present – in order to enable business decisions, and on average there were 3 members present at each meeting, of which 12% attended by phone.

For a link to the materials from the B&O Committee meetings that is publicly accessible – [click here](#).

## Deployment Committee

<sup>7</sup> Mary Sotos replaced Rob Klee effective at the 6/12/2019 meeting.

<sup>8</sup> As no Resolutions were presented, a quorum was not necessary for the 5/15/19 meeting

The Deployment Committee of the Green Bank is comprised of four (4) ex officio and appointed voting members. A quorum for a meeting of the Deployment Committee is three (3) voting members at each meeting. Note, that if there aren't enough voting members of the Deployment Committee present at a meeting, then the Chair and/or Vice Chair of the Green Bank can participate in the meeting to establish a quorum. The leadership of the Deployment Committee, includes:

- **Chair**<sup>9</sup> – Rob Klee, Commissioner of DEEP (designated as the Chair by Catherine Smith)
- **Members**<sup>10</sup> – Bettina Bronisz (ex officio per bylaws), Matthew Ranelli, and Betsy Crum (designated as a member of the Committee by Catherine Smith)
- **Staff Lead** – Bryan Garcia, President and CEO, and Bert Hunter, EVP and CIO

For FY 2019, the Deployment Committee of the Green Bank met five (5) times, including four (4) regularly scheduled meetings (see Table 6).

**Table 6. Summary of Deployment Committee Meetings for FY 2018**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>	<b># of Resolutions Approved</b>
September 18, 2018	Regular	3 / 75%	1
November 13, 2018	Regular	3 / 75%	2
January 29, 2019	Special	4 / 100%	4
March 27, 2019	Regular	3 / 75%	1
May 29, 2019	Regular	3 / 75%	2
<b>Total</b>	4 Regular Meetings <b>5 Total Meetings</b>	3 / 75% <b>3 / 80%</b>	<b>6</b> <b>10</b>

Overall, the attendance for each meeting established a quorum – 3 of the 4 voting members present – in order to enable business decisions, and on average there were 3 members present at each meeting, of which 90% attended by phone.

For a link to the materials from the Deployment Committee meetings that is publicly accessible – [click here](#).

### **Joint Committee of the EEB and the CGB**

Section 16-245m(d)(2) of the Connecticut General Statutes created a Joint Committee of the Energy Efficiency Board (EEB) and the Connecticut Green Bank. Per bylaws established and approved by the EEB and the Green Bank, the Joint Committee is comprised of four (4) appointed and voting members, one (1) ex officio and voting member, and four (4) ex officio and non-voting members. A quorum for a meeting of the Joint Committee is three (3) voting members at each meeting. The leadership of the Joint Committee, includes:

- **Chair** – Eric Brown, Attorney with CBIA (voted in by his peers of the EEB and the Connecticut Green Bank)

<sup>9</sup> Mary Sotos replaced Rob Klee effective at the 1/29/2019 meeting

- **Vice Chair**<sup>11</sup> – Diane Duva, DEEP (voted in by her peers of the EEB and the Connecticut Green Bank)
- **Secretary** – Bryan Garcia, Connecticut Green Bank, and Craig Diamond, Connecticut Energy Efficiency Fund (voted in by their peers of the EEB and the Connecticut Green Bank)
- **Members**<sup>12</sup> – Bryan Garcia (non-voting), Bert Hunter (non-voting), and John Harrity (designated as members of the Committee by Catherine Smith)<sup>13</sup>
- **Staff Lead** – Bryan Garcia, President and CEO of the Connecticut Green Bank

For FY 2019, the Joint Committee of the EEB and the Green Bank met four (4) times, including four (4) regularly scheduled meetings (see Table 7).

**Table 7. Summary of Joint Committee Meetings for FY 2018**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>		<b># of Resolutions Approved</b>
		<b>Voting</b>	<b>Non-voting (CGB)</b>	
July 18, 2018	Regular	3 / 75%	2 / 100%	0
October 17, 2018	Regular	4 / 100%	1 / 50%	0
January 23, 2019	Regular	4 / 100%	1 / 50%	0
April 17, 2019	Regular	3 / 75%	2 / 100%	0
<b>Total</b>	4 Regular Meetings <b>4 Total Meetings</b>	<b>3/ 88%</b>	<b>1-2 / 75%</b>	<b>0</b>

Overall, the attendance for each meeting established a quorum – 3 of the 4 voting members present – in order to enable business decisions, and on average there were 3-4 members present at each meeting, of which 25% attended on average by phone.

For a link to the materials from the Joint Committee meetings that is publicly accessible – [click here](#).

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<sup>11</sup> Mary Sotos replaced Diane Duva effective at the 4/17/2019 meeting

<sup>12</sup> Note – these 3 members are representatives from the Connecticut Green Bank.

## Exhibit A

Quarterly Cash Flow		Quarterly Human Resources		Annual CAFR		REEEFA Bonding		SCRF Notice		RSIP		Annual Report		Board Meetings				OpenCT Checkbook Data to Comptroller	
Due	Submitted	Due	Submitted	Due	Submitted	Due	Submitted	Reason Required	Submitted	Due	Submitted	Due	Submitted	Held	Type	Held	Type	Requested by	Delivered
9/30/13	3/14/14	10/1/13	6/17/14	1/1/2015	12/30/2014	1/1/13	2/8/13	CSCU deal	12/1/17	1/1/2014	-	1/1/15	12/30/14	12/16/15	regular	1/26/18	regular	1/15/19	1/10/19
12/31/13	3/14/14	1/1/14	6/17/14	1/1/2016	12/31/2015	1/1/14	1/15/14	CSCU, Meriden	11/30/18	1/1/2017	1/30/2017	1/1/16	12/31/15	1/15/16	regular	2/15/18	special		
3/31/14	4/21/15	4/1/14	6/17/14	1/1/2017	12/29/2016	1/1/15	3/15/15			1/1/2019	1/11/2019	1/1/17	10/17/16	2/26/16	special	4/3/18	regular		
6/30/14	4/21/15	7/1/14	8/5/14	1/1/2018	12/27/2017	1/1/16	12/23/15			Sunset		1/1/18	12/1/17	3/3/16	special	4/27/18	regular		
9/30/14	6/16/16	10/1/14	10/2/14	1/1/2019	12/31/2018	1/1/17	12/15/16					1/1/19	1/11/19	4/22/16	regular	5/25/18	special		
12/31/14	6/16/16	1/1/15	1/12/15	1/1/2020		1/1/18	12/1/17					1/1/20		6/17/16	regular	6/13/18	regular		
3/31/15	6/16/16	4/1/15	4/12/15			1/1/19	12/31/18							7/6/16	special	6/28/18	regular		
6/30/15	6/16/16	7/1/15	7/9/15											7/22/16	regular	7/27/18	regular		
9/30/15	5/31/16	10/1/15	10/9/15											10/21/16	regular	8/21/18	special		
12/31/15	5/31/16	1/1/16	1/8/16											12/16/16	regular	9/18/18	special		
3/31/16	5/31/16	4/1/16	3/31/16											1/5/17	special	10/26/18	regular		
6/30/16	8/10/16	7/1/16	7/5/16											1/20/17	regular	12/14/18	regular		
9/30/16	11/8/16	10/1/16	10/5/16											3/10/17	special	2/22/19	regular		
12/31/16	2/23/17	1/1/17	2/21/17											4/28/17	regular	3/29/19	regular		
3/31/17	5/10/17	4/1/17	4/10/17											6/9/17	special	4/26/19	regular		
6/30/17	8/9/17	7/1/17	7/17/17											6/23/17	regular	6/28/19	regular		
9/30/17	12/21/17	10/1/17	10/6/17											7/21/17	regular				
12/31/17	2/28/18	1/1/18	1/9/18											9/28/17	regular				
3/31/18	5/17/18	4/1/18	4/2/18											10/3/17	special				
6/30/18	9/5/18	7/1/18	7/5/18											10/20/17	regular				
9/30/18	11/28/18	10/1/18	10/3/18											11/6/17	special				
12/31/18	7/11/19	1/1/19	1/3/19											11/13/17	special				
3/31/19	1/0/00	4/1/19	4/1/19											12/1/17	special				
6/30/19	1/0/00													12/15/17	regular				



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



*SENT VIA EMAIL*

Date

Member Name  
Address  
City, State Zip Code

**RE: Connecticut Green Bank Board of Directors Attendance for FY 2019**

Dear Member:

I am writing on behalf of the Connecticut Green Bank Board of Directors' to bring to your attention your attendance record for the last fiscal year.

For FY 2019, with regards to your attendance at Board of Director and its Committee meetings, here was your record (see Table 1).

Board or Committee	# of Meetings	Attendance at Meetings	% of Attendance	% of Regular Meetings
Board				
Audit, Compliance and Governance				
Budget and Operations				
Deployment				
Joint Committee – EEB and CGB				
Total				

You attended [X]% of the Board and Committee meetings to which you were appointed.

There were occurrences whereby you had missed 3 or more consecutive meetings, including:

- [Board or Committee] – [Missed Dates here...]
- [Board or Committee] – [Missed Dates here...]

Pursuant to Section 4.6 of the Green Bank's Bylaws, *"Directors or their designees who miss more than three (3) consecutive meetings shall be asked to become more active on*

*the Board.*” With this in mind, and understanding the constant demands on everyone’s time, we ask you to be cognizant of your commitment and become a more involved member of the board.

If circumstances are such that you are no longer able to fulfill the obligations of your appointment, kindly let us know so we can pursue having a replacement appointed.

We appreciate your service, past and present commitment, and hope that you can continue to serve the purpose and mission of the Connecticut Green Bank.

Sincerely,

Matthew Ranelli  
Connecticut Green Bank Board of Directors  
Audit, Compliance and Governance Committee Chair



## Memo

**To:** Connecticut Green Bank Audit, Compliance and Governance (ACG) Committee  
**From:** Brian Farnen, General Counsel and CLO  
**CC:** Bryan Garcia, President and CEO  
**Date:** October 1, 2019  
**Re:** Severance Policy Revisions

---

### Background

The ACG Committee convened a special meeting on August 26, 2019 to discuss the findings in the Fiscal Years 16-17 Audit Report of the State of Connecticut Auditors of Public Accounts (APA.) Specifically, one of the APA's recommendations is that the Green Bank should revise its Bylaws to require separation agreements be approved by its board of directors (Board) based on the recommendations of the Budget and Operations (B&O) Committee. Additionally, recently enacted Connecticut Public Act No. 18-137 set forth new restrictions on quasi-publics from making a severance payment in excess of fifty thousand dollars to an employee resigning or retiring from employment for the purposes of avoiding costs associated with potential litigation or pursuant to a nondisparagement agreement.

To address both the APA recommendation and the enactment of Public Act No. 18-137, the Green Bank Severance Policy is revised in the draft set forth in **Exhibit A**. Please note that I do not recommend revisions to the Green Bank Bylaws as the B&O Committee already has explicit purview to monitor and make recommendations to the Board on matters of employee separation and severance.<sup>1</sup> Lastly, an APA staffer informally reviewed the revisions to the severance policy this week and expressed their concurrence that the revisions addressed the APA's concern.

### RESOLUTION

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

**NOW**, therefore be it:

**RESOLVED**, that the Audit, Compliance and Governance Committee hereby recommends to the Board of Directors for approval the proposed draft revisions to the Green Bank Severance Policy.

---

<sup>1</sup> See Section 5.3.2 of the Connecticut Green Bank Bylaws.

**EXHIBIT A**  
**Severance Policy**

A. Reduction in Force. In the event that the Connecticut Green Bank (hereafter "Green Bank") permanently eliminates one or more positions from its workforce, the Green Bank, with approval of its Board of Directors is authorized to offer the employees separated by such permanent reduction in force a severance package, as follows:

**Deleted:** or of the Budget and Operations Committee of its Board of Directors, ...

1. Either a lump sum payment or continuation on the payroll or a combination thereof of six weeks, plus for each full six-month period of continuous service at the Green Bank or another State of Connecticut quasi-public or public agency, an additional week of salary based on the employee's then current base salary, all subject to a maximum for each employee of 26 weeks;
2. Outplacement services by a firm or firms selected by the Green Bank for a period determined to be reasonable by the Board based upon employment conditions prevailing in the economy;
3. All benefits, except medical and dental insurance, shall cease as of the date of separation and the Board shall determine whether to extend the option to separated employees for medical and/or dental insurance other than as required by COBRA for some or all of the severance payment period;
4. Such package shall be conditioned upon the employee signing a full waiver and release of claims against, and/or an indemnification of the Green Bank within a time period established by the Board.

**Deleted:** or the Budget and Operations Committee

**Deleted:** or Budget and Operations Committee

**Deleted:** or Operations Committee

The purpose of this Severance Policy is to recognize the service of employees and mitigate the burden of displacement when a reduction in force is deemed necessary. It is not intended to set a standard for termination of employees under other circumstances.

B. Other Terminations. In the event that the Green Bank determines that it is in the best interest of the Green Bank to terminate the services of an employee without cause or to request the resignation of an employee, the Board of Directors is authorized, but not required, to offer a severance package. In determining whether to do so and the nature and amount of such package, the Board shall take into account such factors as it may deem relevant, including some or all of the following: the length of service, the performance and contributions of the employee, the circumstances of recruitment and relocation, the circumstances of separation, the employment conditions prevailing in the economy, the impact upon the Green Bank and other factors deemed relevant at the time by the Board. In no event shall the continuation of salary following termination or the amount of any lump sum payment in respect of salary exceed the then current base salary for 26 weeks. The Board shall condition any such package upon the employee signing a full waiver and release of claims against, and/or an

**Deleted:** Board of Directors or the Budget and Operations Committee...

**Deleted:** or the Budget and Operations Committee

**Deleted:** or the Budget and Operations Committee

**Deleted:** or the Budget and Operations Committee

**Deleted:** or the Budget and Operations Committee

indemnification of the Green Bank and such other terms and conditions as are deemed necessary or desirable.

C. Miscellaneous Considerations.

1. Severance pay under this Policy is in addition to any accrued vacation due to the employee upon termination.
2. Regular deductions, including contributions for medical and dental insurance, if any, will be made from any severance payments made pursuant to this Policy.
3. If an employee does not sign a full waiver and release of claims and/or an indemnification of the Green Bank under this Policy (excluding any applicable State or Federal whistleblower laws and the ability to file a charge with the Equal Employment Opportunity Commission or the Connecticut Commission on Human Rights and Opportunities), the employee will not receive any of the benefits set forth in this Policy, with the possible exception of a brief period of continued health and dental insurance resulting from the time period required for the signing of the waiver and release. In lieu of the receipt of severance benefits under this Policy, the employee will only receive payment of two weeks of base salary at the then current rate plus any accrued vacation.
4. Public Act No. 18-137<sup>2</sup> provides that:
  - a. No quasi-public agency shall make a payment in excess of fifty thousand dollars to an employee resigning or retiring from employment for the purposes of avoiding costs associated with potential litigation or pursuant to a nondisparagement agreement
  - b. No nondisparagement agreement or settlement agreement may prohibit an employee from making a complaint or providing information.

In order to insure compliance with Public Act No. 18-137, no severance payment in excess of \$50,000 shall be authorized by the Board of Directors except upon an express finding by the Board that the amount of such payment is reasonable and appropriate based on one or more of the factors specified in paragraph B of this policy, and that such amount was not determined with reference to the costs of potential litigation or the value of any non-disparagement agreement.

Deleted: ¶

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<sup>2</sup> Public Act No. 18-137 Sec. 26. (NEW) (Effective October 1, 2018) (a) On and after October 1, 2018, no quasi-public agency, as defined in section 1-120 of the general statutes, shall make a payment in excess of fifty thousand dollars to an employee resigning or retiring from employment with such quasipublic agency for the purposes of avoiding costs associated with potential litigation or pursuant to a nondisparagement agreement. (b) No nondisparagement agreement or settlement agreement as described in subsection (a) of this section may prohibit an employee from making a complaint or providing information in accordance with section 4-61dd of the general statutes.





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

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# CT Green Bank - Audit Results

## Agenda:

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

# CT Green Bank - Audit Results

## Engagement Scope and Reporting

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

# CT Green Bank - Audit Results

## Engagement Scope and Reporting (continued)

- Reporting Results in the Financial Statements:
    - Reporting under GAAS:
      - Unmodified audit opinion.
    - Reporting under GAGAS:
      - Reporting on Internal Control and Compliance at the Financial Statement Level
- Under Internal Control
- No Material Weakness or Significant Deficiencies were identified.
- Under Compliance
- No instances of noncompliance were identified.

# CT Green Bank - Audit Results

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

## Under Internal Control

- No Material Weakness were identified over Federal.

## Under Compliance

- Unmodified opinion on compliance over Federal.

# CT Green Bank - Audit Results

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

Assets and Deferred Outflows:

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

# CT Green Bank - Audit Results

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

### Liabilities and Deferred Inflows:

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

# CT Green Bank - Audit Results

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

### Net Position:

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

# CT Green Bank - Audit Results

## Financial Highlights

### 2019 Financial Analysis

- Total assets of the Green Bank increased to \$211MM during 2019, an increase of \$25.1MM. This was principally due to \$22.9MM increase in program loans (Posigen and CPACE Loans).
- Overall, current assets increased by \$4MM while noncurrent assets increased by \$20.9MM. The current assets were affected mostly by increases in the current portion of the SBEA promissory note and current portion of program loans. Noncurrent assets were affected by \$21.2MM in program loan additions.
- The liquidity of the balance sheet (current assets/current liabilities) decreased from 212.6% to 194.7% for the year ended June 30, 2019.



# CT Green Bank - Audit Results

## Financial Highlights

### 2019 Financial Analysis

- Total liabilities increased \$23.4MM due primarily to the increase of long term debt of \$34.5MM offset by the decrease in the accrued liability of \$14MM for the second payment due to the State of Connecticut.
- Total Net Position decreased by \$15MM due primarily to the \$14MM payment to the State of Connecticut that was made during the fiscal year.

# CT Green Bank - Audit Results

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

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

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# CT Green Bank - Audit Results

## Financial Highlights

### 2019 Operating Activity

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

# CT Green Bank - Audit Results

## Required Auditors' Communications

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

### Qualitative Aspects of Accounting Practices.

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

- We noted no transactions entered into by the governmental unit during the year for which there is a lack of authoritative guidance or consensus.
- All significant transactions have been recognized in the financial statements in the proper period.

# CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**
- **Qualitative Aspects of Accounting Practices (continued)**

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

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

# CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**
- **Qualitative Aspects of Accounting Practices (continued)**
  - We have evaluated the key factors and assumptions used to develop the above estimates in determining that they are reasonable in relation to the financial statements taken as a whole. The results of our procedures gave no indication of management bias in the development of the estimates in the financial statements.
  - The financial statement disclosures are neutral, consistent and clear. There were no sensitive disclosures affecting the financial statements.

# CT Green Bank - Audit Results

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

- **Difficulties Encountered in Performing the Audit**

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

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

- **Corrected and Uncorrected Misstatements**

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

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

# CT Green Bank - Audit Results

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

- **Disagreements with Management**

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

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

- **Management Representations**

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



# CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**
- **Management Consultations with Other Independent Accountants**

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

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

# CT Green Bank - Audit Results

- **Required Auditors' Communications (continued)**
- **Other Audit Findings or Issues**

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

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

# CT Green Bank - Audit Results

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

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

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

# CT Green Bank - Audit Results

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

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

- **Closing**

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

# CT Green Bank - Audit Results

## Audit Team Contact Information

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# CT Green Bank - Audit Results

NOTES:

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

**COMPREHENSIVE ANNUAL FINANCIAL REPORT**

**FISCAL YEAR ENDED JUNE 30, 2019**

(With Summarized Totals as of and for Fiscal Year Ended June 30, 2018)

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

**CONNECTICUT GREEN BANK**  
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**JUNE 30, 2019**

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## INTRODUCTORY SECTION

**DRAFT**  
FOR DISCUSSION PURPOSES ONLY



October 29, 2019

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

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

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

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

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

## **Profile of the Connecticut Green Bank**

The Green Bank<sup>1</sup> was established in a bipartisan manner by the Governor and Connecticut's General Assembly on July 1, 2011 through Public Act 11-80 as a quasi-public agency that supersedes the former Connecticut Clean Energy Fund. As the nation's first state green bank, the Connecticut Green Bank makes green energy more accessible and affordable for all Connecticut citizens and businesses by creating a thriving marketplace to accelerate the growth of green energy. We facilitate green energy deployment by leveraging a public-private financing model that uses limited public dollars to attract private capital investments. By partnering with the private sector, we create solutions that result in long-term, affordable financing to increase the number of green energy projects statewide.

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

The Green Bank's vision is to lead the green bank movement by accelerating private investment in clean energy deployment for Connecticut to achieve economic prosperity, create jobs, promote energy security and address climate change. By accelerating the growth of green energy we contribute to a better quality of life, a better environment and a better future for Connecticut. The Green Bank's mission is to support the Governor's and Legislature's energy strategy to achieve cleaner, cheaper and more reliable sources of energy while creating jobs and supporting local economic development.

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

1. To attract and deploy private capital investment to finance the clean energy<sup>2</sup> policy goals for Connecticut.
2. To leverage limited public funds to attract multiples of private capital investment while returning and reinvesting public funds in clean energy deployment over time.
3. To develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers.
4. To support affordable and healthy buildings in low-to-moderate income and distressed communities by reducing the energy burden and addressing health and safety issues in their homes, businesses, and institutions.

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

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<sup>1</sup> Public Act 11-80 repurposed the Connecticut Clean Energy Fund (CCEF) administered by Connecticut Innovations, into a separate quasi-public organization called the Clean Energy Finance and Investment Authority (CEFIA). Per Public Act 14-94, CEFIA was renamed to the Connecticut Green Bank.

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

exercised by a Board of Directors that is comprised of eleven voting and two non-voting members each with knowledge and expertise in matters related to the purpose of the organization. The Board of Directors and Staff are governed through the statute, as well as an Ethics Statement and Ethical Conduct Policy, Resolutions of Purposes, Bylaws, and Comprehensive Plan.

## **Initiatives and Results**

### *Accelerate the Growth of Green Energy*

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

**Table 1. Project Investments between FY 2012 through FY 2019<sup>3</sup>**

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

By using \$260.1 million of ratepayer funds, we have helped attract \$1,427.9 million of private investment in green energy for a total investment of \$1.7 billion in Connecticut's economy. In addition, \$87.2 million in estimated tax revenues have been generated from this investment. This is supporting the deployment of 358.2 MW of renewable energy, producing and saving an estimated 48.5 million MMBtu and 12.3 million MWh of green energy and reducing an estimated 5.8 million tons of CO<sub>2</sub> emissions over the life of the projects, while creating over 20,000 job-years, and improving public health benefits by \$206.7 to \$466.8 million as a result of cleaner air.

### *We Grow Businesses and We Help People Thrive*

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

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

<sup>3</sup> Includes closed transactions approved by the Board of Directors consistent with its Comprehensive Plan and Budget.

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

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

#### *We Believe in Inclusive Prosperity*

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

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

#### *Leading the Green Bank Movement*

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

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

#### **Responsible Public Investment in Green Energy**

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

#### **Acknowledgements**

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

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

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

Respectfully submitted,

Bryan T. Garcia  
President and CEO

Jane J. Murphy  
Vice President - Finance

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

# Board of Directors

## Connecticut Green Bank

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

## Discretely Presented Component Units

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

<sup>4</sup> Department of Energy and Environmental Protection

<sup>5</sup> Vice Chairperson of the Board of Directors and Chairperson of the Deployment Committee

<sup>6</sup> Department of Economic and Community Development

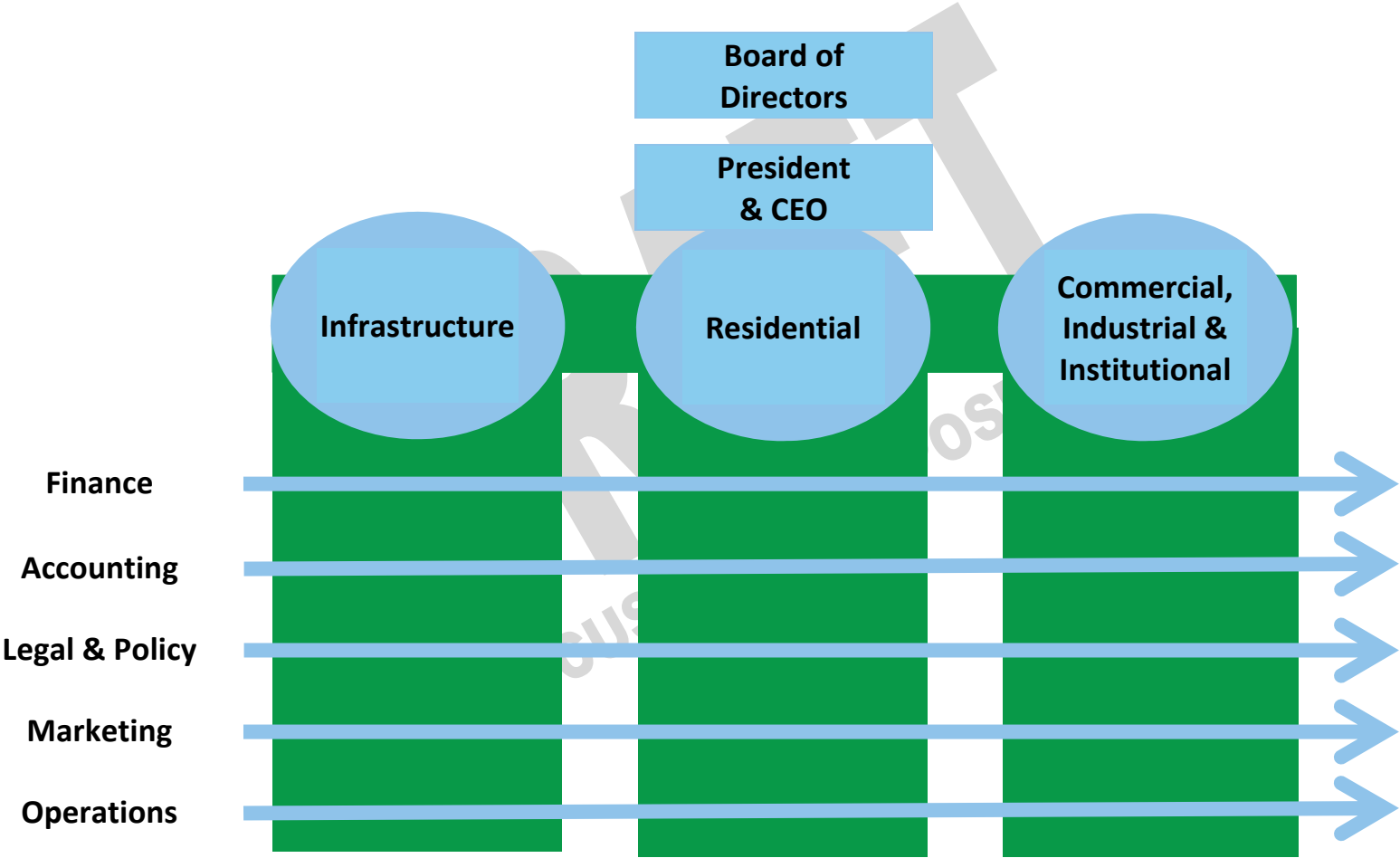
<sup>7</sup> Secretary of the Board of Directors and Chairperson of the Audit, Compliance and Governance Committee

<sup>8</sup> Chairperson of the joint committee of the EEO and CGB

<sup>9</sup> Chairperson of the Budget and Operations Committee



# Organizational Chart





Government Finance Officers Association

**Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting**

Presented to

**Connecticut Green Bank**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2018**

*Christopher P. Morill*

Executive Director/CEO

## FINANCIAL SECTION

**DRAFT**  
FOR DISCUSSION PURPOSES ONLY

## **Independent Auditors' Report**

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

### **Report on the Financial Statements**

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

#### ***Management's Responsibility for the Financial Statements***

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

#### ***Auditors' Responsibility***

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

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

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

## **Opinions**

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

## **Other Matters**

### *Required Supplementary Information*

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

### *Other Information*

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

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

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

**Other Reporting Required by Government Auditing Standards**

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

West Hartford, Connecticut  
October XX, 2019

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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

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

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

### FINANCIAL STATEMENTS PRESENTED IN THIS REPORT

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

The Green Bank is a quasi-public agency of the State of Connecticut established on July 1, 2011 by Section 16-245n of the Connecticut General Statutes, created for the purposes of, but not limited to: (1) implementing the Comprehensive Plan developed by the Green Bank pursuant to Section 16-245n(c) of the Connecticut General Statutes, as amended; (2) developing programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects, and such others as the Green Bank may determine; (3) supporting financing or other expenditures that promote investment in clean energy sources to foster the growth, development and commercialization of clean energy resources and related enterprises; and (4) stimulating demand for clean energy and the deployment of clean energy sources within the state that serve end-use customers in the State. The Green Bank constitutes the successor agency to Connecticut Innovations for the purposes of administering the Connecticut Clean Energy Fund in accordance with section 4-38d of the Connecticut General Statutes and therefore the net position of such fund was transferred to the newly created the Green Bank as of July 1, 2011.

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

Notes to the basic financial statements provide additional detailed information to supplement the basis for reporting and nature of key assets and liabilities.

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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### FINANCIAL HIGHLIGHTS OF FISCAL 2019

#### *NET POSITION*

The Green Bank's net position, which is reflective of the reporting entity's overall financial position, decreased year over year. Net position as of June 30, 2019 and 2018 was \$76.3 and \$91.3 million, respectively, a decrease of \$15 million. The Green Bank's net position as of June 30, 2018 was restated from \$89.4 million to \$91.3 million, an increase of \$1.9 million, to adjust net position for the proper reporting of prepaid warranty expenses in CT Solar Lease 2 LLC. The components of net position show that unrestricted net position decreased to (\$6.0) million as of June 30, 2019 as compared to \$3.3 million as of June 30, 2018, restated for warranty expenses, a decrease of \$9.3 million. Contributing to this decrease in unrestricted net position was a transfer of a portion of the primary government's available unrestricted cash balances into restricted cash balances to support the maintenance of loan loss reserves, interest rate buydowns, contractual obligations under the Clean Renewable Energy Bond and contractual obligations to maintain collateral accounts to support loan guarantees. This transfer is reflected in the component of net position designated as net position restricted for energy programs, which decreased \$7.7 million from \$19.3 million as of June 30, 2018 to \$11.5 million as of June 30, 2019. Restricted net position energy programs as of June 30, 2018 included \$9.1 million in proceeds received from the issuance of CREBs of which \$7.2 million was used in fiscal 2019 to construct solar PV facilities on campuses in the State of Connecticut's system of universities and colleges ("CSCU"). Restricted net position energy programs as of June 30, 2019 decreased by \$7.7 million due to construction payments issued for the CSCU Facilities. Note 17 Restricted Net Position provides a breakout by dollar amount of cash balances restricted for these programs. Also contributing to the decrease in unrestricted net position was payment of \$14 million to the State of Connecticut in fiscal 2019.

Green Bank assets increased \$25.1 million in fiscal year 2019 to \$211.0 million. As of June 30, 2018, assets totaled \$186 million. This was primarily the result of a \$18.0 million increase in CPACE loans, which includes \$14.4 million repurchase of assets previously sold to Hannon Armstrong, \$5.9 million in program loans made by the primary government to support renewable energy installations and energy efficiency upgrades for both residential and commercial property owners in Connecticut, and a \$3.5 million for purchases of SBEA promissory notes (see note 8, SBEA Notes Receivable). These increases were partially offset by a \$1.7 decrease in CPACE sell down notes which were cancelled as a result of the Hannon Armstrong asset repurchase.

Investments in capital assets net of depreciation increased from \$73.4 million as of June 30, 2018 to \$80.5 million as of June 30, 2019, an increase of \$7.1 million. This increase was primarily due to energizing seven of the eight CSCU solar PV systems recorded on the Green Bank's books. The electricity generated by these facilities has been sold through power purchase agreements with CSCU. Revenues support payments of the CSCU CREBs bond. Note 9 provides further detail regarding long term debt. Note 12 provides further detail regarding investments in capital assets.

Unrestricted cash and cash equivalents decreased \$0.9 million to \$18.9 million as of June 30, 2019 compared to \$19.8 million as of June 30, 2018 and restricted cash and cash equivalents decreased \$7.7 million to \$16.7 million as of June 30, 2019 from \$24.4 million as of June 30, 2018. The net decrease in unrestricted cash was primarily the result of normal operating activities. The net decrease in restricted cash was primarily the result of disbursements to contractors for construction of the CSCU solar PV systems.



# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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Green Bank liabilities increased by \$23.4 million in fiscal year 2019 to \$145.1 million as of June 30, 2019 from \$121.7 million as of June 30, 2018. Current liabilities, comprised of current maturities of long term debt, accounts payable and accrued expenses increased \$5.7 million to \$16.7 million as of June 30, 2019 compared to \$11 million as of June 30, 2018. Accounts payable and accrued expenses increased \$1.3 million from \$6.5 million in 2018 to \$7.8 million in 2019 primarily as a result of an increase in accrued performance-based incentives payable by the primary government to third party owners of PV systems at each respective year-end. The remaining increase of \$4.4 million resulted from an increase in the amount recorded for the current portion of long term debt maturing within a year in 2019 compared to 2018 primarily pertaining to SHREC Collateralized Notes, CT Solar Lease 2 LLC's debt facility used to finance its acquisition of Solar PV projects, and the CSCU CREBs bonds.

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded pension liability, as calculated under Government Accounting Standard Board (GASB) statement 68 increased \$1.2 million in fiscal year 2019 to \$25.8 million as of June 30, 2019 compared to \$24.6 million as of June 30, 2018. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank pension contributions decreased \$1.0 million to \$7.8 million as of June 30, 2019 compared to \$8.8 million as of June 30, 2018. Note 15 provides further detail regarding the pension plan. The primary government is responsible for this pension obligation

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded retiree healthcare (OPEB) liability, as calculated under Government Accounting Standard Board (GASB) statement 75 decreased \$0.9 million in fiscal year 2019 to \$24.0 million as of June 30, 2019 compared to \$24.9 million as of June 30, 2018. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank OPEB contributions decreased \$0.3 million to \$1.7 million as of June 30, 2019 compared to \$2.0 million as of June 30, 2018. Note 16 provides further detail regarding the OPEB plan. The primary government is responsible for this OPEB obligation

Long term debt increased \$34.5 million in fiscal year 2019 to \$73 million as of June 30, 2019 when compared to \$38.5 million as of June 30, 2018. During fiscal year 2019, the Green Bank issued \$38.6 million in SHREC Collateralized Notes, \$36.2 million of which is classified as long term debt, and a \$1.0 million draw on the \$3.0 million Kresge loan facility. These increases in long term debt are partially offset by repayments of principal by CT Solar Lease 2 LLC of funds borrowed under its credit facility with KeyBank and Webster Bank, and reclassifications to current maturities of long term debt for the Meriden Hydro and CSCU CREBs bonds. Note 9 provides further detail regarding long term debt.

As of June 30, 2019, the Green Bank's unfunded contingent grant and loan commitments, which are obligations of the primary government, the majority of which represent PBI payments to third party owners of solar facilities as described in Note 14, totaled \$76.6 million. These grant and loan commitments are expected to be funded over the next one to six years from current and future unrestricted cash balances.

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

The following table summarizes the net position of the reporting entity at June 30, 2019 and 2018:

	2019	2018	Increase (Decrease)
Cash and cash equivalents-unrestricted	\$ 18,947	\$ 19,830	\$ (883)
Cash and cash equivalents-restricted	16,668	24,368	(7,700)
Bonds receivable	3,289	3,329	(40)
Fair value of interest rate swaps	--	171	(171)
Solar lease notes	6,303	7,267	(964)
Promissary notes	3,508		3,508
Program loans	68,557	45,664	22,893
Capital assets, net	80,523	73,417	7,106
Other assets	13,233	11,926	1,307
<b>Total Assets</b>	<b>211,028</b>	<b>185,972</b>	<b>25,056</b>
<b>Deferred Outflows of Resources</b>			
Deferred amount for pensions	7,756	8,779	(1,023)
Deferred amount for OPEB	1,732	1,999	(267)
Deferred amount for asset retirement obligations	2,828	2,928	(99)
Deferred payments to State of Connecticut	--	14,000	(14,000)
Total deferred outflows of resources	12,317	27,706	(15,389)
Current liabilities	16,653	10,975	5,678
Unearned revenue	880	3,144	(2,264)
Pension liabilities	25,805	24,636	1,169
OPEB liabilities	24,000	24,876	(875)
Payment to State of Connecticut	--	14,000	(14,000)
Other long term liabilities	4,196	5,516	(1,320)
Fair value of interest rate swap	523	--	523
Long term debt, less current maturities	73,029	38,532	34,497
Total liabilities	145,086	121,679	23,408
<b>Deferred Inflows of Resources</b>			
Deferred amount for pensions	82	47	35
Deferred amount for OPEB	1,896	625	1,271
Total deferred inflows of resources	1,978	672	1,306
Invested in capital assets	3,794	2,251	1,543
Restricted Net Position:			
Non-expendable	66,902	66,496	406
Restricted - energy programs	11,537	19,250	(7,713)
Unrestricted	(5,951)	3,328	(9,279)
<b>Total Net Position</b>	<b>\$ 76,282</b>	<b>\$ 91,325</b>	<b>\$ (15,043)</b>

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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### *CHANGES IN NET POSITION*

Operating revenues increased by \$4.8 million to \$41.7 million as of June 30, 2019 as compared to \$36.9 million as of June 30, 2018. Remittances to the primary government from utility companies representing the one mil per kilowatt hour charge to each end use customer of electric services in the State of Connecticut increased \$151,501 to \$26.1 million for the fiscal year ended June 30, 2019 as compared to \$25.9 million for the fiscal year ending June 30, 2018. Sales of Renewable Energy Credits (RECs) increased \$2.8 million to \$6.5 million in 2019 compared to \$3.7 million in 2018 primarily as a result of the inclusion of sales of RECs for Tranche 2 systems to the two public utility companies in Connecticut. Fiscal year 2018 only included sales of RECs for Tranche 1 systems. Proceeds received by the primary government from quarterly Regional Greenhouse Gas Initiative (RGGI) auctions increased \$0.9 million year over year with proceeds of \$2.1 million in fiscal year 2019 compared to proceeds of \$1.3 million in fiscal year 2018. The increase in proceeds can primarily be attributed to increasing auction clearing prices, despite the continued diversion of proceeds earmarked for the Green Bank into the State of Connecticut's general fund to meet projected budget shortfalls. Other income increased \$1.0 million to \$4.2 million in 2019 compared to \$3.2 million in 2018 primarily due to commencing of PPA billings for CSCU solar PV systems as well as one-time development fees paid by a third party system purchaser.

Total payments of grants and incentives to commercial, not for profit, municipal and residential owners by the primary government to install either solar PV systems or energy efficiency measures decreased \$3.2 million to \$14.7 million in fiscal year 2019 compared to \$17.9 million for the fiscal year 2018. The decrease is primarily due to lower interest rate buy downs related to the termination of the Smart-e buy down program. PBI payments comprised the largest component of incentives paid out in both these years.

Program administration expenses increased \$613,000 to \$17.5 million in fiscal 2019 from \$16.9 million in fiscal 2018, a 1% increase. General and administrative costs increased by \$91,000 to \$5.7 million in fiscal year 2019 from \$5.6 million in fiscal year 2018, a 1.6% increase. Included in general and administrative costs for 2019 and 2018 is \$2.8 million and \$2.2 million respectively for the non-cash GASB 68 pension expense and GASB 75 OPEB expense allocated to the Green Bank by the State of Connecticut which is not an expense that is controllable by Green Bank management. General and Administrative expense excluding these non-cash charges for 2019 and 2018 were \$2.9 million and \$3.4 million, respectively.

Interest earned on program investments and bank deposits increased \$693,940 in fiscal 2019 to \$4.3 million compared to \$3.6 million in fiscal 2018 as a result of increased loans made in the Green Bank's investment portfolio, including interest from the repurchase of the Hannon Armstrong portfolio. Interest as a revenue source is expected to continue to increase in future years as the Green Bank expands its investment portfolio. Interest expense increased \$595,060 to \$2.0 million from \$1.4 million due to interest on the SHREC Collateralized Notes as well as the CREBs bonds. Provision for loan losses increased \$2.5 million to \$2.9 million in fiscal 2019 from \$0.4 million in fiscal 2018. The increase is due to a larger CPACE reserve required as a result of a larger portfolio, which includes the Hannon Armstrong repurchase, as well as increased program loan investments. Unrealized gain / (loss) on interest rate swaps decreased \$1.4 million to \$(0.7) million in fiscal 2019 from \$0.7 million in fiscal 2018 due to fluctuations in interest rates.

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

The following table summarizes the changes in net position between June 30, 2019 and 2018:

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

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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### FINANCIAL HIGHLIGHTS OF FISCAL 2018

#### **NET POSITION**

The Green Bank's net position, which is reflective of the reporting entity's overall financial position, decreased year over year. Net position as of June 30, 2018, as restated, and 2017 was \$91.3 million and \$106.7 million, respectively, a decrease of \$15.4 million. The Green Bank's net position as of June 30, 2017 was restated from \$128.7 million to \$106.7 million, a decrease of \$22.0 million, to adjust net position for the implementation of Government Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Post Employment Benefits other than Pensions*. Note 16 provides further analysis on the effect of this implementation on the Green Bank's net position. The components of net position show that unrestricted net position decreased to \$3.3 million as of June 30, 2018, restated for warranty expense, as compared to \$32.5 million as of June 30, 2017, restated for GASB 75, a decrease of \$29.2 million. Contributing to this decrease in unrestricted net position was a transfer of a portion of the primary government's available unrestricted cash balances into restricted cash balances to support the maintenance of loan loss reserves, interest rate buydowns, contractual obligations under the Clean Renewable Energy Bond and contractual obligations to maintain collateral accounts to support loan guarantees. This transfer is reflected in the component of net position designated as net position restricted for energy programs, which increased \$2.4 million from \$16.8 million as of June 30, 2017 to \$19.2 million as of June 30, 2018. Restricted net position energy programs as of June 30, 2017 included approximately \$2.9 in proceeds received upon the issuance of Clean Renewable Energy Bonds (CREBs) by the Green Bank which the Green Bank, through its component unit, CGB Meriden Hydro LLC, used to purchase a hydro-electric facility in fiscal year 2018 from the facility's developer in a sale-lease back transaction. Restricted net position energy programs as of June 30, 2018 included \$9.1 million in proceeds received from the issuance of CREBs which will be used in fiscal 2019 to construct solar PV facilities on campuses in the State of Connecticut's system of universities and colleges. Note 17 Restricted Net Position provides a breakout by dollar amount of cash balances restricted for these programs. Also contributing to the decrease in unrestricted net position was payment of \$14 million to the State of Connecticut in fiscal 2018 and the increase in pension and OPEB liabilities of \$0.4 million.

Green Bank assets decreased \$2.3 million in fiscal year 2018 to \$186 million. As of June 30, 2017, assets totaled \$188.3 million. This was primarily the result of a decrease in cash balances of \$15 million and the completion and sale of Solar PV projects by CEFIA Holdings LLC of \$ 6.4 million. These decreases were offset by an increase of \$3.5 million in program loans made by the primary government to support renewable energy installations and energy efficiency upgrades for both residential and commercial property owners in Connecticut and a net increase in investments in capital assets of \$11.9 million pertaining to the purchase of the hydroelectric facility in Meriden Connecticut by the primary government and the purchase of commercial solar PV facilities by CT Solar Lease 3 LLC.

Investments in capital assets net of depreciation increased from \$61.5 million as of June 30, 2017 to \$73.4 million as of June 30, 2018, an increase of \$11.9 million. This increase was primarily the result of the purchase and construction of commercial solar PV systems by CT Solar Lease 3 LLC. The electricity generated by these facilities will be sold through power purchase agreements to third party commercial, not for profit and municipal customers. During fiscal year 2018 the primary government also placed in service the Hydroelectric facility. During fiscal 2017, CT Solar lease 2 completed its acquisition of both residential and commercial solar PV systems which comprise the remaining balance in capital assets. Note 12 provides further detail regarding investments in capital assets.

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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Unrestricted cash and cash equivalents decreased \$17.3 million to \$19.8 million as of June 30, 2018 compared to \$37.1 million as of June 30, 2017 and restricted cash and cash equivalents increased \$2.3 million to \$24.4 million as of June 30, 2018 from \$22.1 million as of June 30, 2017. The net decrease in unrestricted cash was primarily the result of the transfer of \$14 million to the State of Connecticut during the last month of fiscal year 2018. The net increase in restricted cash was primarily the result of the receipt of a \$1.5 grant to establish a health and safety revolving loan fund in fiscal 2019.

Green Bank liabilities increased by \$25.3 million in fiscal year 2018 to \$121.7 million as of June 30, 2018 from \$96.4 million as of June 30, 2017. Current liabilities, comprised of current maturities of long term debt, accounts payable and accrued expenses decreased \$2.2 million to \$11 million as of June 30, 2018 compared to \$13.2 million as of June 30, 2017. Accounts payable and accrued expenses increased \$0.3 million from \$8.7 million in 2017 to \$9.0 million in 2018 primarily as a result of an increase in accrued warranty expenses of \$2.5 million due to a restatement. This was partially offset by a decrease in accrued performance-based incentives payable by the primary government to third party owners of PV systems at each respective year-end. Contributing to this decrease was a liability of \$1.7 million representing the buyout of future PBI obligations to third party owners of solar PV systems which was paid out in fiscal year 2018. The remaining decrease of \$0.8 million resulted from a decrease in the amount recorded for the current portion of long term debt maturing within a year in 2018 compared to 2017 primarily pertaining to CT Solar Lease 2 LLC's debt facility used to finance its acquisition of Solar PV projects.

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded pension liability, as calculated under Government Accounting Standard Board (GASB) statement 68 decreased \$0.6 million in fiscal year 2018 to \$24.6 million as of June 30, 2018 compared to \$25.2 million as of June 30, 2017. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank pension contributions decreased \$1.2 million to \$8.8 million as of June 30, 2018 compared to \$10 million as of June 30, 2017. Note 15 provides further detail regarding the pension plan. The primary government is responsible for this pension obligation

The Green Bank's allocation of the State of Connecticut State Employee Retirement System unfunded retiree healthcare (OPEB) liability, as calculated under Government Accounting Standard Board (GASB) statement 75 increased \$1.1 million in fiscal year 2018 to \$24.9 million as of June 30, 2018 compared to \$23.8 million as of June 30, 2017. The related Deferred Outflows of Resources, which represents timing differences in plan earnings, assumptions and Green Bank OPEB contributions increased \$0.1 million to \$2.0 million as of June 30, 2018 compared to \$1.9 million as of June 30, 2017. Note 16 provides further detail regarding the OPEB plan. The primary government is responsible for this OPEB obligation

Long term debt increased \$8.8 million in fiscal year 2018 to \$38.5 million as of June 30, 2018 when compared to \$29.7 million as of June 30, 2017. During fiscal year 2018, the Green Bank issued \$9.1 million of Clean Renewable Energy Bonds. The proceeds from these bonds will be used by the Green Bank to construct solar PV facilities on various campuses of colleges and universities owned by the State of Connecticut. During fiscal year 2018 the Green Bank borrowed \$1 million under a short term working capital loan facility secured by the proceeds from the sale of renewable energy credits to public utilities located within the State of Connecticut. These increases in long term debt are offset by repayments of principal by CT Solar Lease 2 LLC of funds borrowed under its credit facility with KeyBank and Webster Bank. Note 9 provides further detail regarding long term debt.

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

As of June 30, 2018, the Green Bank's unfunded contingent grant and loan commitments, which are obligations of the primary government, the majority of which represent PBI payments to third party owners of solar facilities as described in Note 14, totaled \$62.5 million. These grant and loan commitments are expected to be funded over the next one to six years from current and future unrestricted cash balances.

The following table summarizes the net position of the reporting entity at June 30, 2018 and 2017:

**Net Position**  
(in thousands)

	<u>2018</u>	<u>2017</u>	<u>Increase (Decrease)</u>
Cash and cash equivalents-unrestricted	\$ 19,830	\$ 37,148	\$ (17,318)
Cash and cash equivalents-restricted	24,368	22,063	2,305
Bonds receivable	3,329	3,329	--
Fair value of interest rate swaps	171	--	171
Solar lease notes	7,267	8,113	(846)
Program loans	45,664	42,206	3,458
Capital assets, net	73,417	61,510	11,907
Other assets	11,926	13,937	(2,011)
<b>Total Assets</b>	<u>185,972</u>	<u>188,306</u>	<u>(2,334)</u>
<b>Deferred Outflows of Resources</b>			
Deferred amount for pensions	8,779	9,978	(1,199)
Deferred amounts for OPEB	1,999	1,856	143
Deferred amounts for asset retirement oblig	2,928	2,947	(19)
Deferred payments to State of Connecticut	14,000	--	14,000
Total deferred outflows of resources	<u>27,706</u>	<u>14,781</u>	<u>12,925</u>
Current liabilities	10,975	13,153	(2,178)
Unearned revenue	3,144	872	2,272
Pension liabilities	24,636	25,245	(609)
OPEB liabilities	24,876	23,804	1,072
Payments to State of Connecticut	14,000	--	14,000
Other long term liabilities	5,516	3,020	2,496
Fair value of interest rate swap	--	541	(541)
Long term debt, less current maturities	38,532	29,737	8,795
Total liabilities	<u>121,679</u>	<u>96,372</u>	<u>25,307</u>
<b>Deferred Inflows of Resources</b>			
Deferred amount for pensions	47	--	47
Deferred amount for OPEB	625	--	--
Total deferred inflows of resources	<u>672</u>	<u>--</u>	<u>672</u>
Invested in capital assets	2,251	1,388	863
Restricted Net Position:			
Non-expendable	66,496	55,975	10,521
Restricted - energy programs	19,250	16,844	2,406
Unrestricted	3,328	32,509	(29,181)
<b>Total Net Position</b>	<u>\$ 91,325</u>	<u>\$ 106,716</u>	<u>\$ (15,391)</u>

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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### *CHANGES IN NET POSITION*

Operating revenues increased by \$2.9 million to \$36.9 million as of June 30, 2018 as compared to \$34.0 million as of June 30, 2017. Continuing a trend in recent years, remittances to the primary government from utility companies representing the one mil per kilowatt hour charge to each end use customer of electric services in the State of Connecticut decreased \$461,000 to \$25.9 million for the fiscal year ended June 30, 2018 as compared to \$26.4 million for the fiscal year ending June 30, 2017. Sales of Renewable Energy Credits (RECs) increased \$1.1 million to \$3.7 million in 2018 compared to \$2.6 million in 2017 primarily as a result of the commencement of sales of RECs to the two public utility companies in Connecticut. Proceeds received by the primary government from quarterly Regional Greenhouse Gas Initiative (RGGI) auctions declined \$1.1 million year over year with proceeds of \$1.3 million in fiscal year 2018 compared to proceeds of \$2.4 million in fiscal year 2017. The decrease in proceeds can primarily be attributed to the continued diversion of proceeds earmarked for the Green Bank into the State of Connecticut's general fund to meet projected budget shortfalls. During fiscal 2018 CEFIA Holdings LLC, a developer of solar PV facilities sold \$2.8 million of partially constructed projects to a third party.

Total payments of grants and incentives to commercial, not for profit, municipal and residential owners by the primary government to install either solar PV systems or energy efficiency measures increased \$846,000 to \$17.9 million in fiscal year 2018 compared to \$17.1 million for the fiscal year 2017. PBI payments comprised the largest component of incentives paid out in both these years.

Program administration expenses decreased \$59,000 to \$16.9 million in fiscal 2018 from \$16.8 million in fiscal 2017, a 0.4% decrease. Included in program administration expenses is the non-cash depreciation expense for Solar PV capital assets acquired by CT Solar Lease 2 LLC and CT Solar Lease 3 LLC of \$2.8 million in fiscal 2018 and \$2.3 million in fiscal 2017. General and administrative costs decreased by \$94,000 to \$5.63 million in fiscal year 2018 from \$5.73 million in fiscal year 2017, a 1.7% decrease. Included in general and administrative costs for 2018 and 2017 is \$2.2 million and \$1.7 million respectively for the non-cash GASB 68 pension expense and GASB 75 OPEB expense allocated to the Green Bank by the State of Connecticut which is not an expense that is controllable by Green Bank management. General and Administrative expense excluding these non-cash charges for 2018 and 2017 were \$3.1 million and \$4 million, respectively, representing a decrease of \$867,000 or 21.7%.

Interest earned on program investments and bank deposits increased \$488,000 in fiscal 2018 to \$3.6 million compared to \$3.1 million in fiscal 2017 as a result of increased loans made in the Green Bank's investment portfolio. Interest as a revenue source is expected to continue to increase in future years as the Green Bank expands its investment portfolio. Interest expense increased \$167,000 to \$1.39 million from \$1.22 million as borrowings have increased to finance its leasing programs. Capital contributions to CT SL2 LLC and CT SL3 LLC by their investor member decreased \$4.2 million to \$2.2 million in fiscal 2018 from \$6.4 million in fiscal year 2017. Capital contributions from the investor member are received as projects are completed. As of June 30, 2017, all capital contributions to CT SL2 LC due from the investor member have been received.



# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

The following table summarizes the changes in net position between June 30, 2018 and 2017:

**Changes in Net Position**  
(in thousands)

	<u>2018</u>	<u>2017</u>	<u>Increase (Decrease)</u>
<b>Revenues</b>			
Utility remittances	\$ 25,943	\$ 26,404	\$ (461)
Energy system sales	2,782	--	2,782
REC sales	3,660	2,571	1,089
Other revenues	4,497	4,992	(495)
Total revenues	<u>36,882</u>	<u>33,967</u>	<u>2,915</u>
<b>Operating Expenses</b>			
Cost of goods sold - energy systems	2,998	--	2,998
Grant and incentive payments	17,930	17,085	845
Program administration expenses	16,883	16,824	59
General and administrative expenses	5,631	5,725	(94)
Total operating expenses	<u>43,442</u>	<u>39,634</u>	<u>3,808</u>
<b>Operating Income</b>	(6,560)	(5,667)	(893)
<b>Non-Operating Revenues (Expenses)</b>			
Interest earned	3,632	3,144	488
Interest expense	(1,389)	(1,222)	(167)
Investment loss	(510)	(94)	(416)
Unrealized loss on investment	--	(1,000)	1,000
Unrealized gain (loss) on interest rate swap	712	1,087	(375)
Provision for loan losses	(362)	(956)	594
Capital contribution by member	2,176	6,446	(4,270)
Distribution to member	(540)	(437)	(103)
Payments to State of Connecticut	(14,000)	--	(14,000)
<b>Net Change</b>	(16,841)	1,301	(19,039)
<b>Net Position at Beginning of Year</b>	<u>108,166</u> *	<u>105,415</u>	<u>2,751</u>
<b>Net Position at End of Year</b>	<u>\$ 91,325</u>	<u>\$ 106,716</u>	<u>\$ (15,391)</u>

\* Restated (see Footnote 20)

### REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of the Green Bank's finances. Questions concerning any of the information provided in this report or request for additional financial information should be addressed to the Office of Finance and Administration, 845 Brook Street, Rocky Hill, Connecticut 06067.

# **BASIC FINANCIAL STATEMENTS**

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

**CONNECTICUT GREEN BANK**  
**CONSOLIDATING STATEMENT OF NET POSITION**  
**JUNE 30, 2019**

(with summarized totals for the year ended June 30, 2018)

	Discretely Presented Component Units					2019 Total Reporting Entity	2018 Total Reporting Entity
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Eliminating Entries		
<b>Assets</b>							
<b>Current Assets</b>							
Cash and cash equivalents	\$ 17,053,926	\$ 1,452,169	\$ 121,858	\$ 319,261	\$	\$ 18,947,214	\$ 19,830,102
Accounts receivable	1,657,593	60,511		56,886		1,774,990	1,018,419
Utility remittance receivable	1,893,965					1,893,965	2,377,065
Other receivables	2,258,333	531,214		215,233		3,004,780	1,641,354
Due from component units	39,977,711	500,972	7,923,276	1,989	(48,403,948)	-	-
Prepaid expenses and other assets	1,448,354	379,843		17,907		1,846,104	1,847,848
Current maturities of prepaid warranty management		259,148				259,148	259,148
Current portion of solar lease notes	942,056					942,056	908,541
Current portion of SBEA promissory notes	1,709,491					1,709,491	
Current portion of program loans	3,756,932					3,756,932	2,138,512
Total current assets	<u>70,698,361</u>	<u>3,183,857</u>	<u>8,045,134</u>	<u>611,276</u>	<u>(48,403,948)</u>	<u>34,134,680</u>	<u>30,020,989</u>
<b>Noncurrent Assets</b>							
Portfolio investments	1					1	1
Fair value of interest rate swap						-	171,478
Bonds receivable	3,288,656					3,288,656	3,328,530
Prepaid warranty management, less current portion		3,984,883				3,984,883	4,234,756
Solar lease notes, less current portion	5,361,206					5,361,206	6,358,184
SBEA promissory notes, less current portion	1,799,007					1,799,007	
Program loans, less current portion	64,800,014					64,800,014	43,525,021
Renewable energy credits	468,736					468,736	547,556
Investment in component units	100		31,264,299		(31,264,399)	-	-
Capital assets, net of depreciation and amortization	12,496,472	65,235,333		12,110,580	(9,319,345)	80,523,040	73,417,221
Restricted assets:							
Cash and cash equivalents	11,924,958	4,659,839	83,000			16,667,797	24,368,185
Total noncurrent assets	<u>100,139,150</u>	<u>73,880,055</u>	<u>31,347,299</u>	<u>12,110,580</u>	<u>(40,583,744)</u>	<u>176,893,340</u>	<u>155,950,932</u>
<b>Total Assets</b>	<u>170,837,511</u>	<u>77,063,912</u>	<u>39,392,433</u>	<u>12,721,856</u>	<u>(88,987,692)</u>	<u>211,028,020</u>	<u>185,971,921</u>
<b>Deferred Outflows of Resources</b>							
Deferred amount for pensions	7,756,235					7,756,235	8,778,670
Deferred amount for OPEB	1,732,147					1,732,147	1,999,011
Deferred amount for asset retirement obligations		2,250,156		578,305		2,828,461	2,927,687
Deferred payments to State of Connecticut						-	14,000,000
<b>Total Deferred Outflows of Resources</b>	<u>9,488,382</u>	<u>2,250,156</u>	<u>-</u>	<u>578,305</u>	<u>-</u>	<u>12,316,843</u>	<u>27,705,368</u>

The accompanying notes are an integral part of the financial statements

**CONNECTICUT GREEN BANK**  
**CONSOLIDATING STATEMENT OF NET POSITION (CONTINUED)**  
**JUNE 30, 2019**

(with summarized totals for the year ended June 30, 2018)

	Discretely Presented Component Units					2019 Total Reporting Entity	2018 Total Reporting Entity
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Eliminating Entries		
<b>Liabilities and Net Position</b>							
<b>Liabilities</b>							
Current maturities of long-term debt	\$ 3,023,595	\$ 1,479,720	\$ 94,788	\$	\$	\$ 4,598,103	\$ 847,491
Current maturities of warranty management		1,485,978				1,485,978	689,746
Accounts payable and accrued expenses	7,378,794	391,560	65,912	37,379		7,873,645	6,544,078
Due to component units	500,728	10,596,435	37,160,451	146,334	(48,403,948)	-	-
Line of credit							1,000,000
Custodial liability	2,695,326					2,695,326	1,893,526
Unearned revenue		773,530		105,982		879,512	3,144,218
Total current liabilities	13,598,443	14,727,223	37,321,151	289,695	(48,403,948)	17,532,564	14,119,059
Asset retirement obligation		3,164,981		659,374		3,824,355	3,658,993
Long-term debt, less current maturities	49,968,467	21,504,200	1,556,143			73,028,810	38,532,393
Warranty management, less current maturities		371,495				371,495	1,857,473
Fair value of interest rate swap		523,224				523,224	-
Pension liability	25,805,346					25,805,346	24,636,114
OPEB liability	24,000,448					24,000,448	24,875,889
Payable to State of Connecticut						-	14,000,000
Total noncurrent assets	99,774,261	25,563,900	1,556,143	659,374	-	127,553,678	107,560,862
<b>Total Liabilities</b>	<b>113,372,704</b>	<b>40,291,123</b>	<b>38,877,294</b>	<b>949,069</b>	<b>(48,403,948)</b>	<b>145,086,242</b>	<b>121,679,921</b>
<b>Deferred Inflows of Resources</b>							
Deferred amount for pensions	80,906					80,906	47,042
Deferred amount for OPEB	1,895,599					1,895,599	624,950
Total deferred inflows of resources	1,976,505	-	-	-	-	1,976,505	671,992
<b>Net Position</b>							
Invested in capital assets	2,511,829	1,330,432		121,106	(168,967)	3,794,400	2,250,706
Restricted Net Position:							
Nonexpendable		60,294,483		15,757,514	(9,150,378)	66,901,619	66,496,304
Restricted for energy programs	11,407,587	46,598	83,000			11,537,185	19,250,169
Unrestricted (deficit)	51,057,268	(22,648,568)	432,139	(3,527,528)	(31,264,399)	(5,951,088)	3,328,197
<b>Total Net Position</b>	<b>\$ 64,976,684</b>	<b>\$ 39,022,945</b>	<b>\$ 515,139</b>	<b>\$ 12,351,092</b>	<b>\$ (40,583,744)</b>	<b>\$ 76,282,116</b>	<b>\$ 91,325,376</b>

The accompanying notes are an integral part of the financial statements

**CONNECTICUT GREEN BANK**  
**CONSOLIDATING STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN NET POSITION**  
**FOR THE YEAR ENDED JUNE 30, 2019**  
(with summarized totals for the year ended June 30, 2018)

	Discretely Presented Component Units					2019 Total Reporting Entity	2018 Total Reporting Entity
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Eliminations		
<b>Operating Revenues</b>							
Utility remittances	\$ 26,094,682	\$	\$	\$	\$	\$ 26,094,682	\$ 25,943,182
Grant revenue	200,779					200,779	81,952
RGGI auction proceeds	2,130,255					2,130,255	1,250,260
Energy system sales	4,833,646				(2,038,310)	2,795,336	2,782,406
REC sales	5,348,537	738,153		402,789		6,489,479	3,659,520
Other income	1,321,358	3,202,262	176,938	373,906	(1,062,130)	4,012,334	3,164,336
Total operating revenues	<u>39,929,257</u>	<u>3,940,415</u>	<u>176,938</u>	<u>776,695</u>	<u>(3,100,440)</u>	<u>41,722,865</u>	<u>36,881,656</u>
<b>Operating Expenses</b>							
Cost of goods sold - energy systems	4,601,431				(1,724,391)	2,877,040	2,997,798
Grants and incentive programs	15,598,111				(926,361)	14,671,750	17,930,437
Program administration expenses	13,586,373	3,517,018	223,512	513,289	(344,261)	17,495,931	16,882,804
General and administrative expenses	5,484,608	274,833	4,600	94,125	(135,769)	5,722,397	5,630,001
Total operating expenses	<u>39,270,523</u>	<u>3,791,851</u>	<u>228,112</u>	<u>607,414</u>	<u>(3,130,782)</u>	<u>40,767,118</u>	<u>43,441,040</u>
<b>Operating Income (Loss)</b>	<u>658,734</u>	<u>148,564</u>	<u>(51,174)</u>	<u>169,281</u>	<u>30,342</u>	<u>955,747</u>	<u>(6,559,384)</u>
<b>Nonoperating Revenue (Expenses)</b>							
Interest income - promissory notes	3,907,759	1,736				3,909,495	3,293,338
Interest income - short-term cash deposits	400,407	15,005	585	261		416,258	338,476
Interest expense long-term debt	(772,225)	(1,168,918)	(42,359)			(1,983,502)	(1,388,869)
Interest income - component units	64,544		48,129		(112,673)	-	-
Interest expense - component units	(429)	(112,673)			112,673	(429)	-
Debt issuance costs	(1,738,746)					(1,738,746)	-
Payments to State of Connecticut	(14,000,000)					(14,000,000)	(14,000,000)
Distributions to member		(510,142)		(78,521)		(588,663)	(540,171)
Distributions to former member	(1,000)					(1,000)	-
Realized and unrealized gain (loss) on investments	(104,466)					(104,466)	(510,207)
Unrealized gain (loss) on interest rate swap		(694,702)				(694,702)	712,355
Provision for loan losses	(2,908,974)					(2,908,974)	(361,711)
Total nonoperating revenue (expenses)	<u>(15,153,130)</u>	<u>(2,469,694)</u>	<u>6,355</u>	<u>(78,260)</u>	<u>-</u>	<u>(17,694,729)</u>	<u>(12,456,789)</u>
<b>Change in Net Position before Capital Contributions</b>	<u>(14,494,396)</u>	<u>(2,321,130)</u>	<u>(44,819)</u>	<u>91,021</u>	<u>30,342</u>	<u>(16,738,982)</u>	<u>(19,016,173)</u>
Capital contributions				2,855,179	(1,159,457)	1,695,722	2,175,941
<b>Change in Net Position</b>	<u>(14,494,396)</u>	<u>(2,321,130)</u>	<u>(44,819)</u>	<u>2,946,200</u>	<u>(1,129,115)</u>	<u>(15,043,260)</u>	<u>(16,840,232)</u>
<b>Net Position - Beginning of Year, as restated</b>	<u>79,471,080</u>	<u>41,344,075</u>	<u>559,958</u>	<u>9,404,892</u>	<u>(39,454,629)</u>	<u>91,325,376</u>	<u>108,165,608</u>
<b>Net Position - End of Year</b>	<u>\$ 64,976,684</u>	<u>\$ 39,022,945</u>	<u>\$ 515,139</u>	<u>\$ 12,351,092</u>	<u>\$ (40,583,744)</u>	<u>\$ 76,282,116</u>	<u>\$ 91,325,376</u>

The accompanying notes are an integral part of the financial statements

**CONNECTICUT GREEN BANK**  
**CONSOLIDATING STATEMENT OF CASH FLOWS**  
**FOR THE YEAR ENDED JUNE 30, 2019**  
(with summarized totals for the year ended June 30, 2018)

	Discretely Presented Component Units						
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Eliminating Entries	2019 Total Reporting Entity	2018 Total Reporting Entity
<b>Cash Flows from Operating Activities</b>							
Sales of energy systems	\$ 6,030,736	\$	\$	\$	\$ (3,235,400)	\$ 2,795,336	\$ 1,364,406
Sales of Renewable Energy Credits	5,316,520	669,652		358,684		6,344,856	3,534,127
Utility company remittances	26,577,782					26,577,782	26,073,775
Grants	(1,316,000)					(1,316,000)	1,587,595
RGGI auction proceeds	1,188,912					1,188,912	965,534
Other income	1,256,241	1,578,119	176,938	333,007	(1,062,130)	2,282,175	1,287,049
Lease payments received		1,455,778				1,455,778	1,397,663
Program administrative expenses	(13,493,001)	(1,130,582)	(223,512)	(120,582)		(14,967,677)	(11,931,253)
Grants, incentives and credit enhancements	(19,568,405)	1,080			926,361	(18,640,964)	(19,909,962)
Purchases of energy equipment	(4,027,221)					(4,027,221)	(3,656,498)
General and administrative expenditures	(3,019,260)	(283,387)	(4,600)	20,501	135,769	(3,150,977)	(5,112,457)
Net cash provided by (used in) operating activities	(1,053,696)	2,290,660	(51,174)	591,610	(3,235,400)	(1,458,000)	(4,400,021)
<b>Cash Flows from Noncapital Financing Activities</b>							
Payments to State of Connecticut	(14,000,000)					(14,000,000)	(14,000,000)
Funds received (disbursed) from escrow and custodial accounts	(1,032,896)	(213,061)		(60,591)		(1,306,548)	(181,351)
Advances to CGB component units	(909,834)	5,901	900,000	3,933		-	-
Advances repaid (disbursed) to third party capital providers	(1,542,548)					(1,542,548)	(126,729)
Advances from CGB and component units	1,989			(1,989)		-	-
Repayments of advances (to) from component units	10,933	(10,933)				-	-
Net cash provided by (used in) noncapital financing activities	(17,472,356)	(218,093)	900,000	(58,647)	-	(16,849,096)	(14,308,080)
<b>Cash Flows from Capital and Related Financing Activities</b>							
Purchase of capital assets	(7,404,070)			(3,235,400)	3,235,400	(7,404,070)	(3,932,367)
Disposals of capital assets	3,112					3,112	-
Proceeds from long-term debt	39,528,757					39,528,757	10,101,729
Repayment of long-term debt	(1,505,389)	(681,547)	(94,791)			(2,281,727)	(2,098,105)
Debt issuance costs	(1,738,746)					(1,738,746)	-
Interest expense	(667,891)	(1,153,280)	(1,979)			(1,823,150)	(1,319,895)
Capital contributions from (to) component entities			(1,159,457)	1,159,457		-	-
Capital contributions from Firststar Development, LLC				1,695,722		1,695,722	2,489,554
Return of capital to Connecticut Innovations	(1,000)					(1,000)	-
Return of capital to Firststar Development, LLC		(510,142)		(70,066)		(580,208)	(525,015)
Net cash provided by (used in) capital and related financing activities	28,214,773	(2,344,969)	(1,256,227)	(450,287)	3,235,400	27,398,690	4,715,901
<b>Cash Flows from Investing Activities</b>							
Gains and losses on investments	-					-	(8,787)
Loan losses	78,925					78,925	31,238
Return of principal on WC & program loans	(78,791)					(78,791)	6,664,612
Interest on short-term investments, cash, solar lease notes and loans	3,227,392	16,741	585	262		3,244,980	2,425,454
Purchase of SBEA loan portfolios	(3,048,996)					(3,048,996)	-
CPACE program loan disbursements	(4,486,084)					(4,486,084)	(5,932,692)
Grid Tied program loan disbursements	(110,493)					(110,493)	(829,349)
Commercial Solar Loan program disbursements	(987,960)					(987,960)	-
Residential Solar Loan program disbursements	(12,286,451)					(12,286,451)	(3,371,678)
Net cash provided by (used in) investing activities	(17,692,458)	16,741	585	262	-	(17,674,870)	(1,021,202)
<b>Net Increase (Decrease) in Cash and Cash Equivalents</b>	(8,003,737)	(255,661)	(406,816)	82,938	-	(8,583,276)	(15,013,402)
<b>Cash and Cash Equivalents - Beginning of Year</b>	36,982,621	6,367,669	611,674	236,323	-	44,198,287	59,211,689
<b>Cash and Cash Equivalents - End of Year</b>	\$ 28,978,884	\$ 6,112,008	\$ 204,858	\$ 319,261	\$ -	\$ 35,615,011	\$ 44,198,287
<b>Reconciliation of Operating Income (Loss) to Net Cash Provided by (Used in) Operating Activities:</b>							
Operating income (loss)	\$ 658,734	\$ 148,564	\$ (51,174)	\$ 169,281	\$ 30,342	\$ 955,747	\$ (6,559,384)
Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities:							
Depreciation	317,654	2,478,364		422,606		3,218,624	2,977,208
Accretion		138,850		48,625		187,475	178,542
Deferred lease revenue	(1,500,000)	(49,092)		(25,304)		(1,574,396)	82,194
Pension expense adjustment	2,225,531					2,225,531	637,154
OPEB expense adjustment	662,072					662,072	1,554,401
Changes in operating assets and liabilities:							
(Increase) decrease in operating assets	(3,904,608)	(137,835)		(18,966)	(1,918,822)	(5,980,231)	7,981,453
(Decrease) increase in operating liabilities	486,921	(288,191)		(4,632)	(1,346,920)	(1,152,822)	(11,251,589)
<b>Net Cash Provided by (Used in) Operating Activities</b>	\$ (1,053,696)	\$ 2,290,660	\$ (51,174)	\$ 591,610	\$ (3,235,400)	\$ (1,458,000)	\$ (4,400,021)

The accompanying notes are an integral part of the financial statements

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES**

**Nature of Operations**

The Connecticut Green Bank (the Green Bank) was established in July 2011 under Title 16, Sec. 16-245n of the General Statutes of the State of Connecticut as the successor entity of the Connecticut Clean Energy Fund. The Green Bank, a component unit of the State of Connecticut, was created to promote energy efficiency and investment in renewable energy sources in accordance with a comprehensive plan developed by it to foster the growth, development and commercialization of renewable energy sources and related enterprises and stimulate demand for renewable energy and deployment of renewable energy sources which serve end-use customers in the State. The Green Bank constitutes the successor agency to Connecticut Innovations Incorporated (CI), a quasi-public agency of the State of Connecticut, for the purposes of administering the Clean Energy Fund in accordance with section 4-38d of the Connecticut General Statutes and therefore the net position of such fund was transferred to the newly created Green Bank as of July 1, 2011.

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

**Prior Period Summarized Financial Information**

The basic financial statements include certain prior year summarized comparative information in total but not at the level of detail required for a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Green Bank's financial statements for the year ended June 30, 2018, from which the summarized information was derived.

**Principal Revenue Sources**

The Public Utility Regulatory Authority (PURA) assesses a charge per kilowatt-hour to each end-use customer of electric services provided by utility companies (excluding municipally owned entities) in the state, which is paid to the Green Bank and is the principal source of the Green Bank's revenue. The Green Bank may deploy the funds for loans, direct or equity investments, contracts, grants or other actions that support energy efficiency projects and research, development, manufacture, commercialization, deployment and installation of renewable energy technologies.

The Green Bank also receives a portion, currently 23%, of proceeds the State of Connecticut receives from quarterly Regional Greenhouse Gas Initiative (RGGI) auctions. These proceeds finance energy efficiency and renewable energy projects through the Green Bank's CPACE program. The Green Bank also earns both interest income and revenue from the sale of Solar Renewable Energy Credits (SREC's) generated by facilities it has financed.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Reporting Entity**

The Green Bank, as the primary government, follows the reporting requirements of Governmental Accounting Standards Board (GASB) Statement No. 61 (*The Financial Reporting Entity Omnibus - an Amendment of GASB Statements No. 14 and No. 34*) (the Statement) regarding presentation of component units. The Statement modifies certain requirements for including component units in the reporting entity, either by blending (recording their amounts as part of the primary government), or discretely presenting them (showing their amounts separately in the reporting entity's financial statements). To qualify as a blended component unit, the unit must meet one of the following criteria: 1) have substantively the same governing body as that of the primary government, and either (A) a financial benefit or burden relationship exists between the unit and the primary government, or (B) management of the primary government (below the level of the governing body) has operational responsibility of the unit; 2) the unit provides services or benefits exclusively or almost exclusively to the primary government; or 3) the unit's total debt outstanding, including leases, is expected to be repaid by resources of the primary government. A unit which fails to meet the substantively the same governing requirement may still be included as a discretely presented component unit, if the primary government has appointed the voting majority of the component unit's governance or met other criteria specified in the Statement such as whether or not it would be misleading were the entity to be excluded.

The Green Bank, as of June 30, 2019, has established nine legally separate for-profit entities whose collective purpose is to administer the Green Bank's solar energy programs. The Green Bank believes to exclude any of the entities from these financial statements would be misleading. Each entity is listed below, along with whether it is included as a blended component unit (blended) or qualifies as a discretely presented component unit (discrete) within these financial statements based on the criteria previously described.

*CEFIA Holdings LLC (blended)*

A Connecticut limited liability company (LLC), wholly owned by the Green Bank, established to acquire and develop a portfolio of commercial and residential solar facilities and, through its CT Solar Lease 2 program, to enable investment in solar photovoltaic equipment for the benefit of Connecticut homeowners, businesses, not-for-profits and municipalities (the End Users). CEFIA Holdings LLC acquires the initial title to the solar assets and contracts with independent solar installers to complete the installation of the solar assets and arrange for the leasing of the solar assets (or sale of energy under power purchase agreements) to the End Users. CEFIA Holdings LLC is also responsible for procuring insurance for the solar assets, operation and maintenance services as well as warranty management services for the ultimate owner of the solar assets, CT Solar Lease 2 LLC or CT Solar Lease 3 LLC, to which CEFIA Holdings LLC sells the residential and commercial projects before the projects are placed in service. After acquiring the residential and commercial projects, CT Solar Lease 2 LLC or CT Solar Lease 3 LLC administers the portfolio of projects with the assistance of Renew Financial Corporation. The Green Bank's Board of Directors acts as the governing authority of CEFIA Holdings LLC. The Green Bank appoints its employees to manage the operations of CEFIA Holdings LLC. The Green Bank is also financially responsible (benefit/burden) for CEFIA Holdings LLC's activities.



**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

*CT Solar Loan I LLC (blended)*

A limited liability company, wholly owned by CEFIA Holdings LLC, CT Solar Loan I LLC was established to make loans to residential property owners for the purpose of purchasing and installing solar photovoltaic equipment. The Green Bank's Board of Directors acts as the governing authority of CT Solar Loan I LLC. The Green Bank appoints its employees to manage the operations of CT Solar Loan I LLC. The Green Bank is also financially responsible (benefit/burden) for CT Solar Loan I LLC's activities.

*CEFIA Solar Services, Inc. (discrete)*

A Connecticut corporation, 100% owned by CEFIA Holdings LLC, established to share in the ownership risks and benefits derived from the leasing of solar photovoltaic and the sale of energy under power purchase agreements as managing member of CT Solar Lease 2 LLC and CT Solar Lease 3 LLC. CEFIA Solar Services, Inc. (Solar Services) has a one percent ownership interest in CT Solar Lease 2 LLC and CT Solar Lease 3 and is its managing member. Solar Services is responsible for performing all management and operational functions pursuant to the Operating Agreement of CT Solar Lease 2 LLC and of CT Solar Lease 3 LLC. The Green Bank through CEFIA Holdings LLC directly appoints the Board of Directors of Solar Services. The Board of Directors is comprised exclusively of Green Bank employees. The primary government's intent for owning a controlling interest in Solar Services is to enhance its ability to offer financing options to commercial entities and residents of Connecticut wishing to install renewable energy equipment. The Green Bank believes that to exclude Solar Services from these financial statements would be misleading.

*CT Solar Lease 2 LLC (discrete)*

A Connecticut limited liability company, CT Solar Lease 2 LLC acquires title to the residential and commercial solar projects from the developer, CEFIA Holdings LLC, using capital from its members along with non-recourse funding from participating banks. Repayment to participating banks is predicated upon the property owners' payment to CT Solar Lease 2 LLC of their obligations under leases and power purchase agreements, as well as revenue earned from production-based incentives. CT Solar Lease 2 LLC is owned ninety-nine percent (99%) by Firststar Development, LLC, a Delaware limited liability company, as the Investor Member and one percent (1%) by CEFIA Solar Services, Inc., as the Managing Member. The primary government's intent to provide management services through Solar Services is to directly enhance its ability to provide financing options to commercial entities and residents of Connecticut wishing to install renewable energy equipment. Although the Green Bank has a minority membership interest in CT Solar Lease 2 LLC, the Green Bank believes that to exclude it from these financial statements would be misleading.

As of June 30, 2017, CT Solar Lease 2 LLC has completed its acquisition of residential and commercial solar projects from the developer. All projects have been placed in service and are generating revenue. CT Solar Lease 2 LLC has also received all capital contributions required under its Operating Agreement from its members.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

*CT Solar Lease 3 LLC (discrete)*

A Connecticut limited liability company, CT Solar Lease 3 LLC acquires title to commercial solar projects from the developer, CEFIA Holdings LLC, using capital from its members. CT Solar Lease 3 LLC's primary sources of revenue will be from the sale of electricity generated by its solar PV facilities to property owners through power purchase agreements and the sale of RECs generated from facility electrical production to third parties. CT Solar Lease 3 LLC is owned ninety-nine percent (99%) by Firststar Development, LLC, a Delaware limited liability company, as the Investor Member and one percent (1%) by CEFIA Solar Services Inc., as the Managing Member. The primary government's intent to provide management services through Solar Services is to directly enhance its ability to provide financing options to commercial entities and residents of Connecticut wishing to install renewable energy equipment. Although the Green Bank has a minority membership interest in CT Solar Lease 3 LLC, the Green Bank believes that to exclude it from these financial statements would be misleading.

*CGB Meriden Hydro LLC (blended)*

On August 31, 2017, the Green Bank, through its wholly owned component unit, CGB Meriden Hydro LLC (CGB Meriden), purchased a 195 kW hydroelectric facility located in Meriden, Connecticut, from the facility's developer, Hanover Pond Hydro LLC (Hanover Pond), pursuant to a sale and leaseback agreement dated January 1, 2017 for \$3,911,706. The Green Bank utilized the proceeds of the Clean Energy Renewable Bond (CREB), \$2,957,971 issued in fiscal year 2017, to finance a portion of the total purchase price.

Hanover Pond remits to CGB Meriden a monthly lease payment equal to the monthly payment made by the City of Meriden to Hanover Pond for the purchase of electricity generated by the hydroelectric facility under a power purchase agreement dated August 14, 2014, as amended. This lease commenced on the date commercial operations began and terminates on the 30<sup>th</sup> anniversary of said date. Commercial operations began on March 7, 2017. In addition to revenues earned through its lease with Hanover Pond, CGB Meriden also receives revenues from the sale of renewable energy credits generated by the facility and sold to the local utility company under a sale and purchase contract dated July 31, 2014 which was assigned to CGB Meriden on September 18, 2017.

*CGB KFC LLC (blended)*

A Connecticut corporation, single member LLC 100% owned by Connecticut Green Bank, established on November 7, 2017 to hold the loan liability resulting from draws made on a \$3,000,000 loan facility provided by the Kresge Foundation. On December 18, 2018 CGB KCF LLC drew \$1,000,000 in funds which are being held in a Green Bank restricted cash account on behalf of CGB KCF LLC. Quarterly interest payments are made on the outstanding balance. Advances between the Green Bank and CGB KCF LLC were involved in the establishment of the loan payable and payment of interest expense. Advances were eliminated in preparing the combining and reporting entity financial statements.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

*SHREC ABS 1 (blended)*

A Delaware corporation, single member LLC 100% owned by Connecticut Green Bank, established on February 19, 2019 to be the issuer of \$38,600,000 of SHREC Collateralized Notes, Series 2019-1 ("SHREC notes"), \$36,800,000 Class A notes and \$1,800,000 Class B notes, with Bank of New York Mellon acting as trustee. The SHREC notes were sold to a single investor on April 2, 2019. The proceeds were used to retire Green Bank short-term debt, as well as to support Green Bank investment and operational activities. Quarterly payments of scheduled principal and interest for a period of 14 years are funded by billings to two Connecticut utilities for SHREC revenues generated by approximately 14,000 solar PV systems on residential rooftops. Advances between the Green Bank and SHREC ABS 1 LLC were involved in the establishment of the note, retirement of Green Bank short-term debt, as well as to pay certain organizational costs. Advances were eliminated in preparing the combining and reporting entity financial statements.

*CT Solar Lease 1 LLC (blended)*

A Connecticut corporation, single member LLC 100% owned by Connecticut Green Bank, established on April 23, 2019 to hold collateral that supports a \$5,000,000 guaranty on a line of credit with Amalgamated Bank. On May 21, 2019 the Green Bank assigned its solar lease promissory note portfolio to CT Solar Lease 1 LLC. Solar Lease 1 LLC receives note payments and maintains a loan loss reserve for the portfolio. Advances between the Green Bank and Solar Lease 1 LLC were involved in the transfer of assets and loan loss reserves. Advances were eliminated in preparing the combining and reporting entity financial statements.

Advances between the primary government (the Green Bank) and its component units, or between the component units themselves, involved establishment of funds to provide for loan loss reserves as well as pay certain organizational costs. Advances were eliminated in preparing the combining and reporting entity financial statements.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

Condensed combining information for the primary government (The Green Bank) and its six blended component units (CGB Meriden Hydro LLC, CG KCF LLC, SHREC ABS 1 LLC, CT Solar Lease I LLC, CT Solar Loan I LLC and CEFIA Holdings LLC) is presented as of June 30, 2019 as follows:

**Condensed, Combining Information - Statement of Net Position**

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease I LLC	CT Solar Loan I LLC	CEFIA Holdings LLC	Eliminating Entries	Total Primary Government
<b>Assets</b>									
<b>Current Assets</b>									
Cash and cash equivalents	\$ 7,661,708	\$ 32,735	\$	\$ 3,916,900	\$	\$ 442,807	\$ 4,999,776	\$	\$ 17,053,926
Accounts receivable	1,643,017						14,576		1,657,593
Utility remittance receivable	1,893,965								1,893,965
Other receivables	507,079				78,392	3,541	1,669,321		2,258,333
Due from component units	49,144,640		989,315	32,344,478			6,571,497	(49,072,219)	39,977,711
Prepaid expenses and other assets	1,200,256	90,604		41,667		12,966	102,861		1,448,354
Current maturities of prepaid warranty management									
Current portion of solar lease notes					942,056				942,056
Current portion of SBEA promissory notes	1,709,491								1,709,491
Current portion of program loans	3,581,377					175,555			3,756,932
Total current assets	67,341,533	123,339	989,315	36,303,045	1,020,448	634,869	13,358,031	(49,072,219)	70,698,361
<b>Noncurrent Assets</b>									
Portfolio investments	1								1
Fair value of interest rate swap									
Bonds receivable	3,288,656								3,288,656
Prepaid warranty management, less current portion									
Solar lease notes, less current portion					5,361,206				5,361,206
SBEA promissory notes, less current portion	1,799,007								1,799,007
Program loans, less current portion	62,605,770					2,194,244			64,800,014
Renewable energy credits	468,736								468,736
Investment in component units	100,100						100	(100,100)	100
Capital assets, net of depreciation and amortization	8,226,696	4,269,776							12,496,472
Restricted assets:									
Cash and cash equivalents	11,623,477					301,481			11,924,958
Total noncurrent assets	88,112,443	4,269,776	-	-	5,361,206	2,495,725	100	(100,100)	100,139,150
<b>Total Assets</b>	<b>155,453,976</b>	<b>4,393,115</b>	<b>989,315</b>	<b>36,303,045</b>	<b>6,381,654</b>	<b>3,130,594</b>	<b>13,358,131</b>	<b>(49,172,319)</b>	<b>170,837,511</b>
<b>Deferred Outflows of Resources</b>									
Deferred amount for pensions	7,756,235								7,756,235
Deferred amount for OPEB	1,732,147								1,732,147
Deferred amount for asset retirement obligations									
Deferred payments to State of Connecticut									
<b>Total Deferred Outflows of Resources</b>	<b>9,488,382</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9,488,382</b>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Condensed, Combining Information - Statement of Net Position (Continued)**

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease I LLC	CT Solar Loan I LLC	CEFIA Holdings LLC	Eliminating Entries	Total Primary Government
<b>Liabilities and Net Position</b>									
<b>Liabilities</b>									
Current maturities of long-term debt	\$ 625,017	\$	\$	2,243,000	\$	\$ 155,578	\$	\$	\$ 3,023,595
Current maturities of warranty management									
Accounts payable and accrued expenses	7,278,926	5,859		86,474		1,959	5,576		7,378,794
Due to component units	34,820,491	4,860,181			6,374,775	1,217,500	2,300,000	(49,072,219)	500,728
Line of credit									
Custodial liability	1,413,038						1,282,288		2,695,326
Unearned revenue									
Total current liabilities	44,137,472	4,866,040	-	2,329,474	6,374,775	1,375,037	3,587,864	(49,072,219)	13,598,443
Asset retirement obligation									
Long-term debt, less current maturities	11,275,043		1,000,000	36,184,757		1,508,667			49,968,467
Warranty management, less current maturities									
Fair value of interest rate swap									
Pension liability	25,805,346								25,805,346
OPEB liability	24,000,448								24,000,448
Payable to State of Connecticut									
Total noncurrent assets	61,080,837	-	1,000,000	36,184,757	-	1,508,667	-	-	99,774,261
<b>Total Liabilities</b>	<b>105,218,309</b>	<b>4,866,040</b>	<b>1,000,000</b>	<b>38,514,231</b>	<b>6,374,775</b>	<b>2,883,704</b>	<b>3,587,864</b>	<b>(49,072,219)</b>	<b>113,372,704</b>
<b>Deferred Inflows of Resources</b>									
Deferred amount for pensions	80,906								80,906
Deferred amount for OPEB	1,895,599								1,895,599
Total deferred inflows of resources	1,976,505	-	-	-	-	-	-	-	1,976,505
<b>Net Position</b>									
Invested in capital assets	1,040,384	1,471,445							2,511,829
Restricted Net Position:									
Nonexpendable									
Restricted for energy programs	9,856,186			1,249,920		301,481			11,407,587
Unrestricted (deficit)	46,850,974	(1,944,370)	(10,685)	(3,461,106)	6,879	(54,591)	9,770,267	(100,100)	51,057,268
<b>Total Net Position</b>	<b>\$ 57,747,544</b>	<b>\$ (472,925)</b>	<b>\$ (10,685)</b>	<b>\$ (2,211,186)</b>	<b>\$ 6,879</b>	<b>\$ 246,890</b>	<b>\$ 9,770,267</b>	<b>\$ (100,100)</b>	<b>\$ 64,976,684</b>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Condensed, Combining Information - Statement of Revenues, Expenses and Changes in Net Position**

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease 1 LLC	CT Solar Loan I LLC	CEFIA Holdings LLC	Eliminating Entries
<b>Operating Revenues</b>								
Utility remittances	\$ 26,094,682	\$	\$	\$	\$	\$	\$	\$
Grant revenue	200,779							
RGGI auction proceeds	2,130,255							
Energy system sales							4,833,646	
REC sales	5,348,537							
Other income	882,145	438,873				340		
Total operating revenues	34,656,398	438,873	-	-	-	340	4,833,646	-
<b>Operating Expenses</b>								
Cost of goods sold - energy systems							4,601,431	
Grants and incentive programs	15,598,111							
Program administration expenses	12,741,814	751,612		38,764		18,793	35,390	
General and administrative expenses	5,405,832	3,945		6,290	54,296	4,633	9,612	
Total operating expenses	33,745,757	755,557	-	45,054	54,296	23,426	4,646,433	-
<b>Operating Income (Loss)</b>	910,641	(316,684)		(45,054)	(54,296)	(23,086)	187,213	
<b>Nonoperating Revenue (Expenses)</b>								
Interest income - promissory notes	3,685,406				51,443	170,910		
Interest income - short-term cash deposits	328,546			61,453		417	9,991	
Interest expense long-term debt	(164,173)		(10,685)	(489,839)		(107,528)		
Interest income - component units	64,544							
Interest expense - component units							(429)	
Debt issuance costs				(1,738,746)				
Payments to State of Connecticut	(14,000,000)							
Distributions to member								
Distributions to former member							(1,000)	
Realized and unrealized gain (loss) on investments	(104,466)							
Unrealized gain (loss) on interest rate swap								
Provision for loan losses	(2,918,706)				9,732			
Total nonoperating revenue (expenses)	(13,108,849)		(10,685)	(2,167,132)	61,175	63,799	8,562	
<b>Change in Net Position before Capital Contributions</b>	(12,198,208)	(316,684)	(10,685)	(2,212,186)	6,879	40,713	195,775	
Capital contributions				1,000				(1,000)
<b>Change in Net Position</b>	(12,198,208)	(316,684)	(10,685)	(2,211,186)	6,879	40,713	195,775	(1,000)
<b>Net Position - Beginning of Year, as restated</b>	69,945,752	(156,241)				206,177	9,574,492	(99,100)
<b>Net Position - End of Year</b>	\$ 57,747,544	\$ (472,925)	\$ (10,685)	\$ (2,211,186)	\$ 6,879	\$ 246,890	\$ 9,770,267	\$ (100,100)

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Condensed, Combining Information - Statement of Cash Flows**

	CGB	CGB Meriden Hydro LLC	CGB KCF LLC	SHREC ABS 1 LLC	CT Solar Lease 1 LLC	CT Solar Loan 1 LLC	CEFIA Holdings LLC	Eliminating Entries	Total Primary Government
<b>Cash Flows from Operating Activities</b>									
Sales of energy systems	\$	\$	\$	\$	\$	\$	\$	\$	\$
Sales of Renewable Energy Credits	4,585,609			730,911			6,030,736		6,030,736
Utility company remittances	26,577,782								5,316,520
Grants	(1,316,000)								26,577,782
RGGI auction proceeds	1,188,912								(1,316,000)
Other income	817,028	438,873				340			1,188,912
Lease payments received									1,256,241
Program administrative expenses	(12,697,475)	(601,112)		(80,431)	(54,296)	(19,688)	(39,999)		(13,493,001)
Grants, incentives and credit enhancements	(13,041,051)				(6,527,354)				(19,568,405)
Purchases of energy equipment							(4,027,221)		(4,027,221)
General and administrative expenditures	(2,998,147)	(3,944)		(2,924)		(4,634)	(9,611)		(3,019,260)
Net cash provided by (used in) operating activities	3,116,658	(166,183)		647,556	(6,581,650)	(23,982)	1,953,905		(1,053,696)
<b>Cash Flows from Noncapital Financing Activities</b>									
Payments to State of Connecticut	(14,000,000)								(14,000,000)
Funds received (disbursed) from escrow and custodial accounts	(1,052,180)						19,284		(1,052,896)
Advances to CGB component units	(7,402,275)	193,714			6,448,727		(150,000)		(909,834)
Advances repaid (disbursed) to third party capital providers	66,386						(1,608,934)		(1,542,548)
Advances from CGB and component units	35,063,348		(1,000,000)	(33,075,389)			(985,970)		1,389
Repayments of advances (to) from component units	10,933								10,933
Net cash provided by (used in) noncapital financing activities	12,686,212	193,714	(1,000,000)	(33,075,389)	6,448,727		(2,725,620)		(17,472,356)
<b>Cash Flows from Capital and Related Financing Activities</b>									
Purchase of capital assets	(7,404,070)								(7,404,070)
Disposals of capital assets	3,112								3,112
Proceeds from long-term debt			1,000,000	38,528,757					39,528,757
Repayment of long-term debt	(1,106,223)			(101,000)		(298,166)			(1,505,389)
Debt issuance costs				(1,738,746)					(1,738,746)
Interest expense	(153,203)			(406,731)		(107,528)	(429)		(667,891)
Capital contributions from (to) component entities	(1,000)			1,000					
Capital contributions from Firstar Development, LLC							(1,000)		(1,000)
Return of capital to Connecticut Innovations									
Return of capital to Firstar Development, LLC									
Net cash provided by (used in) capital and related financing activities	(8,661,384)		1,000,000	36,283,280		(405,694)	(1,429)		28,214,773
<b>Cash Flows from Investing Activities</b>									
Gains and losses on investments									
Loan losses	(5,346)					73,401	10,870		78,925
Return of principal on WC & program loans	(619,490)					8,079	532,620		(78,791)
Interest on short-term investments, cash, solar lease notes and loans	3,103,561			61,453	51,443	944	9,991		3,227,392
Purchase of SBEA loan portfolios	(3,048,996)								(3,048,996)
CPACE program loan disbursements	(4,486,084)								(4,486,084)
Grid Tied program loan disbursements	(110,493)								(110,493)
Commercial Solar Loan program disbursements	(987,960)								(987,960)
Residential Solar Loan program disbursements	(12,286,451)								(12,286,451)
Net cash provided by (used in) investing activities	(18,441,259)			61,453	132,923	533,564	20,861		(17,692,458)
<b>Net Increase (Decrease) in Cash and Cash Equivalents</b>	(11,299,773)	27,531		3,916,900		103,888	(752,283)		(8,003,737)
<b>Cash and Cash Equivalents - Beginning of Year</b>	30,584,958	5,204				640,400	5,752,059		36,982,621
<b>Cash and Cash Equivalents - End of Year</b>	\$ 19,285,185	\$ 32,735	\$ -	\$ 3,916,900	\$ -	\$ 744,288	\$ 4,999,776	\$ -	\$ 28,978,884
<b>Reconciliation of Operating Income (Loss) to Net Cash Provided by (Used in) Operating Activities:</b>									
Operating income (loss)	\$ 910,641	\$ (316,684)	\$ -	\$ (45,054)	\$ (54,296)	\$ (23,086)	\$ 187,213	\$ -	\$ 658,734
Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities:									
Depreciation	145,769	171,885							317,654
Accretion									
Deferred lease revenue	(1,500,000)								(1,500,000)
Pension expense adjustment	2,225,531								2,225,531
OPEB expense adjustment	662,072								662,072
Changes in operating assets and liabilities:									
(Increase) decrease in operating assets	(460,436)	(27,086)		689,244	(6,527,354)		2,421,024		(3,904,608)
(Decrease) increase in operating liabilities	1,133,081	5,702		3,366		(896)	(654,332)		486,921
<b>Net Cash Provided by (Used in) Operating Activities</b>	\$ 3,116,658	\$ (166,183)	\$ -	\$ 647,556	\$ (6,581,650)	\$ (23,982)	\$ 1,953,905	\$ -	\$ (1,053,696)

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Measurement Focus, Basis of Accounting and Financial Statement Presentation**

All entities are enterprise funds. Enterprise funds are used to account for governmental activities that are similar to those found in the private sector in which the determination of net income is necessary or useful to sound financial administration.

**Basis of Presentation**

These financial statements are reported using the economic resources measurement focus and accrual basis of accounting. Revenues are recognized when earned, and expenses are recognized when the liability is incurred, regardless of the timing of the related cash flows.

**Revenue Recognition**

The Green Bank, in addition to utility assessments and RGGI auction income, recognizes revenue from grants as expenses are incurred.

CT Solar Loan I LLC derives revenue from interest earned on residential solar loan products.

CEFIA Holdings LLC derives revenue from the sales of photovoltaic energy systems to CT Solar Lease 2, LLC. This amount was eliminated to arrive at the total reporting entity revenue.

CEFIA Solar Services, Inc. revenue consists of an administrative fee from CT Solar Lease 2 LLC. This amount was eliminated to arrive at the total reporting entity revenue.

CT Solar Lease 2 LLC derives revenue from the following sources: operating leases, energy generation, performance based incentives (PBIs) and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

CT Solar Lease 3 LLC derives revenue from the following sources: energy generation and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

CGB Meriden Hydro derives revenue from the following sources: energy generation and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

CGB KCF LLC currently has no revenue. When solar PV and/or energy efficiency projects are developed, revenue will be derived from the following sources: energy generation, power purchase agreements and the sale of Solar Renewable Energy Certificates (SRECs) to third parties.

SHREC ABS 1 derives revenue from interest income. Although there are no operating revenues, SHREC ABS 1 LLC receives proceeds from the Green Bank from the sale of Solar Home Renewable Energy Certificates (SHRECs) to two Connecticut utilities for two tranches of approximately 14,000 rooftop PV systems. Proceeds are directed to trustee accounts and are used for quarterly bond payments on the SHREC ABS collateralized note.

CT Solar Lease 1 derives revenue from interest income from residential solar lease promissory notes secured by specific PV equipment leases (Note 6 – Solar Lease Notes Receivable).

Rental income from operating leases for residential and certain commercial scale solar facilities is recognized on a straight-line basis over the term of each underlying lease.



**CONNECTICUT GREEN BANK  
 NOTES TO FINANCIAL STATEMENTS  
 FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

Energy generation revenue will be recognized as electricity is generated, based on actual output and contractual prices set forth in long term PPAs associated with certain commercial scale facilities.

Revenue from the sale of SRECs and SHRECs to third parties is recognized upon the transfer of title and delivery of the SRECs to third parties and is derived from contractual prices set forth in SREC sale agreements associated with commercial scale facilities.

**Operating vs. Nonoperating Revenue (Expense)**

All entities distinguish operating revenues and expenses from nonoperating items. Operating revenues consist of utility customer assessments, grants for operating activities, and other revenue generated in connection with investments in clean energy programs. Operating expenses consist of operating costs, including depreciation on capital assets and grants and programs. Nonoperating revenue (expense) consists of investment earnings, and other items not considered operational by management.

**Use of Estimates**

Management uses estimates and assumptions in preparing these financial statements in accordance with accounting principles generally accepted in the United States of America. Those estimates and assumptions affect certain reported amounts and disclosures in the financial statements. Actual results could vary from the estimates that were used.

**Use of Restricted vs. Nonrestricted Resources**

When both restricted and unrestricted amounts are available for use, the policy is to use restricted resources for their intended purposes first and then unrestricted resources.

**Cash and Cash Equivalents**

Cash equivalents consist of cash and highly liquid short-term investments with an original term of 90 days when purchased and are recorded at cost, which approximates fair value.

**Capital Assets**

Capital asset acquisitions exceeding \$1,000 are capitalized at cost. Maintenance and repair expenses are charged to operations when incurred. Depreciation is computed using straight-line methods over the estimated useful lives of the assets, which range from two to thirty years. Leasehold improvements are amortized over the shorter of their useful life or the lease term.

The estimated useful lives of capital assets are as follows:

<u>Asset</u>	<u>Years</u>
Solar lease equipment	30 years
Furniture and equipment	5 years
Leasehold improvements	5 years
Computer hardware and software	2-3 years

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

For capital assets sold or otherwise disposed of, the cost and related accumulated depreciation and amortization are removed from the accounts, and any related gain or loss is reflected in income for the period.

All solar facilities are owned by CT Solar Lease 2 LLC and CT Solar Lease 3 LLC and are stated at cost and include all amounts necessary to construct them. Systems are placed in service when they are ready for use and all necessary approvals have been received from local utility companies. Additions, renewals, and betterments that significantly extend the life of an asset are capitalized. Expenditures for warranty maintenance and repairs to solar facilities are charged to expense as incurred. Solar facilities in process represent facilities which are in various stages of construction or have not yet received the necessary utility company approvals.

**Deferred Outflows/Inflows of Resources**

In addition to assets, the consolidating statement of financial position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period or periods and so will not be recognized as an outflow of resources (expense) until then. The Green Bank reports deferred outflows related to pension and OPEB in the statement of net position which result from differences between expected and actual experience, changes in assumptions or other inputs, and contributions after the measurement date. These amounts are deferred and included in pension expense and OPEB expense in a systematic and rational manner over a period equal to the average of the expected remaining service lives of all employees that are provided with benefits. **The Green Bank also reports deferred amounts related to asset retirement obligations.**

In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position or fund balance that applies to a future period or periods and so will not be recognized as an inflow of resources (revenue) until that time. The Green Bank reports deferred inflows of resources related to pensions and OPEB in the consolidated statement of net position which result from differences between expected and actual experience, changes in assumptions or other inputs. These amounts are deferred and included in pension and OPEB expense in a systematic and rational manner over a period equal to the average of the expected remaining service lives of all employees that are provided with benefits.

**Impairment of Long-Lived Assets**

CT Solar Lease 2 LLC (CT SL2) and CT Solar Lease 3 LLC (CT SL3) review their solar facilities for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. When recovery is reviewed, if the undiscounted cash flows estimated to be generated by an asset is less than its carrying amount, management compares the carrying amount of the asset to its fair value in order to determine whether an impairment loss has occurred. The amount of the impairment loss is equal to the excess of the asset's carrying value over its estimated fair value. No impairment loss was recognized by CT SL2 or CT SL3 during the fiscal year ending June 30, 2019.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Asset Retirement Obligations**

CT SL2 and CT SL3 are required to recognize their liability related to asset retirement obligations when they have the legal obligation to retire long-lived assets. Upon the expiration of operating leases or a Power Purchase Agreement's (PPA's) initial or extended terms, customers generally have the option to purchase the solar facilities at fair market value or require CT SL2 or CT SL3 to remove the solar facilities at their expense.

Asset retirement obligations are recorded in the period in which they are incurred and reasonably estimable, including those obligations for which the timing method of settlement are conditional on a future event that may or may not be in the control of CT SL2 or CT SL3. Retirement of assets may involve efforts to remove the solar facilities depending on the nature and location of the assets. In identifying asset retirement obligations, CT SL2 and CT SL3 consider identification of legally enforceable obligations, changes in existing law, estimates of potential settlement dates, and the calculation of an appropriate discount rate to be used in calculating the fair value of the obligations. For those assets where a range of potential settlement dates may be reasonably estimated, obligations are recorded. CT SL2 and CT SL3 routinely review and reassess their estimates to determine if an adjustment to the value of asset retirement obligations is required.

The aggregate carrying amount of asset retirement obligations recognized by CT SL2 and CT SL3 was \$3,824,355 and \$3,658,993 at June 30, 2019 and June 30, 2018 respectively. The following table shows changes in the aggregate carrying amount of CT SL2 and CT SL3's asset retirement obligation for the year ended June 30, 2019:

Balance - June 30, 2018	\$	3,658,993
Additional accruals		85,254
Accretion expense		80,108
Balance - June 30, 2019	\$	<u>3,824,355</u>

**Pension Accounting**

The Green Bank's proportionate share of the net pension liability and expense associated with the Green Bank's requirement to contribute to the Connecticut State Employees Retirement System (SERS) have been determined on the same basis as they are reported by SERS. Contributions made to SERS after the measurement date and prior to the Green Bank's fiscal year are reported as deferred outflows of resources.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**OPEB Accounting**

The Green Bank's proportionate share of the net OPEB liability and expense associated with the Green Bank's requirement to contribute to the State of Connecticut Other Post-Employment Benefits Program have been determined on the same basis as they are reported by State of Connecticut Other Post-Employment Benefits Program. Contributions made to the State of Connecticut Other Post-Employment Benefits Program after the measurement date and prior to the Green Bank's fiscal year are reported as deferred outflows of resources.

**Portfolio Investments**

The Green Bank carries all investments at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer liability by in an orderly transaction between market participants at the measurement date. As discussed in Note 4, the Green Bank's portfolio investments are managed by CI. Fair value is determined by CI's independent valuation committee (Committee) using United States Private Equity Valuation Guidelines promulgated by the Private Equity Investment Guidelines Group. In the absence of readily determinable market values, the Committee gives consideration to pertinent information about the companies comprising these investments, including, but not limited to, recent sales prices of the issuer's securities, sales growth, progress toward business goals and other operating data. CI has applied procedures in arriving at the estimate of the value of such securities that it believes are reasonable and appropriate. Green Bank management reserves the right to establish a reserve in addition to the reserve recommended by the Committee to further account for current market conditions and volatility. Due to the inherent uncertainty of valuation, those estimated values may differ significantly from the amounts ultimately realized from the investments, and the differences could be material. The Green Bank reports gains as realized and unrealized consistent with the practice of venture capital firms. The calculation of realized gains and losses is independent of the calculation of the net change in investment value.

All of the Green Bank's portfolio investments are uninsured against loss and unregistered, and are held in CI's name since the investments were made when the Green Bank's predecessor, the Connecticut Clean Energy Fund, was administered by CI.

**Net Position**

Net position is presented in the following three categories:

- *Investment in Capital Assets* represent capital assets, net of accumulated depreciation and amortization that are attributable to those particular assets.
- *Restricted Net Position* represent assets whose use is restricted through external restrictions imposed by creditors, grantors, contributors and the like, or through restrictions imposed by laws or through constitutional provisions or enabling legislature, and includes equity interest within the Green Bank's component units by outside entities.
- *Unrestricted Net Position* represents assets which do not meet the definition of the two preceding categories.

## **1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

### **Grants and Programs**

Expenditures for grants and programs are recorded upon the submission of invoices and other supporting documentation and approval by management. Salaries, benefits and overhead expenses are allocated to program expenses based on job functions.

### **Reclassifications**

Certain amounts in the 2018 summarized information have been reclassified to conform to the 2019 presentation.

### **Subsequent Events**

The Green Bank has performed a review of events subsequent to the statement of net position date through **October XX, 2019**, the date of the financial statements where available to be issued. No additional events requiring recording or disclosure in the financial statements were identified.

## **2. FAIR VALUE MEASUREMENTS**

The framework for measuring fair value provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements); followed by quoted prices in inactive markets or for similar assets or with observable inputs (Level 2 measurements); and the lowest priority to unobservable inputs (Level 3 measurements). In determining fair value, The Green Bank utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. The Green Bank also considers nonperformance risk in the overall assessment of fair value.

Investments are measured at fair value utilizing valuation techniques based on observable and/or unobservable inputs. Observable inputs reflect readily obtainable data from independent sources, while unobservable inputs reflect market assumptions. These inputs are classified into the following hierarchy:

#### **Level 1**

Unadjusted quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.

#### **Level 2**

Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly for substantially the full term of the asset or liability. Level 2 inputs include the following:

- Quoted prices for similar assets or liabilities in active markets
- Quoted prices for identical or similar assets or liabilities in markets that are not active
- Observable inputs other than quoted prices that are used in the valuation of the asset or liability (e.g., interest rate and yield curve quotes at commonly quoted intervals)
- Inputs that are derived principally from or corroborated by observed market data by correlation or other means

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**2. FAIR VALUE MEASUREMENTS (CONTINUED)**

**Level 3**

Unobservable inputs for the asset or liability (supported by little or no market activity). Level 3 inputs include management's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

The following table sets forth by level, within the fair value hierarchy, the Green Bank's fair value measurements at June 30, 2019:

<b>Investment Assets at Fair Value as of June 30, 2019</b>				
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
Portfolio investments	\$	\$	\$ 1	\$ 1

The following table sets forth by level, within the fair value hierarchy, the Green Bank's fair value measurements at June 30, 2018:

<b>Investment Assets at Fair Value as of June 30, 2018</b>				
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
Portfolio investments	\$	\$	\$ 1	\$ 1

There were no transfers between levels during the years ended June 30, 2019 and 2018.

**3. CASH AND CASH EQUIVALENTS**

The following is a summary of cash and cash equivalents for the reporting entity at June 30:

	<b>2019</b>	<b>2018</b>
Checking	\$ 6,573,239	\$ 6,028,624
Money market	5,821,080	7,304,157
State Treasurer's Short-Term Investment Fund	6,552,895	6,497,321
Unrestricted cash and cash equivalents	18,947,214	19,830,102
Checking - restricted	5,500,822	11,471,402
Money market - restricted	5,112,047	5,278,656
State Treasurer's Short-Term Investment Fund - restricted	6,054,928	7,618,127
Total Cash and Cash Equivalents	\$ 35,615,011	\$ 44,198,287

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**3. CASH AND CASH EQUIVALENTS (CONTINUED)**

	Cash and Cash Equivalents as of June 30, 2019				
	Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Total
Checking	\$ 5,559,529	\$ 642,875	\$ 51,835	\$ 319,000	\$ 6,573,239
Money market	4,941,502	809,294	70,023	261	5,821,080
State Treasurer's Short-Term Investment Fund	6,552,895				6,552,895
Unrestricted cash and cash equivalents	17,053,926	1,452,169	121,858	319,261	18,947,214
Restricted cash:					
Checking	4,277,822	1,140,000	83,000		5,500,822
Money market	1,592,208	3,519,839			5,112,047
State Treasurer's Short-Term Investment Fund	6,054,928				6,054,928
	<u>\$ 28,978,884</u>	<u>\$ 6,112,008</u>	<u>\$ 204,858</u>	<u>\$ 319,261</u>	<u>\$ 35,615,011</u>
	Cash and Cash Equivalents as of June 30, 2018				
	Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services, Inc.	CT Solar Lease 3 LLC	Total
Checking	\$ 5,096,905	\$ 553,541	\$ 142,236	\$ 235,942	\$ 6,028,624
Money market	5,531,511	1,302,827	469,438	381	7,304,157
State Treasurer's Short-Term Investment Fund	6,497,321				6,497,321
Unrestricted cash and cash equivalents	17,125,737	1,856,368	611,674	236,323	19,830,102
Restricted cash:					
Checking	10,471,402	1,000,000			11,471,402
Money market	1,767,355	3,511,301			5,278,656
State Treasurer's Short-Term Investment Fund	7,618,127				7,618,127
	<u>\$ 36,982,621</u>	<u>\$ 6,367,669</u>	<u>\$ 611,674</u>	<u>\$ 236,323</u>	<u>\$ 44,198,287</u>

**State Treasurer's Short-Term Investment Fund**

The State Treasurer's Short-Term Investment Fund is a Standard & Poor's AAAM investment pool of high-quality, short-term money market instruments managed by the Cash Management Division of the State Treasurer's Office and operates in a manner similar to money market mutual funds. It is the investment vehicle for the operating cash of the State of Connecticut Treasury, state agencies and authorities, municipalities, and other political subdivisions of the State. The value of the Green Bank's position in the pool is the same as the value of pool shares. Regulatory oversight is provided by an investment advisory council and the State Treasurer's Cash Management Board.

**3. CASH AND CASH EQUIVALENTS (CONTINUED)**

**Investment Maturities**

The State Treasurer’s Short-Term Investment Fund itself has no maturity date and is available for withdrawal on demand.

**Interest Rate Risk**

The Green Bank manages its exposure to declines in fair value by limiting the average maturity of its cash and cash equivalents to no more than one year. The Green Bank does not have a formal policy relating to a specific investment related risk.

**Credit Risk**

Connecticut General Statutes authorize the Green Bank to invest in obligations of the U.S. Treasury including its agencies and instrumentalities, commercial paper, banker’s acceptance, repurchase agreements and the State Treasurer’s Short-Term Investment Fund.

Investment ratings for the Fund’s investment are as follows:

	<u>Standard &amp; Poor's</u>
State Treasurer's Short-Term Investment Fund	AAAm

**Concentration of Credit Risk**

The Green Bank’s investment policy does not limit the investment in any one investment vehicle. The State Treasurer’s Short-term Investment Fund is not subject to this disclosure.

**Custodial Credit Risk - Deposits**

In the case of deposits, this represents the risk that, in the event of a bank failure, the Green Bank’s deposits may not be returned to it. The Green Bank does not have a deposit policy for custodial credit risk. As of June 30, 2019 and 2018, \$19,547,165 and \$27,892,085, respectively, of the Green Bank’s bank balances were exposed to custodial credit risk. Primary government consisted of \$13,849,709 and \$21,641,517 as of June 30, 2019 and 2018, respectively. CT Solar Lease 2, LLC consisted of \$5,628,195 and \$5,888,894 as of June 30, 2019 and 2018, respectively. CEFIA Solar Services, Inc. consisted of \$- and \$ 361,674 as of June 30, 2019 and 2018, respectively. CT Solar Lease 3. LLC consisted of \$69,261 and \$- as of June 30, 2019 and 2018, respectively. Funds held by banks on behalf of the Green Bank, CT Solar Lease 2 LLC and CEFIA Solar Services included contractual requirements to maintain \$11,346,921 in deposits with financial institutions participating in various lease and loan programs, representing loan loss and lease maintenance reserves and guaranty pledge accounts.

**Custodial Credit Risk - Investments**

For an investment, this represents the risk that, in the event of the failure of the counterparty, the Green Bank will not be able to recover the value of the investment. The Green Bank does not have a policy relating to the credit risk of investments. As of June 30, 2019 and 2018, the Green Bank had no reportable credit risk.



**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**4. PORTFOLIO INVESTMENTS**

The former Connecticut Clean Energy Fund (CCEF) invested in emerging technology companies as equity and debt investments in Operational Demonstration projects. Based on a memorandum of understanding between the Green Bank and CI, CI manages these investments on behalf of the Green Bank.

**5. BONDS RECEIVABLE**

**Subordinate Series 2014B-1 and 2014C-1**

This Series represents two \$800,000 bonds received in connection with the Green Bank's May 2014 sale of C-PACE loans to Clean Fund Holdings, LLC (CFH). CFH paid the Green Bank approximately \$6.4 million in cash along with two bonds issued to the Green Bank through Public Finance Authority. The 2014 Series bonds carry interest of 5.30% per annum with a maturity date of September 10, 2034. The bonds are secured by the C-PACE loans sold to CFH. The Green Bank received a principal repayment of \$ 8,858 as a result of a C-PACE loan payoff in 2016. As of June 30, 2019, management believes no valuation allowance is necessary on these bonds.

Each bond required semi-annual interest-only payments to the Green Bank starting September 10, 2014 and continuing to September 10, 2034. Starting March 10, 2030 and every six months thereafter, principal payments, along with the required interest is to be paid to the Green Bank.

**Subordinate Series 2015B-1 and 2015C-1**

This Series represents two \$955,000 bonds received in connection with the Green Bank's August 2015 sale of C-PACE Loans to Clean Fund Holdings, LLC (CFH). CFH paid the Green Bank approximately \$7.7 million in cash along with two bonds issued to the Green Bank through Public Finance Authority. The 2015 Series bonds carry interest of 5.52% per annum with a maturity date of August 13, 2035. The bonds are secured by the C-PACE loans sold to CFH. The Green Bank received principal repayments of \$19,938 and \$81,877 for each bond as a result of C-PACE loan payoffs in 2019 and 2017, respectively. As of June 30, 2019, management believes no valuation allowance is necessary on these bonds.

Each bond required semi-annual interest-only payments to the Green Bank starting September 10, 2015 and continuing to August 13, 2035. Starting September 10, 2032 and every six months thereafter, principal payments, along with the required interest is to be paid to the Green Bank.

Principal maturities of these bonds are as follows:

<u>Year Ending June 30,</u>	<u>2014B-1</u>	<u>2014C-1</u>	<u>2015B-1</u>	<u>2015B-1</u>	<u>Total</u>
2020	\$	\$	\$	\$	\$ -
2021					-
2022					-
2023					-
2024					-
2025 - 2029					-
2030 - 2034	777,500	777,500	405,000	405,000	2,365,000
2035 - 2036	13,642	13,642	448,186	448,186	923,656
	<u>\$ 791,142</u>	<u>\$ 791,142</u>	<u>\$ 853,186</u>	<u>\$ 853,186</u>	<u>\$ 3,288,656</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**6. SOLAR LEASE NOTES RECEIVABLE**

In June of 2008 the predecessor of the Green Bank, the Connecticut Clean Energy Fund (CCEF) entered into a Master Lease Program Agreement with CT Solar Leasing LLC, a third party leasing company, AFC First Financial Corporation, a third party servicer, and Firststar Development LLC, the tax equity investor, to develop a residential solar PV leasing program in Connecticut. CCEF purchased a total of \$13,248,685 of promissory notes issued by CT Solar Leasing LLC during the period commencing in April of 2009 and ending in February of 2012 to fund the program. Each nonrecourse promissory note is secured by the payments under a specific PV equipment lease, with a rate of interest of 5% and a term of 15 years. Future principal repayments under the program and the current loss reserve are as follows:

<u>Future Principal Repayments</u>	
2020	\$ 942,056
2021	985,701
2022	1,019,607
2023	1,039,665
2024	1,082,100
Thereafter	<u>1,297,802</u>
	6,366,931
Less reserve for losses	<u>(63,669)</u>
	<u>\$ 6,303,262</u>
Current portion	\$ 942,056
Noncurrent portion	<u>5,361,206</u>
	<u>\$ 6,303,262</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**7. PROGRAM LOANS RECEIVABLE**

Outstanding principal balances by program for the years ending June 30, 2019 and 2018, are as follows:

	<u>2019</u>	<u>2018</u>
Loans in repayment for completed projects:		
<b>Connecticut Green Bank</b>		
CPACE Program benefit assessments - in repayment	\$ 36,373,428	\$ 16,425,897
CPACE Promissory notes		1,732,290
Grid-Tied Program term loans	12,197,048	10,663,213
Multifamily/Affordable housing program loans	16,681,271	10,088,597
Alpha/Operational Demonstration program loans	650,000	650,000
Other program loans	1,523,432	550,495
<b>CT Solar Loan I LLC</b>		
Residential Solar PV Program loans-in repayment	2,369,799	2,732,318
	69,794,978	42,842,810
Reserve for loan losses	(8,890,602)	(5,978,840)
Total loans in repayment for completed projects, net	<u>60,904,376</u>	<u>36,863,970</u>
Loan advances for projects under construction:		
<b>Connecticut Green Bank</b>		
CPACE Program benefit assessments - under construction	7,097,743	8,799,563
Grid-Tied Program term loans - under construction	554,827	
Total loans advances for projects under construction	<u>7,652,570</u>	<u>8,799,563</u>
Total	<u>\$ 68,556,946</u>	<u>\$ 45,663,533</u>
Current Portion	\$ 3,756,932	\$ 2,138,512
Noncurrent Portion	<u>64,800,014</u>	<u>43,525,021</u>
	<u>\$ 68,556,946</u>	<u>\$ 45,663,533</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**7. PROGRAM LOANS RECEIVABLE (CONTINUED)**

Scheduled repayments of principal under these loans in repayment as of June 30, 2019 is as follows:

	2020	2021	2022	2023	2024	Thereafter	Total
<b>Connecticut Green Bank</b>							
CPACE Program benefit assessments- in repayment	\$ 1,772,560	\$ 1,808,819	\$ 1,913,129	\$ 2,018,532	\$ 2,108,558	\$ 26,751,830	\$ 36,373,428
Grid-Tied Program term loans	1,156,742	1,032,111	1,104,218	1,182,578	1,267,350	6,454,049	12,197,048
Multifamily/Affordable housing term loans	610,175	147,659	13,096,631	230,830	296,508	2,299,468	16,681,271
Alpha/Operational Demonstration program loans				650,000			650,000
Other program loans	95,352	56,285	87,279	118,580	135,701	1,030,235	1,523,432
<b>CT Solar Loan I LLC</b>							
Residential Solar PV Program loans - in repayment	175,555	183,390	196,192	208,013	220,185	1,386,464	2,369,799
	3,810,384	3,228,264	16,397,449	4,408,533	4,028,302	37,922,046	69,794,978
Reserve for loan losses	(53,452)		(1,294,448)	(589,809)	(35,893)	(6,917,000)	(8,890,602)
	<u>\$ 3,756,932</u>	<u>\$ 3,228,264</u>	<u>\$ 15,103,001</u>	<u>\$ 3,818,724</u>	<u>\$ 3,992,409</u>	<u>\$ 31,005,046</u>	<u>\$ 60,904,376</u>

Benefits assessments under the C-PACE program finance energy efficiency upgrades and the installation of renewable energy equipment on non-residential property. These assessments carry interest rates ranging from 5.0% to 9.0% with terms ranging from 10 to 26 years. On April 18, 2019 the Green Bank repurchased the benefit assessments from the third-party capital provider and cancelled the CPACE promissory notes. For the fiscal year ending June 30, 2018, CPACE promissory notes represented a component of proceeds received from the sale of 37 benefit assessments from the Green Bank's portfolio to a third-party capital provider. These promissory notes carried interest rates ranging from 7.1% to 14.4% and matured at various intervals commencing on September 10, 2036 and ending on March 10, 2037.

Grid-tied term loans represent the financing of three projects. The first project is the 15-megawatt Bridgeport Fuel Cell Park from Project 150. The primary term loan carries an interest rate of 8% with interest and principal repaid on a monthly basis for a term of 7 years. There is a secondary \$1,800,000 term loan where interest is paid monthly on the outstanding principal balance at a rate of 5.0%, increasing to 8% during 2020, with principal payments beginning in 2026. The second project is a 5 mega-watt wind turbine facility in Colebrook, CT. Interest on a revolving term loan is paid quarterly at prime plus 3%. Interest on a nonrevolving term loan is paid quarterly based on the project's cash flows. The minimum rate of interest on the nonrevolving term loan is 10%. Principal under both loans is repaid at maturity which is 15 years from the date the project was placed in service. The project was placed in service in November 2015. The third project is an anaerobic digestion facility located in Southington, CT. The term loan carries an interest rate of 2% and interest and principal are repaid on a quarterly basis. Commencing on May 1, 2018 the borrower is required to make annual payments against principal equal to 50% of excess project cash flow as defined in the loan agreement.

Affordable Housing initiatives include providing term loans to two third-party capital providers to finance solar PV installations and energy efficiency measures for low to moderate income households. Under the first initiative through June 30, 2019, the Green Bank has advanced \$12,944,481 of a \$15,000,000 term financing facility with an interest rate of 7.5% payable monthly. The final maturity date of all advances made under the facility is December 12, 2021. Under a second initiative as of June 30, 2019, the Green Bank has advanced \$3,500,000 of a \$3,500,000 term financing facility comprising 4 promissory notes. All notes carry an interest rate of 3% payable along with principal on a monthly basis. The notes have terms of 7 and 20 years with maturities ranging from December 1, 2025 to October 1, 2037. There is an additional \$1,500,000 short term facility with this lender which carries interest at a rate of  $\text{Libor} + 1.75\%$  on the outstanding balance drawn with repayment in full on December 14, 2019.

**CONNECTICUT GREEN BANK  
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**7. PROGRAM LOANS RECEIVABLE (CONTINUED)**

Multifamily pre-development loans are advances to developers and owners of multifamily residences to provide funding for project feasibility and site development work. Loans mature in two years and carry no interest. As of June 30, 2019, \$225,889 has been advanced under this program.

Operational demonstration program loans are residual transactions of the programs of the Connecticut Clean Energy Fund. The loans finance the development of emerging clean energy technologies. Repayment of each loan is based upon the commercial success of the technology and carries an interest rate of 6%. If commercial success is not achieved after ten years from the date of the loan agreement, the loan converts to a grant. Connecticut Innovations assists in overseeing these loans.

Other program loans represent the financing of feasibility studies for various renewable energy projects or energy efficiency upgrades. The category also includes a loan to a third-party to finance purchase of solar facilities developed by the Green Bank. The loan carries an interest rate of 5.25% payable along with principal on a quarterly basis for a term of 15 years.

The residential solar PV loan program administered by CT Solar Loan I LLC, makes loans to residential property owners for solar PV installations. Loans carry an interest rate ranging from 6.49% to 6.75% with a term of 15 years.

**8. SBEA PROMISSORY NOTES RECEIVABLE**

In December of 2018 the Green Bank and Amalgamated Bank entered into a Master Purchase and Servicing Agreement with The Connecticut Light and Power Company dba Eversource Energy to purchase Small Business Energy Advantage (SBEA) loans. The loans are non-interest bearing for a term of up to 48 months. Eversource sells loans in tranches with the purchase price being determined by discounting each loan using a 4.4% discount rate. Amalgamated Bank purchases 90% of the loan portfolio and the Green Bank purchases 10%. Eversource collects monthly payments on customer utility bills and remits to the Green Bank and Amalgamated Bank. Amalgamated Bank receives 90% of the scheduled loan payments, with the Green Bank's payment being adjusted for any shortfall or overage. In the event of default, the loans are fully backed by the Energy Conservation and Load Management Fund a/k/a Connecticut Energy Efficiency Fund (CEEF) that will reimburse the Green Bank. Accordingly, there is no loan loss reserve.

During 2019 the Green Bank purchased two tranches of loans: (1) 4,014 loans valued at \$4,125,361 for \$3,892,133 and (2) 327 loans valued at \$642,759 for \$594,515.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
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**8. SBEA PROMISSORY NOTES RECEIVABLE (CONTINUED)**

Future principal repayments under the program are as follows:

	<u>Loan Portfolio</u>	<u>Discount</u>	<u>Balance</u>
2020	\$ 1,803,088	\$ (93,597)	\$ 1,709,491
2021	1,187,614	(61,648)	1,125,966
2022	567,792	(29,474)	538,318
2023	141,506	(7,346)	134,160
2024	594	(31)	563
	<u>\$ 3,700,594</u>	<u>\$ (192,096)</u>	<u>\$ 3,508,498</u>
Current portion	\$ 1,803,088	\$ (93,597)	\$ 1,709,491
Noncurrent portion	<u>1,897,506</u>	<u>(98,499)</u>	<u>1,799,007</u>
	<u>\$ 3,700,594</u>	<u>\$ (192,096)</u>	<u>\$ 3,508,498</u>

**9. FINANCING ACTIVITIES**

**Short-Term Debt - Primary Government**

**Connecticut Green Bank Line of Credit**

On June 29, 2018 the Green Bank executed a \$16,000,000 line of credit (LOC) with Webster Bank N.A. and Liberty Bank, with Webster Bank as the administrative agent. The LOC is broken down by lender as follows:

Liberty Bank	\$ 8,000,000
Webster Bank, National Association	<u>8,000,000</u>
	<u>\$ 16,000,000</u>

Funds must be advanced during an availability period which ends on December 29, 2018. All advances must be made in a principal amount of \$250,000 or in additional whole multiples of \$50,000. Each loan advance will be shared by the participating lenders in accordance with their pro-rata share of the of the total facility commitment. All principal on advances made under the LOC are due at maturity which is June 29, 2019. Advances can be prepaid without penalty. Through the availability period the amount by which the aggregate commitment exceeds aggregate advances is subject to a .5% unused commitment fee. At the time of closing the Green Bank paid the lenders a commitment fee of \$120,000. As of June 30, 2019 \$16,000,000 had been advanced and repaid under the LOC.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
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**9. FINANCING ACTIVITIES (CONTINUED)**

The LOC is collateralized with revenues from the Master Purchase Agreement (“MPA”) the Green Bank entered into with Connecticut’s two investor owned public utilities. Under the MPA each utility must purchase Solar Home Energy Credits (“SCHRECs”) generated by solar PV facilities located in its service area from the Green Bank. See Note 19 for further detail on the SHREC program. In connection with the LOC, the Green Bank is required to establish and maintain a collections account with Webster Bank into which all proceeds from the sale of SHRECs are to be deposited and an interest reserve account with each lender. As of June 30, 2019 and June 30, 2018 the collections account balance was \$- and \$388, respectively, and the cumulative balance in the interest reserve accounts was \$- and \$178,031, respectively.

Interest to be paid on each advance commences on the date the advance is disbursed and ends one month thereafter. Interest is calculated based on the one-month LIBOR rate plus the applicable margin of 240 basis points. As of June 30, 2019, \$351,582 in interest has been paid to the lenders. No interest was paid as of June 30, 2018.

On May 22, 2019 the Green Bank executed a \$5,000,000 line of credit (“LOC”) with Amalgamated Bank. Funds must be advanced during an availability period which ends on May 22, 2020. All principal on advances made under the LOC are due at maturity which is May 22, 2020. Advances can be prepaid without penalty. Through the availability period the amount by which the aggregate commitment exceeds aggregate advances is subject to a 0.2% unused commitment fee. At the time of closing the Green Bank paid the lender a commitment fee of \$20,000. As of June 30, 2019 no loans have been advanced.

The LOC is guaranteed by a security interest in all present and future personal property and the proceeds thereof, of CT Solar Lease 1 LLC (“CTSL1”). CTSL1 manages a portfolio of residential solar lease promissory notes. As of June 30, 2019 the promissory note balance, net of reserves was \$6,303,262.

Interest to be paid on each advance commences on the date the advance is disbursed and ends one month thereafter. Interest is calculated based on the one-month LIBOR rate plus the applicable margin of 1.6%. As of June 30, 2019 no interest has been paid to the lender.

**Long-Term Debt - Primary Government**

**CT Solar Loan I LLC Line of Credit**

On February 3, 2014, CT Solar Loan I LLC (SLI) executed a \$4,000,000 line of credit with Solar Mosaic, Inc. (LOC). The LOC was amended in June 2015 to \$1,100,000. Borrowings on the LOC immediately turn into a term note with predefined repayment terms at the time of borrowing. No further borrowings were available after June 30, 2015. Borrowings on the Mosaic LOC bear interest at 6.4586% (Base Rate) and SLI exercised its option to buy-down the interest rate to 6.00% (Reduced Rate) by making a payment on the borrowing date of 2.875% of the principal amount of the loan (Rate Buy-down Amount). As of June 30, 2019 and 2018 there was \$296,560 and \$373,478, respectively, outstanding. All borrowings will have matured by September 20, 2027.

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**9. FINANCING ACTIVITIES (CONTINUED)**

In connection with the LOC, SLI is required to establish and maintain a collections account, debt service reserve account and a loan loss reserve account. Deposits shall be made into the collections account for all payments received from residential borrowers against loans securing the LOC. The debt service reserve account is required to have no less than six months forward-looking principal and interest payments for the loans outstanding. The loan loss reserve account required a one-time deposit of \$300,000 as of June 30, 2014 which was reduced to \$82,500 as of June 30, 2015.

Future maturities on borrowings on the LOC are as follows:

Years Ending June 30,	Principal	Interest	Total
2020	\$ 49,846	\$ 16,437	\$ 66,283
2021	52,264	13,382	65,646
2022	55,287	10,164	65,451
2023	46,041	7,067	53,108
2024	47,554	4,294	51,848
2025 - 2029	45,568	2,372	47,940
	\$ 296,560	\$ 53,716	\$ 350,276

**SHREC ABS 1 LLC Collateralized Note**

On March 29, 2019 the Board of Directors authorized the Green Bank to offer for sale, and to sell two classes of Series 2019-1 Notes as follows: (1) \$36,800,000 of Class A Notes and (2) \$1,800,000 of Class B Notes that would be issued by SHREC ABS 1 LLC, a special purpose Delaware limited liability company that is a wholly-owned subsidiary of the Green Bank. The Class A Notes carry an interest rate of 5.09% while the Class B Notes carry an interest rate of 7.04%. Both classes of notes are for a term of 14 years, maturing on March 15, 2033.

The note is collateralized by revenue from quarterly sales of Solar Home Renewable Energy Credits ("SHRECs") for two tranches of approximately 14,000 residential solar PV systems to two Connecticut utilities. Collections from these billings and disbursements of funds to the bondholder and the Green Bank are managed by the trustee, Bank of New York Mellon. Interest and principal payments are quarterly per the bond schedule which anticipates the fluctuations in SHREC revenue due to seasonal solar PV generation.

On April 2, 2019 both notes were sold to a single investor as a private placement. The proceeds were used to pay off a short-term loan facility, for further Green Bank investments and to support the sweep payment of \$14,000,000 to the State of Connecticut.



**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
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**9. FINANCING ACTIVITIES (CONTINUED)**

Future maturities on borrowings under the SHREC ABS are as follows:

<u>Years Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 2,243,000	\$ 1,945,495	\$ 4,188,495
2021	2,130,000	1,833,353	3,963,353
2022	2,263,000	1,720,887	3,983,887
2023	2,382,000	1,601,258	3,983,258
2024	2,477,000	1,475,724	3,952,724
2025-2029	14,473,000	5,283,468	19,756,468
2030-2033	12,531,000	1,241,264	13,772,264
	<u>\$ 38,499,000</u>	<u>\$ 15,101,449</u>	<u>\$ 53,600,449</u>

**CGB KCF LLC Kresge Loan**

On December 6, 2017 CGB KCF LLC executed a program-related investment loan in the aggregate principal amount of \$3,000,000 to be provided in multiple disbursements ending 18 months after the closing date. The loan is evidenced by promissory note with a term of 10 years that bears an interest rate of 2.0% requiring interest payments be made quarterly in arrears. The note is interest only through December 6, 2026. The outstanding principal of the note is payable in two installments. On December 6, 2026 one-half of the aggregate amount disbursed is due and payable with all remaining amounts payable on December 6, 2027.

Proceeds from the loan must follow program investment guidelines that specify originating loans to at least nine targeted projects to fund the installation of combined solar panel and battery storage systems while meeting the goals of relieving poverty and distress, combatting community deterioration, revitalizing neighborhoods and lessening the burdens of government.

On December 14, 2018 CGB KCF received a disbursement of \$1,000,000 which is being held by Connecticut Green Bank in a restricted cash account. As of the end of Fiscal Year 2019, none of the funds have been spent on projects meeting the program investment guidelines.

**CONNECTICUT GREEN BANK  
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**9. FINANCING ACTIVITIES (CONTINUED)**

Future maturities of borrowings under the Kresge Loan are as follows:

<u>Years Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$	\$ 20,055	\$ 20,055
2021		20,000	20,000
2022		20,000	20,000
2023		20,000	20,000
2024		20,055	20,055
2025-2029	1,000,000	68,712	1,068,712
	<u>\$ 1,000,000</u>	<u>\$ 168,822</u>	<u>\$ 1,168,822</u>

**CT Solar Loan I LLC Term Note**

On April 25, 2016, CT Solar Loan I LLC (SLI) executed a \$2,510,837 Loan Agreement and Promissory Note (Note) with the Reinvestment Fund, Inc. The Note carries a fixed interest rate of 6.02%. Interest and principal repayments are amortized over a hypothetical 15 year period. The Note has a maturity date of April 1, 2023 with all unpaid principal and accrued interest due at that time. Principal repayments and interest payments are made in monthly installments beginning June 1, 2016.

In connection with the Note, SLI is required to establish and maintain a collections account, and maintain \$217,500 in a loan loss reserve account. Deposits shall be made into the collections account for all payments received from residential borrowers against loans securing the Note.

Future maturities on borrowings under the Reinvestment Fund LOC is as follows:

<u>Years Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 105,732	\$ 79,447	\$ 185,179
2021	110,560	72,936	183,496
2022	115,662	66,156	181,818
2023	121,981	59,022	181,003
2024	127,106	51,507	178,613
2025-2029	696,862	135,719	832,581
Thereafter	89,782	1,959	91,741
	<u>\$ 1,367,685</u>	<u>\$ 466,746</u>	<u>\$ 1,834,431</u>

**CONNECTICUT GREEN BANK  
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**9. FINANCING ACTIVITIES (CONTINUED)**

**Connecticut Green Bank New Clean Renewable Energy Bond**

On February 26, 2016 the Board of Directors of the Green Bank authorized the issuance of a New Clean Energy Renewable Energy Bond (CREB) in an amount not to exceed \$3,000,000 to finance a portion of the acquisition cost of a 193kW Hydroelectric Facility located in Meriden, Connecticut by CGB Meriden Hydro LLC, a subsidiary of the Green Bank. On February 2, 2017 the Green Bank issued a CREB in the amount of \$2,957,971 with an annual interest rate of 4.19%, maturing on November 15, 2036. Interest and principal payments are to be paid annually on November 15<sup>th</sup>. Proceeds from the sale of the CREB were deposited with the bond trustee and were disbursed upon acquisition of the hydroelectric facility from its developer on August 31, 2017. Proceeds from the sale of electricity generated by the facility to the City of Meriden along with revenue from the associated renewable energy credits will fund the payment of principal and interest on the CREB. The CREB qualified for a tax credit from the US Treasury under Section 54C of the Internal Revenue Code. The tax credit will be paid in the form of a subsidy to the Green Bank. The project also qualified to receive an interest rate subsidy from the local electricity utility through a program approved by the Connecticut Public Utility Regulatory Authority (PURA). This subsidy will be paid directly to the purchaser of the CREB. Both these subsidies will reduce the borrowing costs of the Green Bank.

Future maturities on borrowings under the CREB is as follows:

<b>Years Ending June 30,</b>	<b>Principal</b>	<b>Interest</b>	<b>US Treasury Tax Subsidy</b>	<b>CT PURA Interest Subsidy</b>	<b>Total</b>
2020	\$ 109,041	\$ 117,250	\$ (82,701)	\$ (18,013)	\$ 125,577
2021	123,718	112,681	(79,479)	(18,013)	138,907
2022	134,348	107,497	(75,822)	(18,013)	148,010
2023	158,669	101,868	(71,852)	(18,013)	170,672
2024	163,905	95,220	(67,162)	(18,013)	173,950
2025-2029	852,754	369,830	(260,856)	(36,027)	925,701
2030-2034	794,716	192,681	(135,906)		851,491
2035-2039	461,180	39,014	(27,518)		472,676
	<u>\$ 2,798,331</u>	<u>\$ 1,136,041</u>	<u>\$ (801,296)</u>	<u>\$ (126,092)</u>	<u>\$ 3,006,984</u>

On September 28, 2017, the Board of Directors of the Green Bank authorized the issuance of a New Clean Energy Renewable Energy Bond (CREB) in an amount not to exceed \$9,350,000 to finance the installation of various solar projects for the benefit of the Connecticut State College and University System ("CSCUS"). To that end on December 29, 2017 the Green Bank entered into an equipment lease/purchase agreement financed by the issuance of a \$9,101,729 CREB with an annual interest rate of 4.90%, maturing on November 15, 2037 to construct and lease these solar facilities to CSCUS. Interest and principal payments are to be paid annually on November 15<sup>th</sup>. Proceeds from the sale of the CREB have been deposited with an escrow agent and \$7,286,563 has been disbursed to construct the solar facilities, 7 of which are in service as of June 30, 2019. Proceeds from the sale of electricity generated by the facilities to CSCUS along with revenue from the associated renewable energy credits will fund the payment of principal and interest on the CREB. The CREB qualified for a tax credit from the US Treasury under Section 54C of the Internal Revenue Code. The tax credit will be paid in the form of a subsidy to the Green Bank. The project also qualified to receive an interest rate subsidy from the local electricity utility through a program approved by the Connecticut Public Utility Regulatory Authority (PURA). This subsidy will be paid directly to the purchaser of the CREB. Both these subsidies will reduce the borrowing costs of the Green Bank.

**CONNECTICUT GREEN BANK  
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**9. FINANCING ACTIVITIES (CONTINUED)**

Future maturities on borrowings under the CREB is as follows:

<u>Years Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>US Treasury Tax Subsidy</u>	<u>CT PURA Interest Subsidy</u>	<u>Total</u>
2020	\$ 515,976	\$ 445,985	\$ (237,009)	\$ (56,417)	\$ 668,535
2021	522,198	420,702	(223,573)	(56,417)	662,910
2022	528,550	395,114	(209,975)	(56,417)	657,272
2023	535,036	369,215	(196,212)	(56,417)	651,622
2024	541,657	342,999	(182,279)	(56,417)	645,960
2025-2029	2,812,516	1,310,147	(696,249)	(225,667)	3,200,747
2030-2034	2,632,906	603,100	(320,504)		2,915,502
2035-2039	1,012,890	124,495	(66,160)		1,071,225
	<u>\$ 9,101,729</u>	<u>\$ 4,011,757</u>	<u>\$ (2,131,961)</u>	<u>\$ (507,752)</u>	<u>\$ 10,473,773</u>

**Long-Term Debt - Primary Government - Discretely Presented Component Units**

**CEFIA Solar Services Inc. Term Note**

On October 18, 2016 CEFIA Solar Services Inc. executed a term note with the Connecticut Housing Finance Authority (CHFA) in the amount of \$1,895,807 with an interest rate of 2.5% with a 20-year term maturing on November 1, 2036. Principal and interest are payable monthly. CEFIA Solar Services, in its role as managing member of CT Solar Lease 2 LLC (CT SL2) lent these funds to CT SL2 through the execution of a subordinated promissory note of same date. CT SL2 used these funds to finance the acquisition of renewable energy equipment and installation of energy efficiency measures by eleven housing developments owned by municipalities throughout Connecticut.

Future maturities on borrowings under CHFA is as follows:

<u>Years Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 94,788	\$ 40,187	\$ 134,975
2021	94,788	37,817	132,605
2022	94,788	35,448	130,236
2023	94,788	33,078	127,866
2024	94,788	30,708	125,496
2025-2029	473,953	117,994	591,947
2030-2034	473,953	58,850	532,803
2035-2038	229,085	7,158	236,243
	<u>\$ 1,650,931</u>	<u>\$ 361,240</u>	<u>\$ 2,012,171</u>

**CONNECTICUT GREEN BANK  
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**9. FINANCING ACTIVITIES (CONTINUED)**

**Line of Credit - Discretely Presented Component Unit - CT Solar Lease 2, LLC**

CT Solar Lease 2, LLC has a \$27,600,000 line of credit agreement (Additional LOC) with Key Bank as the Administrative Agent and Lender along with an additional participating lender. The additional LOC is broken down by lender as follows:

Key Bank	\$	17,250,000
Webster Bank, National Association		<u>10,350,000</u>
	\$	<u>27,600,000</u>

Funds may be drawn down in no more than ten total advances by March 31, 2017. With the exception of the final advance, each advance must be in the principal amount of \$2,760,000 or a whole multiple of \$100,000 in excess of \$2,760,000. Each loan funding will be shared by all participating lenders in accordance with their pro-rata share of the total facility commitment. As of June 30, 2017, \$27,500,633 had been advanced under the additional LOC through March 31, 2017 the advance termination date. Principal repayments as of June 30, 2019 and 2018, were \$681,547 and \$1,442,241, respectively.

Each advance will be amortized separately. CT Solar Lease 2 LLC has the option with each advance of selecting between the LIBOR rate or the base rate which is defined as the highest of (a) the Federal Funds Effective Rate plus one-half of 1 percent, (b) Key Bank's prime rate, and (c) the LIBOR rate plus 1%. CT Solar Lease 2 LLC may also elect to convert an advance from one rate to the other by following the process outlined in the credit agreement.

Payments of interest with respect to any LIBOR rate advances are due on the 15<sup>th</sup> day of the month following each calendar quarter end. Payments of interest with respect to any base rate advances are due monthly. Payments of principal with respect to all advances are due on the 15<sup>th</sup> day of the month following each calendar quarter end. Principal payments on each advance will be based on a modified 15-year amortization schedule and are calculated as the lessor of 2.1675% of the initial principal amount of each advance or the net operating income with respect to the projects purchased with each advance as defined in the credit agreement.

Within one month of each advance, CT Solar Lease 2 LLC is required to enter into an interest rate swap contract with respect to a minimum amount of 75% of such advance. If one of the participating lenders is the counterparty to the swap contract, such contract will be secured by the collateral of the credit agreement; otherwise, the swap contract will be unsecured. See Note 9.

Certain obligations of CT Solar Lease 2 LLC under the credit agreement are guaranteed by the Green Bank. This credit agreement is secured by all assets of CT Solar Lease 2 LLC as well as CEFIA Solar Services (the Managing Member) interest in CT Solar Lease 2 LLC. There are no prepayment penalties. There are certain debt service coverage ratios CT Solar Lease 2 LLC must maintain related to each separate advance and which require the separate measurement of the net operating income with respect to the projects purchased with each advance.

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**10. INTEREST RATE SWAP AGREEMENT**

CT Solar Lease 2 LLC entered into a multi-year interest rate swap agreement with Key Bank (the KeyBank Agreement) in September 2014 in anticipation of making its first draw down on the credit agreement with KeyBank. Payments made and received were based on a notional amount of \$13,912,275 and \$15,732,975 as of June 30, 2019 and 2018, respectively. The KeyBank Agreement provides for CT Solar Lease 2 LLC to receive payments based on the 1 month USD-LIBOR-BBA (2.39425% and 2.07325% at June 15, 2019 and 2018, respectively, the dates of the last reset) and to make payments based on fixed interest rates ranging from 1.96% to 2.78%. The KeyBank Agreement matures on December 15, 2025. The fair value of the KeyBank Agreement as of June 30, 2019 and 2018 was reported as a liability of \$500,465 and an asset of \$130,401, respectively, which is represented as the fair value of the interest rate swap on the accompanying 2019 and 2018 statement of net position.

CT Solar Lease 2 LLC entered into an interest rate swap agreement with Webster Bank (the Webster Agreement) in June of 2017 to meet certain requirements under its credit agreement with KeyBank in which Webster Bank also participates. Payments made and received were based on a notional amount of \$1,653,200 and \$1,826,600 as of June 30, 2019 and 2018, respectively. The Webster Agreement provides for CT Solar Lease 2 LLC to receive payments based on the 1 month USD-LIBOR-BBA (2.39425% at June 30, 2019 and 2.07325% at June 22, 2018, the date the Webster Agreement became effective) and to make payments based on a fixed rate of 2.10%. The Webster Agreement matures on June 15, 2027. The fair value of the Webster Agreement as of June 30, 2019 and 2018 was reported as a liability of \$22,759 and an asset of \$41,077, respectively, which is a component of the fair value of interest rate swap on the accompanying 2019 and 2018 statement of net position.

CT Solar Lease 2 LLC uses the dollar-offset method for evaluating effectiveness of the interest rate swap agreements.

**11. RELATED PARTY TRANSACTIONS AND OPERATING LEASES**

**Due to outside agency**

The Green Bank utilizes the services of CI when needed for certain operating expenses. CI provides these services at cost. Such services include, but are not limited to, staff for human resources, office space, equipment leases and office expenses. Expenses billed to the Green Bank by CI totaled \$0 and \$71,824 for the years ended June 30, 2019 and 2018, respectively. As of June 30, 2019 and 2018, no amounts was due to CI.

**Unused Commitment Fee**

The Investor Member of CT Solar Lease 3 LLC is entitled to an annual fee due within 30 days of the end of each calendar quarter, calculated on a monthly basis, based on the amount of the Investor Member's unfunded capital contributions. The fee for each month is equal to 1.25% times the amount by which the Investor Member's contribution cap exceeds the total capital contributions funded as of the last day of the month in question divided by twelve. Amounts not paid timely accrue interest at the US Bank Prime Rate in effect on the due date plus 2%. The unused commitment fee totaled \$27,848, and \$61,520 for the years ended June 30, 2019 and 2018, respectively.

## **11. RELATED PARTY TRANSACTIONS AND OPERATING LEASES (CONTINUED)**

### **Priority Return**

The Investor Member is the Tax-Equity Investor and is entitled to substantially all of the tax benefits of both CT Solar Lease 2 LLC and CT Solar Lease 3, LLC until January 1 of the year which is five years after the date the last project is installed, which is anticipated to be January 1, 2023 for CT Solar Lease 2 LLC and January 1, 2024 for CT Solar Lease 3, LLC, the Flip Date.

The Investor Member of CT Solar Lease 2 LLC shall be due a cumulative, quarterly distribution, payable by CT Solar Lease 2 LLC, equal to 0.5% of its paid-in capital contributions in respect of projects beginning at the end of the first quarter after the first project acquisition capital contribution is made and continuing until the Flip Date. To the extent the priority return is not paid in a quarter until the Flip Date, unpaid amounts will accrue interest at the lower of 24% per annum or the highest rate permitted by law.

In accordance with the Operating Agreement, all amounts and accrued interest due on the priority return are to be paid from net cash flow prior to certain required payments due under the Credit Agreement. The Investor Member was paid priority returns of \$510,142 and \$504,046 for the years ended June 30, 2019 and 2018, respectively.

The Investor Member of CT Solar Lease 3 LLC shall be due a cumulative, quarterly distribution, payable by CEFIA Solar Services, Inc, its managing member, equal to 0.5% of its paid-in capital contributions in respect of projects beginning at the end of the first quarter after the first project acquisition capital contribution is made and continuing until the Flip Date. To the extent the priority return is not paid in a quarter until the Flip Date, unpaid amounts will accrue interest at the lower of 24% per annum or the highest rate permitted by law.

In accordance with the Operating Agreement, all amounts and accrued interest due on the priority return are to be paid from net cash flow prior to certain required payments due under the Credit Agreement. The Investor Member was paid priority returns of \$109,128 and \$30,607 for the years ended June 30, 2019 and 2018, respectively.

### **Administrative Services Fee**

The Managing Member of CT Solar Lease 2 LLC, CEFIA Solar Services, Inc., provides administrative and management services and earns a quarterly fee initially equal to \$30,000 per quarter beginning July 1, 2013. The amount of the fee increased 2.5% each July 1<sup>st</sup> beginning July 1, 2014. The administrative services fee totaled \$135,769 and \$132,458 for the years ended June 30, 2019 and 2018, respectively, and is included in accounts payable and accrued expenses on the accompanying statement of net position.

### **Payroll Taxes and Fringe Benefit Charges**

Pursuant to state statute, the Green Bank is subject to fringe benefit charges for pension plan and medical plan contributions which are paid at the state level. The Green Bank's employer payroll taxes are also paid at the state level. The Green Bank reimburses the state for these payments. The reimbursement for 2019 and 2018 was \$3,734,571 and \$ 4,101,094, respectively, comprising 89.01% and 79.85% respectively, of gross salaries.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**11. RELATED PARTY TRANSACTIONS AND OPERATING LEASES (CONTINUED)**

**Operating Leases**

During 2014, the Green Bank entered into a noncancelable operating lease with an unrelated entity for its main office space. The lease calls for monthly escalating payments beginning at \$12,567 through December 31, 2020. Rent expense related to this lease for the years ended June 30, 2019 and 2018 was \$175,571 and \$167,913, respectively.

In addition, the Green Bank has a noncancelable operating lease for an additional office space from an unaffiliated entity which calls for initial monthly payments of \$7,333, with escalating payments through December 2020. Rent expense related to this lease for the years ended June 30, 2019 and 2018, amounted to \$ 97,722 each year. The Green Bank also began subleasing additional office space from CI in March 2016. Initial monthly payments are \$5,666 with escalating payments through December 2020. Rent expense related to this sublease was \$0 and \$70,707 for the years ended June 30, 2019 and 2018, respectively. This sublease with CI was terminated without penalty on June 30, 2018.

In addition, the Green Bank leases office equipment on a month-to-month basis. Rent expense related to the office equipment for the years ended June 30, 2019 and 2018, was \$13,425 and \$9,973, respectively.

Future minimum lease payments for office rentals are as follows:

<u>Years Ending June 30,</u>	
2020	\$ 275,168
2021	<u>139,146</u>
	<u>\$ 414,314</u>



**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**12. CAPITAL ASSETS**

Capital asset activity for reporting entity for the years ended June 30, 2019 and 2018, are as follows:

Primary Government:

<b>2019</b>	<b>Balance, July 1, 2018</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2019</b>
Capital assets being depreciated:					
Solar lease equipment	\$	\$ 8,282,230	\$	\$	\$ 8,282,230
Furniture and equipment	4,084,161	649,479			4,733,640
Computer hardware and software	215,458	17,506	(31,830)		201,134
Leasehold improvements	192,027				192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	4,491,646	8,949,215	(31,830)	-	13,409,031
Less accumulated depreciation and amortization:					
Solar lease equipment		105,017			105,017
Furniture and equipment	282,278	177,354			459,632
Computer hardware and software	174,621	26,176	(30,207)		170,590
Leasehold improvements	166,723	10,597			177,320
	623,622	319,144	(30,207)	-	912,559
Capital Assets, Net	\$ 3,868,024	\$ 8,630,071	\$ (1,623)	\$ -	\$ 12,496,472
<b>2018</b>	<b>Balance, July 1, 2017</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2018</b>
Capital assets being depreciated:					
Furniture and equipment	\$ 169,955	\$ 3,914,206	\$	\$	\$ 4,084,161
Computer hardware and software	234,137	7,976	(26,655)		215,458
Leasehold improvements	250,981		(58,954)		192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	655,073	3,922,182	(85,609)	-	4,491,646
Less accumulated depreciation and amortization:					
Furniture and equipment	136,379	145,899			282,278
Computer hardware and software	164,972	36,302	(26,653)		174,621
Leasehold improvements	155,236	34,406	(22,919)		166,723
	456,587	216,607	(49,572)	-	623,622
Capital Assets, Net	\$ 198,486	\$ 3,705,575	\$ (36,037)	\$ -	\$ 3,868,024

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**12. CAPITAL ASSETS (CONTINUED)**

Discretely presented component units:

<b>2019</b>	<b>Balance, July 1, 2018</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2019</b>
Capital assets being depreciated:					
Solar lease equipment	\$ 75,602,983	\$ 1,348,000	\$ -	\$ (313,919)	\$ 76,637,064
Capital assets not being depreciated:					
WIP solar lease equipment					-
	<u>75,602,983</u>	<u>1,348,000</u>	<u>-</u>	<u>(313,919)</u>	<u>76,637,064</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	6,053,786	2,900,971	-	(344,261)	8,610,496
	<u>6,053,786</u>	<u>2,900,971</u>	<u>-</u>	<u>(344,261)</u>	<u>8,610,496</u>
Capital Assets, Net	<u>\$ 69,549,197</u>	<u>\$ (1,552,971)</u>	<u>\$ -</u>	<u>\$ 30,342</u>	<u>\$ 68,026,568</u>
<b>2018</b>	<b>Balance, July 1, 2017</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2018</b>
Capital assets being depreciated:					
Solar lease equipment	\$ 64,930,842	\$ 11,467,421	\$ -	\$ (795,280)	\$ 75,602,983
Capital assets not being depreciated:					
WIP solar lease equipment					-
	<u>64,930,842</u>	<u>11,467,421</u>	<u>-</u>	<u>(795,280)</u>	<u>75,602,983</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	3,619,121	2,760,599	-	(325,934)	6,053,786
	<u>3,619,121</u>	<u>2,760,599</u>	<u>-</u>	<u>(325,934)</u>	<u>6,053,786</u>
Capital Assets, Net	<u>\$ 61,311,721</u>	<u>\$ 8,706,822</u>	<u>\$ -</u>	<u>\$ (469,346)</u>	<u>\$ 69,549,197</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**12. CAPITAL ASSETS (CONTINUED)**

Total Reporting Entity:

<b>2019</b>	<b>Balance, July 1, 2018</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2019</b>
Capital assets being depreciated:					
Solar lease equipment	\$ 75,602,983	\$ 9,630,230	\$	\$ (313,919)	\$ 84,919,294
Furniture and equipment	4,084,161	649,479			4,733,640
Computer hardware and software	215,458	17,506	(31,830)		201,134
Leasehold improvements	192,027				192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	<u>80,094,629</u>	<u>10,297,215</u>	<u>(31,830)</u>	<u>(313,919)</u>	<u>90,046,095</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	6,053,786	3,005,988		(344,261)	8,715,513
Furniture and equipment	282,278	177,354			459,632
Computer hardware and software	174,621	26,176	(30,207)		170,590
Leasehold improvements	166,723	10,597			177,320
	<u>6,677,408</u>	<u>3,220,115</u>	<u>(30,207)</u>	<u>(344,261)</u>	<u>9,523,055</u>
Capital Assets, Net	\$ <u>73,417,221</u>	\$ <u>7,077,100</u>	\$ <u>(1,623)</u>	\$ <u>30,342</u>	\$ <u>80,523,040</u>
<b>2018</b>	<b>Balance, July 1, 2017</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2018</b>
Capital assets being depreciated:					
Solar lease equipment	\$ 64,930,842	\$ 11,467,421	\$	\$ (795,280)	\$ 75,602,983
Furniture and equipment	169,955	3,914,206			4,084,161
Computer hardware and software	234,137	7,976	(26,655)		215,458
Leasehold improvements	250,981		(58,954)		192,027
Capital assets not being depreciated:					
WIP solar lease equipment					-
Construction in progress					-
	<u>65,585,915</u>	<u>15,389,603</u>	<u>(85,609)</u>	<u>(795,280)</u>	<u>80,094,629</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	3,619,121	2,760,599		(325,934)	6,053,786
Furniture and equipment	136,379	145,899			282,278
Computer hardware and software	164,972	36,302	(26,653)		174,621
Leasehold improvements	155,236	34,406	(22,919)		166,723
	<u>4,075,708</u>	<u>2,977,206</u>	<u>(49,572)</u>	<u>(325,934)</u>	<u>6,677,408</u>
Capital Assets, Net	\$ <u>61,510,207</u>	\$ <u>12,412,397</u>	\$ <u>(36,037)</u>	\$ <u>(469,346)</u>	\$ <u>73,417,221</u>

**13. FEDERAL GRANT PROGRAMS**

The Green Bank, the primary government, recognizes grant revenue based on expenditures or fulfillment of program requirements. For the year ended June 30, 2019 and 2018, the Green Bank recognized related grant revenue of \$100,779 and \$56,953, respectively under Department of Energy programs.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**14. COMMITMENTS AND LOAN GUARANTEES**

**Commitments**

As of June 30, 2019 and 2018, the Board of Directors designated a portion of the Green Bank's unrestricted net position to fund financial incentives for specific commercial and residential projects in the following areas:

	<u>Type</u>	<u>June 30, 2019</u>	<u>Type</u>	<u>June 30, 2018</u>
<b>Primary Government</b>				
<b>Connecticut Green Bank</b>				
Solar PV	Incentive	\$ 51,517,641	Incentive	\$ 48,732,057
AD/CHP Programs	Loan	-	Loan	-
Fuel Cells	Loan	13,500,000	Loan	5,000,000
CPACE	Loan	6,093,805	Loan	8,743,524
Multifamily/LMI Solar PV & Energy Eff.	Loan	3,751,054	Loan	3,296,573
Small Business Energy Advantage	Loan	1,113,352	Loan	-
Hydropower	Loan	945,173		
Other Technologies	Loan	161,302	Loan	271,795
		<u>77,082,327</u>		<u>66,043,949</u>
Solar PV commitments payable to CT Solar Lease 2 LLC		<u>(504,399)</u>		<u>(3,587,224)</u>
Total Reporting Entity		<u>\$ 76,577,928</u>		<u>\$ 62,456,725</u>

These commitments are expected to be funded over the next one to six fiscal years and are contingent upon the completion of performance milestones by the recipient. All commitments are those of the primary government.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**14. COMMITMENTS AND LOAN GUARANTEES (CONTINUED)**

**Loan Guarantees**

As of June 30, 2019 and 2018, the following financial guarantees, approved by the Board of Directors, were outstanding. As of June 30, 2019, CGB has not recognized a liability or made any payments pursuant to these guarantees. Should payments be made in the future, the Green Bank will utilize standard collection efforts to recover payments made on behalf of issuers to those entitled to receive payments pursuant to the obligation guaranteed. All guarantees are those of the primary government.

Guarantor	Issuer	Relationship of Guarantor to Issuer	Type of Obligation Guaranteed	Maximum Amount of Guaranty	Guaranty Obligation as of 6/30/2019	Guaranty Obligation as of 6/30/2018
CGB	Owners of multifamily dwellings in Connecticut	Issuers participate in program administered by CGB and the Housing Development Fund to install energy upgrades in multifamily dwellings.	Commercial and consumer loan products with various terms	\$ 5,000,000	\$ 4,335,449	\$ 3,743,966
CGB	CT Solar Loan LLC	Blended unit of primary government	Nonrevolving term note	2,510,837	1,367,686	1,588,934
CGB	CT Energy Efficiency Finance Company	Issuer provides loans for the installation of energy efficiency measures in single family homes to credit challenged households to meet the goals outlined in CGB's Comprehensive Plan.	Guarantee limited to \$600,000 on revolving credit note of \$6,000,000	600,000	600,000	600,000
CGB	New England Hydropower Company	Issuer is the developer of hydropower project in Connecticut approved by the CGB Board of Directors.	Line of credit	300,000	300,000	300,000
CEFIA Holdings LLC	CEFIA Solar Services Inc.	Holdings is the sole shareholder of Services and an affiliate of CGB	Promissory Note for funds received from CHFA upon their issuance of Qualified Energy Conservation Bonds (QECBs) for State Sponsored Housing Projects (SSHP)	1,895,807	1,650,931	1,745,722
CGB	Canton Hydro, LLC	Issuer is the developer of hydropower project in Connecticut approved by the CGB Board of Directors.	Unfunded guaranty not to exceed \$500,000	500,000	500,000	-
				<u>\$ 10,806,644</u>	<u>\$ 8,754,066</u>	<u>\$ 7,978,622</u>

New England Hydropower Company repaid its outstanding line of credit obligation to Key Bank in full during fiscal year 2018 and the Green Bank's obligation to guaranty repayment was terminated.

All commitments and guaranty obligations will be funded from current and future unrestricted cash balances.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

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**15. STATE EMPLOYEES' RETIREMENT SYSTEM**

All employees of the Green Bank participate in the State Employees' Retirement System (SERS), which is administered by the State Employees' Retirement Commission. The latest actuarial study was performed on the plan as a whole, as of June 30, 2018, and does not separate information for employees of the Green Bank. Therefore, certain pension disclosures pertinent to the Green Bank otherwise required pursuant to accounting principles generally accepted in the United States of America are omitted. Based upon the 2018 valuation, the Plan, as a whole, utilized the project unit credit cost method to develop employer contributions, and included the following actuarial assumptions: 1) investment return of 6.9%; 2) price inflation of 2.5% for cost of living adjustments; 3) projected salary increases of 3.5% to 19.5%, Social Security wage base increases of 3.50% per annum; 4) payroll growth of 3.5% per annum; and 5) the RP-2014 White Collar Mortality Table. Information on the total plan funding status and progress, contribution required and trend information can be found in the State of Connecticut's Comprehensive Annual Financial Report available from the Office of the State Comptroller, 55 Elm Street, Hartford, CT 06106.

**Plan Description**

SERS is a single-employer defined benefit public employee retirement system (PERS) established in 1939 and governed by Sections 5-152 and 5-192 of the Connecticut General Statutes. Employees are covered under one of four tiers, Tier I, Tier II, Tier IIA and Tier III all of which are contributory plans.

Members who joined the retirement system prior to July 1, 1984 are enrolled in Tier I. Tier I employees who retire at or after age 65 with 10 years of credited service, at or after age 55 with 25 years of service, or at age 55 with 10 years of credited service with reduced benefits are entitled to an annual retirement benefit payable monthly for life, in an amount of 2 percent of the annual average earnings (which are based on the three highest earning years of service) over \$4,800 plus 1 percent of \$4,800 for each year of credited service.

Employees hired on and after July 2, 1984 are covered under the Tier II plan. Tier II requires employee contributions of 1.5 percent of salary. Tier II employees who retire at or after age 60 with 25 years of service, or at age 62 with 10 years of service, or at age 65 with 5 years of service, are entitled to one and one-third percent of the average annual earnings plus one-half of one percent of the average annual earnings in excess of the salary breakpoint in the year of retirement for each year of credited service. Tier II employees between the ages of 55 and 62 with 10 years but less than 25 years of service may retire with reduced benefits. In addition, Tier II and Tier IIA members with at least five but less than ten years of actual state service who terminate their state employment July 2, 1997 or later and prior to attaining age 62 will be in deferred vested status and may commence receipt of normal retirement benefits on the first of the month on or following their sixty-fifth (65) birthday.

Employees hired on and after July 1, 1997 are covered under the Tier IIA plan. Tier IIA plan is essentially the existing Tier II plan with the exception that employee contributions of 3.5 percent of salary are required. Tier I members are vested after ten years of service, while Tier II and Tier IIA members may be vested after five years of service under certain conditions, and all three plans provide for death and disability benefits.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)**

Employees hired on or after July 1, 2011 are covered under the Tier III plan. Tier III requires employee contributions of 3.5 percent of salary up to a \$250,000 limit after which no additional contributions will be taken on earnings above this limit. The normal retirement date will be the first of any month on or after age 63 if the employee has at least 25 years of vested service or age 65 if the employee has at least 10 but less than 25 years of vested service. Tier III members who have at least 10 years of vested service can receive early reduced retirement benefits if they retire on the first of any month on or following their 58th birthday. Tier III normal retirement benefits include annual retirement benefits for life, in the amount of one and one-third percent of the five-year average annual earnings plus one-half of one percent of the five-year average annual earnings in excess of the salary breakpoint in the year of retirement for each year of credited service plus one and five-eighths of the five-year annual average salary times years of credited service over 35 years.

The total payroll for employees of the Green Bank covered by SERS for the years ended June 30, 2019 and 2018, was \$4,406,561 and \$5,120,449, respectively.

**Contributions Made**

Green Bank's contribution is determined by applying a State mandated percentage to eligible salaries and wages as follows for the years ended June 30:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Contributions made:			
By employees	\$ 162,555	\$ 176,270	\$ 100,113
Percent of current year covered payroll	3.7%	3.4%	2.0%
Percent of required contributions	100.0%	100.0%	100.0%
By Green Bank	\$ 1,743,395	\$ 1,717,420	\$ 1,713,946
Percent of current year covered payroll	39.6%	33.5%	33.9%
Percent of required contributions	100.0%	100.0%	100.0%

The Green Bank has contributed the required amount for each of the past three years.

The implementation of GASB 68 resulted in the Green Bank's reporting an initial net pension liability for fiscal year 2015. The Statement required the Green Bank to recognize a net pension liability for the difference between the present value of the projected benefits for the past service known as the Total Pension Liability (TPL) and the restricted resources held in trust for the payment of pension benefits, known as the Fiduciary Net Position (FNP). For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the FNP of SERS and additions to/deductions from SERS FNP have been determined on the same basis as they are reported by SERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit term. Investments are recorded at fair value.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)**

At June 30, 2019 and 2018, the Green Bank reported a liability of \$25,805,346 and \$24,636,114, respectively, for its proportionate share of the net pension liability. The net pension liability as of June 30, 2019 was measured as of June 30, 2018, and the total pension liability used to calculate the net pension liability was determined by the actuarial valuation as of that date based on actuarial experience studies. The Green Bank's allocation of the net pension liability was based on the 2019 covered payroll multiplied by the SERS 2019 contribution rate of 62.25%. As of June 30, 2019 and 2018, the Green Bank's proportion was 0.118992% and 0.116920%, respectively.

For the years ended June 30, 2019 and 2018, the Green Bank recognized pension expense of \$3,966,895 and \$2,354,279, respectively. Pension expense is reported in the Green Bank's financial statements as part of general and administration expense. At June 30, 2019 and 2018, the Green Bank reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

As of June 30, 2019:

	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Difference between expected and actual experience	\$ 910,835	\$
Net difference between projected and actual earnings on pension plan investments		80,906
Change of assumptions	2,811,782	
Change in proportion and differences between employer contributions and proportionate share of contributions	2,290,223	
Green Bank contributions subsequent to the measurement date	<u>1,743,395</u>	
	<u>\$ 7,756,235</u>	<u>\$ 80,906</u>

As of June 30, 2018:

	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Difference between expected and actual experience	\$ 588,152	\$
Net difference between projected and actual earnings on pension plan investments		47,042
Change of assumptions	3,774,843	
Change in proportion and differences between employer contributions and proportionate share of contributions	2,698,456	
Green Bank contributions subsequent to the measurement date	<u>1,717,219</u>	
	<u>\$ 8,778,670</u>	<u>\$ 47,042</u>



**CONNECTICUT GREEN BANK  
 NOTES TO FINANCIAL STATEMENTS  
 FOR THE YEAR ENDED JUNE 30, 2019**

**15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)**

The contributions subsequent to the measurement date of the net pension liability but before the end of the reporting period will be recognized as a reduction of the net pension liability in the subsequent fiscal period. The amount recognized as deferred inflows and outflows of resources, representing the net differences between expected and actual experience and changes in assumptions or other inputs, is amortized over a five-year closed period beginning in the year in which the difference occurs and will be recognized in expense as follows:

Year 1 (2020)	\$	2,191,740
Year 2 (2021)		2,029,206
Year 3 (2022)		1,314,909
Year 4 (2023)		290,008
Year 5 (2024)		<u>106,071</u>
	\$	<u><u>5,931,934</u></u>

**Actuarial Methods and Assumption**

The total pension liability in the June 30, 2018 actuarial valuation was determined based on the results of standard actuarial rollforward techniques. The key actuarial assumptions are summarized below:

Inflation	2.50%
Salary increase	3.50% -19.50% including inflation
Investment rate of return	6.90%, net of pension plan investment expense, including inflation
Cost of living adjustment	1.95%-3.25% for certain tiers

Mortality rates were based on the RP-2014 White Collar Mortality Table projected to 2020 by scale BB at 100% for males and 95% for females is used for the period after service retirement and for dependent beneficiaries. The RP-2014 Disabled Retiree Mortality Table at 65% for males and 85% for females is used for the period after disability.

**Discount Rate**

The discount rate used to measure the total pension liability at June 30, 2018 was the long term expected rate of return, 6.90%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rates and that employer contributions will be made equal to the difference between the projected actuarially determined contribution and member contributions. Projected future benefit payments for all current plan members were projected through the year 2138.

**Expected Rate of Return on Investments**

The long term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rate of return by the target asset allocation percentage and by adding expected inflation.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**15. STATE EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)**

The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-term Expected Real Rate of Return</u>
Large Cap U.S. Equities	21.0%	5.8%
Developed Non-U.S. Equities	18.0%	6.6%
Emerging Market (non-U.S.)	9.0%	8.3%
Real Estate	7.0%	5.1%
Private Equity	11.0%	7.6%
Alternative Investments	8.0%	4.1%
Fixed Income (Core)	8.0%	1.3%
High Yield Bonds	5.0%	3.9%
Emerging Market Bond	4.0%	3.7%
TIPS	5.0%	1.0%
Cash	4.0%	0.4%
	<u>100.0%</u>	

**Sensitivity of Green Bank Proportionate Share of the Net Pension Liability to Changes in the Discount Rates**

The following presents the Green Bank's proportionate share of the net pension liability calculated using the discount rate of 6.90%, as well as the proportionate share of the net pension liability using a 1.00% increase or decrease from the current discount rate.

	<u>1% Decrease</u>	<u>Discount Rate</u>	<u>1% Increase</u>
Green Bank's proportionate share of the net pension liability	\$ 30,793,742	\$ 25,805,346	\$ 21,643,071

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**16. POST EMPLOYMENT BENEFITS**

In addition to the pension benefits described in Note 15, the State single-employer plan provides post-employment health care and life insurance benefits in accordance with State statutes, Sections 5-257(d) and 5-259(a), to all eligible employees who retire from the State, including employees of Connecticut Green Bank.

**Plan Description**

Currently, 4 employees meet those eligibility requirements. When employees retire, the State pays up to 100% of their health care insurance premium cost (including dependent's coverage) depending upon the plan. The State currently pays up to 20% of the cost for retiree dental insurance (including dependent's coverage) depending upon the plan. In addition, the State pays 100% of the premium cost for a portion of the employees' life insurance continued after retirement. The amount of life insurance, continued at no cost to the retiree, is determined based on the number of years of service that the retiree had with the State at time of retirement as follows: (a) if the retiree had 25 years or more of service, the amount of insurance will be one-half of the amount of insurance for which the retiree was insured immediately prior to retirement, but the reduced amount cannot be less than \$10,000; (b) if the retiree had less than 25 years of service, the amount of insurance will be the proportionate amount that such years of service is to 25, rounded to the nearest \$100. The State finances the cost of post-employment health care and life insurance benefits on a pay-as you-go basis through an appropriation in the General Fund.

In accordance with the Revised State Employees Bargaining Agent Coalition (SEBAC) 2011 Agreement between the State of Connecticut and the SEBAC, all employees shall pay the three percent (3%) retiree health care insurance contribution for a period of ten (10) years or retirement, whichever is sooner. In addition, participants of Tier III shall be required to have fifteen (15) years of actual State service to be eligible for retirement health insurance. Deferred vested retirees who are eligible for retiree health insurance shall be required to meet the rule of seventy-five (75), which is the combination of age and actual State service equaling seventy-five (75) in order to begin receiving retiree health insurance based on applicable SEBAC agreement.

**Contributions Made**

Green Bank's contribution is determined by applying a State mandated percentage to eligible salaries and wages as follows for the years ended June 30:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Contributions made:			
By employees	\$ 125,622	\$ 130,954	\$ 139,356
Percent of current year covered payroll	2.9%	2.6%	2.8%
Percent of required contributions	100.0%	100.0%	100.0%
By Green Bank	\$ 1,164,217	\$ 1,264,900	\$ 956,207
Percent of current year covered payroll	26.4%	24.7%	18.9%
Percent of required contributions	100.0%	100.0%	100.0%

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**16. POST EMPLOYMENT BENEFITS (CONTINUED)**

**OPEB Liabilities, OPEB Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources**

The implementation of GASB 75 resulted in the Green Bank reporting an initial net OPEB liability for fiscal year 2017. The Statement required the Green Bank to recognize a net OPEB liability for the difference between the present value of the projected benefits for the past service known as the Total OPEB Liability (TOL) and the restricted resources held in trust for the payment of OPEB benefits, known as the Fiduciary Net Position (FNP). For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the FNP and additions to/deductions from FNP have been determined on the same basis as they are reported by SERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit term. Investments are recorded at fair value.

At June 30, 2019 and 2018, the Green Bank reported a liability of \$24,000,448 and \$24,875,889, respectively, for its proportionate share of the net OPEB liability. The net OPEB liability as of June 30, 2019 was measured as of June 30, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by the actuarial valuation as of that date based on actuarial experience studies. The Green Bank's allocation of the net OPEB liability was based on the 2018 covered payroll multiplied by the OPEB 2018 contribution rate of 37.06%. As of June 30, 2018 and 2017, the Green Bank's proportion was 0.139017% and 0.143273%, respectively.

For the years ended June 30, 2019 and June 30, 2018, the Green Bank recognized OPEB expense of \$1,783,370 and \$1,919,366, respectively. OPEB expense is reported in the Green Bank's financial statements as part of salaries and benefits. At June 30, 2019 and June 30, 2018, the Green Bank reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

As of June 30, 2019:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Net difference between projected and actual earnings on pension plan investments	\$	\$ 10,273
Change of assumptions		1,282,713
Change in proportion and differences between employer contributions and proportionate share of contributions	567,930	602,613
Green Bank contributions subsequent to the measurement date	<u>1,164,217</u>	
	<u>\$ 1,732,147</u>	<u>\$ 1,895,599</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**16. POST EMPLOYMENT BENEFITS (CONTINUED)**

As of June 30, 2018:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Net difference between projected and actual earnings on pension plan investments	\$	\$ 28,159
Change of assumptions		596,791
Change in proportion and differences between employer contributions and proportionate share of contributions	733,992	
Green Bank contributions subsequent to the measurement date	<u>1,265,019</u>	
	<u>\$ 1,999,011</u>	<u>\$ 624,950</u>

The contributions subsequent to the measurement date of the net pension liability but before the end of the reporting period will be recognized as a reduction of the net pension liability in the subsequent fiscal period. The amount recognized as deferred outflows of resources, representing change in proportion and differences between employer contributions and proportionate share of contributions, deferred inflows of resources, representing the net difference between projected and actual earnings, and changes in plan assumptions, is amortized over a five-year closed period beginning in the year in which the difference occurs and will be recognized in expense as follows:

Year 1 (2020)	\$ 295,356
Year 2 (2021)	295,356
Year 3 (2022)	295,359
Year 4 (2023)	306,326
Year 5 (2024)	<u>135,272</u>
	<u>\$ 1,327,669</u>

**Actuarial Methods and Assumption**

The total OPEB liability in the June 30, 2018 actuarial valuation was determined based on standard actuarial rollforward techniques. The key actuarial assumptions are summarized below:

Payroll growth rate	3.50%
Salary increase	3.25% to 19.50% varying by years of service and retirement system
Discount rate	3.95% as of June 30, 2018 and 3.68% as of June 30, 2017
Health care cost trend rates	
Medical	6.5% graded to 4.5% over 4 years
Prescription Drug	8.0% graded to 4.5% over 7 years
Dental and Part B	4.5%
Administrative Expense	3.0%

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**16. POST EMPLOYMENT BENEFITS (CONTINUED)**

Mortality rates were based on the RP-2014 White Collar Mortality Table projected to 2020 by scale BB at 100% for males and 95% for females is used for the period after service retirement and for dependent beneficiaries. The RP-2014 Disabled Retiree Mortality Table at 65% for males and 85% for females is used for the period after disability.

**Discount Rate**

The discount rate is a blend of the long-term expected rate of return on OPEB Trust assets (6.9% as of June 30, 2018 and June 30, 2017) and a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rate of AA/Aa or higher (3.87% as of June 30, 2018 and 3.58% as of June 30, 2017). The final discount rate used to measure to total OPEB liability was 3.95% as of June 30, 2018 and 3.68% as of June 30, 2017. The blending is based on the sufficiency of projected assets to make projected benefit payments.

**Expected Rate of Return on Investments**

The long term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rate of return by the target asset allocation percentage and by adding expected inflation.

The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-term Expected Real Rate of Return</u>
Large Cap U.S. Equities	21.0%	5.8%
Developed Non-U.S. Equities	18.0%	6.6%
Emerging Market (non-U.S.)	9.0%	8.3%
Real Estate	7.0%	5.1%
Private Equity	11.0%	7.6%
Alternative Investments	8.0%	4.1%
Fixed Income (Core)	8.0%	1.3%
High Yield Bonds	5.0%	3.9%
Emerging Market Bond	4.0%	3.7%
Inflation Linked Bonds	5.0%	1.0%
Cash	4.0%	0.4%
	<u>100.0%</u>	

**CONNECTICUT GREEN BANK  
 NOTES TO FINANCIAL STATEMENTS  
 FOR THE YEAR ENDED JUNE 30, 2019**

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**16. POST EMPLOYMENT BENEFITS (CONTINUED)**

**Sensitivity of Green Bank Proportionate Share of the Net OPEB Liability to Changes in the Discount Rates**

The following presents the Green Bank's proportionate share of the net OPEB liability calculated using the discount rate of 3.95%, as well as the proportionate share of the net OPEB liability using a 1.00% increase or decrease from the current discount rate.

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Total OPEB liability	\$ 27,838,767	\$ 24,000,448	\$ 20,883,487

**Sensitivity of Green Bank Proportionate Share of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates**

The following presents the Green Bank's proportionate share of the net OPEB liability, as well as what the Green Bank's share of the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1 percentage point lower or 1 percentage point higher than the current healthcare cost trend rates:

	<u>1% Decrease</u>	<u>Healthcare Cost Trend Rates</u>	<u>1% Increase</u>
Total OPEB liability	\$ 20,442,821	\$ 24,000,448	\$ 28,508,476

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**17. RESTRICTED NET POSITION**

Restricted net position at June 30, 2019 and 2018, consisted of the following:

	<u>2019</u>	<u>2018</u>
Primary Government		
Nonexpendable:		
Connecticut Innovations, Inc. equity interest	\$ -	\$ 95,745
Energy Programs:		
Connecticut Green Bank:		
Assets restricted for maintaining loan loss and interest rate buydown reserves	4,060,359	5,464,519
Assets restricted by contractual obligations under Clean Renewable Energy Bond	3,568,162	10,556,220
Assets restricted by contractual obligations for maintaining pledge accounts for loan guarantees	1,207,665	1,383,254
Assets restricted by contractual obligations for health and safety revolving loan fund	20,000	1,500,000
Assets restricted by contractual obligations for Kresge loan	1,000,000	
SHREC ABS 1 LLC:		
Assets restricted by contractual obligations for maintaining liquidity and trustee reserves	1,249,920	
CT Solar Loan I LLC:		
Assets restricted by contractual obligations for maintaining loan loss reserve	301,481	301,063
	<u>11,407,587</u>	<u>19,205,056</u>
Discretely Presented Component Units		
CT Solar Lease 2 LLC:		
Nonexpendable:		
Firststar Development Corporation equity interest	16,411,193	16,786,995
Firststar Development Corporation invested in capital assets net of related debt	31,164,155	32,547,026
Firststar Development Corporation assets restricted for maintaining loan loss reserve	3,623,241	3,476,188
Firststar Development Corporation assets restricted for operating and maintenance reserve	990,000	990,000
	<u>52,188,589</u>	<u>53,800,209</u>
Energy Programs:		
Assets restricted for maintaining loan loss reserve	36,598	35,113
Assets restricted for operating and maintenance reserve	10,000	10,000
	<u>46,598</u>	<u>45,113</u>
CEFIA Solar Services:		
Energy Programs:		
Assets restricted for maintaining loan loss reserve	83,000	
CT Solar Lease 3 LLC:		
Nonexpendable:		
Firststar Development Corporation equity interest	3,768,040	2,296,604
Firststar Development Corporation invested in capital assets net of related debt	10,944,990	10,303,746
	<u>14,713,030</u>	<u>12,600,350</u>
	<u>\$ 78,438,804</u>	<u>\$ 85,746,473</u>



**CONNECTICUT GREEN BANK  
 NOTES TO FINANCIAL STATEMENTS  
 FOR THE YEAR ENDED JUNE 30, 2019**

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**18. RISK MANAGEMENT**

The Green Bank is subject to normal risks associated with its operations including property damage, personal injury and employee dishonesty. All risks are managed through the purchase of commercial insurance. There have been no losses exceeding insurance coverage, and there have been no decreases in insurance coverage over the last three years.

**19. RENEWABLE ENERGY CREDITS (PRIMARY GOVERNMENT)**

The Green Bank owns Class 1 Renewable Energy Credits (RECs) that are generated by certain commercial renewable energy facilities for which the Green Bank provided the initial funding. Through its Residential Solar Incentive Program (RSIP), the Green Bank owns the rights to future RECs generated by facilities installed on residential properties placed in service prior to January 1, 2015. The Green Bank has entered into contracts with various third parties to sell RECs generated through vintage year 2019. For the years ended June 30, 2019 and 2018 the Green Bank generated and sold its contractual obligations of 30,000 RECs for vintage year 2019 and 48,471 RECs for vintage year 2018, respectively. Revenues generated from REC sales for the years ending June 30, 2019 and 2018 were \$420,000 and \$547,551, respectively.

As of June 30, 2019, the Green Bank has contractual obligations to sell RECs by vintage year as follows:

<u>Vintage</u>	<u>Quantity</u>
2019	40,000
2020	41,000
2021	40,000
2022	<u>12,000</u>
	<u>133,000</u>

Based on historical performance, management believes that the RECs it will receive from these commercial and residential facilities will exceed its contractual obligations.

RECs trade on the New England Power Pool (NEPOOL) market. The market price of Connecticut Class 1 RECs as of June 30, 2019 ranged from \$21.25 to \$24.25. The Green Bank's inventory of RECs generated by commercial facilities as of June 30, 2019 and 2018, was \$30,542 and \$40,520, respectively. The Green Bank recorded its inventory as of June 30, 2019 at cost, which is below market price.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2019**

**19. RENEWABLE ENERGY CREDITS (PRIMARY GOVERNMENT) (CONTINUED)**

Public Act No.15-194 (the Act) enacted on October 1, 2015 and as amended by Public Act 16-212 created a Solar Home Energy Credit (SHREC) associated with energy generated from qualifying residential solar PV systems that have received incentives under the Green Bank’s RSIP. Each SHREC represents 1 megawatt hour of electrical generation. Under the Act, the Green Bank will own these SHRECs. The Act requires these SHRECs to be purchased by the State’s two investor owned public utilities from the Green Bank through a Master Purchase Agreement (MPA) which was executed on February 7, 2017. The MPA commences on January 1, 2015 and terminates the earlier of the year ending December 31, 2022 or with the deployment of solar PV systems that in the aggregate can generate 300 megawatts of electricity. During each year of the MPA’s term, solar PV facilities that commence operation will be aggregated into a tranche agreement between the Green Bank and the utility companies which will be approved by the State’s Public Utility Regulatory Authority (PURA) prior to its execution. Each tranche will state the price set by the Green Bank for the purchase of a SHREC generated by the PV systems within that tranche for a period of 15 years. As of June 30, 2019, the following tranche agreements have been entered into with the public utilities:

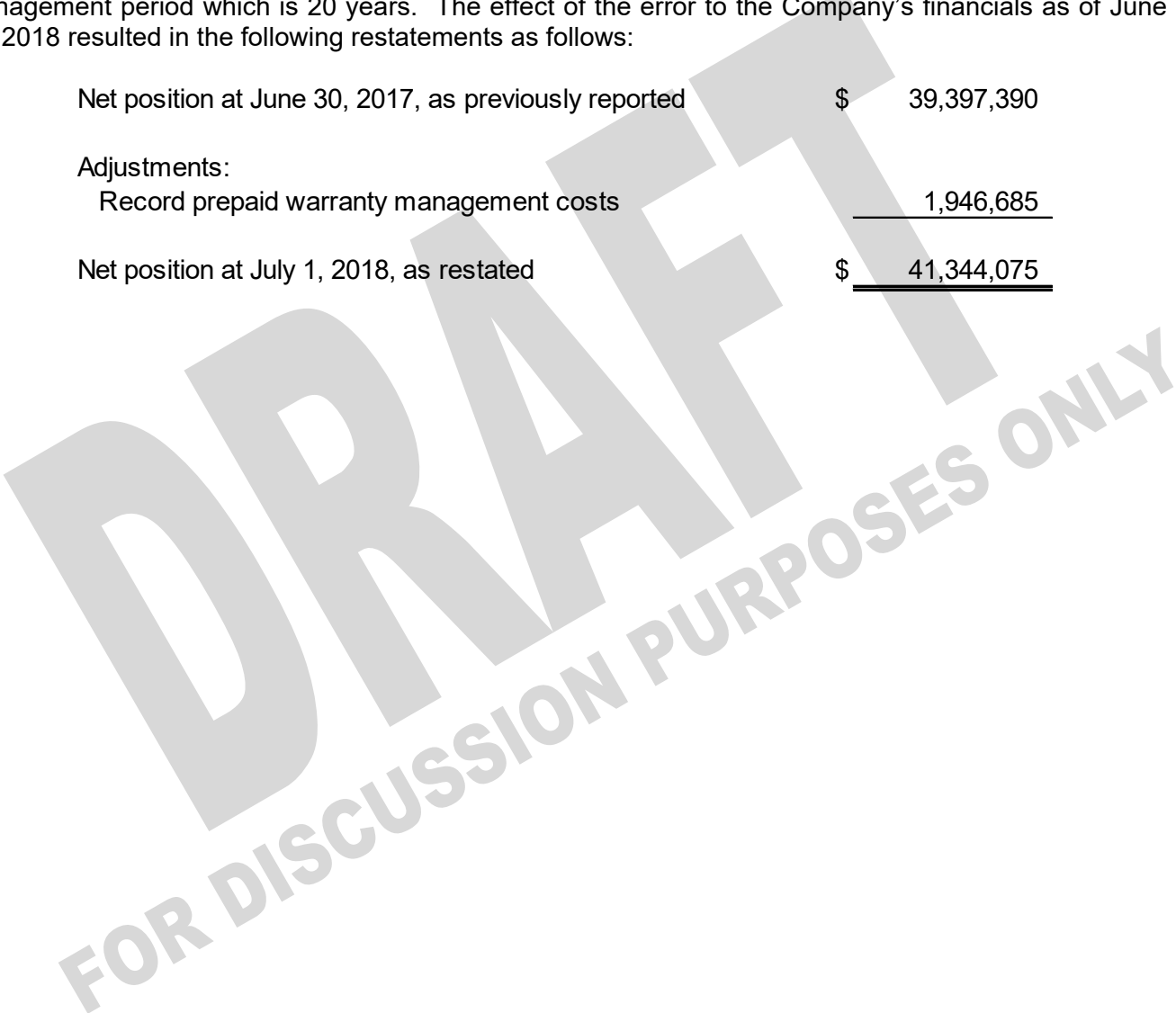
	<u>Date</u>	<u>REC Price</u>	<u>Megawatts</u>
Tranche 1	7/1/2017	\$ 50.00	47.176
Tranche 2	7/15/2018	49.00	59.836
Tranche 3	6/28/2019	48.00	<u>39.275</u>
			<u>146.287</u>

SHRECs are created and certificated in the New England Power Pool Generation System (NEPOOL GIS). SHRECs are certificated by NEPOOL GIS during the fifth month subsequent to the end of the quarter in which the electricity was generated. Once certificated ownership of the SHRECs is transferred to each public utility, payment is received by the Green Bank 30 days later. The Green Bank recognizes income upon the delivery of the SHRECs to each public utility. The Green Bank is not committed to deliver a specific amount of SHRECs to each utility during the term of the MPA. For the years ending June 30, 2019 and 2018 the Green Bank recognized \$4,916,117 and \$2,259,250 in SHREC sales, respectively.

**20. PRIOR PERIOD ADJUSTMENT AND RESTATEMENT**

The following restatement was recorded to the beginning net position as a result an error consisting of warranty management costs previously expensed as incurred for CT Solar Lease 2 LLC. These amounts should have been amortized as a prepaid expense over the life of the contracted warranty management period which is 20 years. The effect of the error to the Company’s financials as of June 30, 2018 resulted in the following restatements as follows:

Net position at June 30, 2017, as previously reported	\$ 39,397,390
Adjustments:	
Record prepaid warranty management costs	<u>1,946,685</u>
Net position at July 1, 2018, as restated	<u>\$ 41,344,075</u>



**REQUIRED SUPPLEMENTARY  
INFORMATION**

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

**CONNECTICUT GREEN BANK  
SCHEDULE OF GREEN BANK'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY  
LAST FIVE FISCAL YEARS\***

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As of June 30,

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Green Bank's portion of the net pension liability	0.11899%	0.11692%	0.10994%	0.09741%	0.09304%
Green Bank's proportionate share of the net pension liability	\$ 25,805,346	\$ 24,636,114	\$ 25,245,439	\$ 16,096,113	\$ 14,899,766
Green Bank's covered employee payroll	\$ 4,406,561	\$ 5,120,449	\$ 5,061,287	\$ 4,695,647	\$ 4,013,411
Green Bank's proportionate share of the net pension liability as a percentage of its covered payroll	585.61%	481.11%	498.79%	342.79%	371.25%
Plan fiduciary net position as a percentage of the total pension liability	36.62%	36.25%	31.69%	39.23%	39.54%

\*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available.

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

**CONNECTICUT GREEN BANK  
SCHEDULE OF GREEN BANK'S PROPORTIONATE CONTRIBUTIONS TO THE STATE EMPLOYEES' RETIREMENT SYSTEM (SERS)  
LAST EIGHT FISCAL YEARS\***

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012*</u>
Contractually required contribution	\$ 1,743,395	\$ 1,717,420	\$ 1,713,946	\$ 1,615,681	\$ 1,974,507	\$ 1,669,961	\$ 1,125,649	\$ 601,014
Contributions in relation to the contractually required contribution	<u>1,743,395</u>	<u>1,717,420</u>	<u>1,713,946</u>	<u>1,615,681</u>	<u>1,974,507</u>	<u>1,669,961</u>	<u>1,125,649</u>	<u>601,014</u>
Contribution deficiency (excess)	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>
Green Bank's covered payroll	\$ 4,406,561	\$ 5,120,449	\$ 5,061,287	\$ 4,695,647	\$ 4,013,411	\$ 3,121,583	\$ 2,517,190	\$ 1,541,308
Contributions as a percentage of covered payroll	39.56%	33.54%	33.86%	34.41%	49.20%	53.50%	44.72%	38.99%

\*Note: The Green Bank had no employees prior to 2012. Years 2015 through 2012 include contributions for other post employment benefits (OPEB) in addition to contributions for the SERS plan. The allocation of the total contribution between SERS and OPEB is not available for this period.

**CONNECTICUT GREEN BANK  
 SCHEDULE OF GREEN BANK'S PROPORTIONATE SHARE OF THE NET OPEB LIABILITY  
 LAST THREE FISCAL YEARS\***

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As of June 30,

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Green Bank's portion of the net OPEB liability	0.13902%	0.14327%	0.13805%
Green Bank's proportionate share of the net OPEB liability	\$ 24,000,448	\$ 24,875,889	\$ 23,803,688
Green Bank's covered employee payroll	\$ 4,406,561	\$ 5,120,449	\$ 5,061,287
Green Bank's proportionate share of the net OPEB liability as a percentage of its covered payroll	544.65%	485.81%	470.31%
Plan fiduciary net position as a percentage of the total OPEB liability	4.69%	3.03%	1.94%

\*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available.

DRAFT  
 FOR DISCUSSION PURPOSES ONLY

**CONNECTICUT GREEN BANK  
SCHEDULE OF GREEN BANK'S PROPORTIONATE CONTRIBUTIONS TO THE STATE  
EMPLOYEES' OTHER POST EMPLOYMENT BENEFIT PLAN  
LAST FOUR FISCAL YEARS\***

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>
Contractually required contribution	\$ 1,164,217	\$ 1,264,900	\$ 956,207	\$ 840,178
Contributions in relation to the contractually required contribution	<u>1,164,217</u>	<u>1,264,900</u>	<u>956,207</u>	<u>840,178</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Green Bank's covered employee payroll	\$ 4,406,561	\$ 5,120,449	\$ 5,061,287	\$ 4,695,647
Contributions as a percentage of covered payroll	26.42%	24.70%	18.89%	17.89%

\*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available.

**DRAFT**  
FOR DISCUSSION PURPOSES ONLY



**STATISTICAL SECTION**  
(unaudited)

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

# FINANCIAL STATISTICS

**DRAFT**  
FOR DISCUSSION PURPOSES ONLY

**CONNECTICUT GREEN BANK  
STATISTICAL SECTION INTRODUCTION**

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This part of the Connecticut Green Bank's (CGB's) comprehensive annual financial report presents detailed information as a context for understanding what the information about the primary government and the discretely presented component units in the financial statements, note disclosures, and required supplementary information says about the benefits of CGB's investments.

**FINANCIAL STATISTICS**

**CONTENTS** **PAGE**

**Financial Trends** ..... 76-79

These schedules contain trend information to help the reader understand how CGB's financial performance and well-being have changed over time.

**Revenue Capacity** ..... 80-81

These schedules contain information to help the reader assess CGB's most significant local revenue sources.

**Debt Capacity** ..... 82

These schedules present information to help the reader assess the affordability of the government's current level of outstanding debt and the CGB's ability to issue additional debt in the future.

**Demographic and Economic Information** ..... 83-84

These schedules offer demographic and economic indicators to help the reader understand the environment within which CGB's financial activities take place.

**Operating Information** ..... 85-87

These schedules contain service and infrastructure data to help the reader understand how the information in CGB's financial report relates to the services CGB provides and the activities it performs.

**CONNECTICUT GREEN BANK  
NET POSITION BY COMPONENT  
Last Eight Fiscal Years\***

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>Primary Government</b>								
Invested in capital assets, net of related debt	\$ 2,511,829	\$ 963,469	\$ 198,486	\$ 248,752	\$ 263,839	\$ 289,932	\$ 362,505	\$ 91,329
Restricted Net Position:								
Nonexpendable		95,745	91,121	79,179	41,845	8,379	1,000	
Restricted - energy programs	11,407,587	19,205,056	16,798,606	5,249,983	4,299,005	4,595,715	5,036,656	176,974
Unrestricted	51,057,268	59,233,709	(1) 79,830,841	116,273,628	104,840,938	97,747,386	93,717,230	80,920,002
	64,976,684	79,497,979	96,919,054	121,851,542	109,445,627	102,641,412	99,117,391	81,188,305
<b>CT Solar Lease 2 LLC</b>								
Invested in capital assets, net of related debt	1,330,432	1,347,368	1,356,697	485,108	278,307	35,390		
Restricted Net Position:								
Nonexpendable	60,294,483	62,208,324	64,596,932	66,364,332	36,508,164	7,617,084	4,691,594	
Restricted - energy programs	46,598	45,113	45,028	45,000	45,000	45,000	45,000	
Unrestricted (deficit)	(22,648,568)	(22,283,629)	(25,125,419)	(32,934,704)	(21,703,932)	(4,105,401)	(1,853,380)	
	39,022,945	41,317,176	40,873,238	33,959,736	15,127,539	3,592,073	2,883,214	-
<b>CEFIA Solar Services, Inc.</b>								
Restricted Net Position:								
Nonexpendable	83,000							
Restricted - energy programs	432,139	559,958	486,565	346,379	224,754	109,223	100	
Unrestricted (deficit)	515,139	559,958	486,565	346,379	224,754	109,223	100	-
<b>CT Solar Lease 3 LLC</b>								
Net investment in capital assets	121,106	111,852						
Restricted Net Position:								
Nonexpendable	15,757,514	13,369,938						
Restricted - energy programs	(3,527,528)	(4,076,898)						
Unrestricted (deficit)	12,351,092	9,404,892	-	-	-	-	-	-
<b>Eliminations</b>	(40,583,744)	(39,454,629)	(31,562,901)	(28,795,323)	(15,630,676)	(5,549,471)	(3,500,100)	
<b>Total Net Position</b>	<u>\$ 76,282,116</u>	<u>\$ 91,325,376</u>	<u>\$ 106,715,956</u>	<u>\$ 127,362,334</u>	<u>\$ 109,167,244</u>	<u>\$ 100,793,237</u>	<u>\$ 98,500,605</u>	<u>\$ 81,188,305</u>

\*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

(1) Restated

**CONNECTICUT GREEN BANK  
CHANGES IN NET POSITION  
Last Eight Fiscal Years\***

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>Primary Government</b>								
<b>Operating Revenues</b>	\$ 39,929,257	\$ 44,481,207	\$ 44,040,016	\$ 69,250,883	\$ 72,038,472	\$ 52,301,283	\$ 43,343,093	\$ 39,753,684
<b>Operating Expenses</b>								
Cost of good sold - energy systems	4,601,431	12,979,629	11,333,034	28,826,974	22,526,874	2,794,270		
Grants and program expenditures	15,598,111	18,932,920	18,128,022	11,539,070	10,686,366	13,798,012	17,767,885	27,977,688
Program administration expenditures	13,586,373	13,206,508	13,228,749	13,964,097	10,833,325	9,150,664	5,866,580	3,144,667
General and administrative expenses	5,484,608	5,431,801	5,228,711	4,445,648	2,984,178	2,408,715	1,811,227	1,387,854
Total Operating Expenses	39,270,523	50,550,858	47,918,516	58,775,789	47,030,743	28,151,661	25,445,692	32,510,209
<b>Operating Income (Loss)</b>	658,734	(6,069,651)	(3,878,500)	10,475,094	25,007,729	24,149,622	17,897,401	7,243,475
<b>Nonoperating Revenue (Expenses)</b>								
Interest income - promissory notes	3,907,759	3,291,701	2,921,710	2,895,504	2,625,308	1,034,953	583,575	589,007
Interest income - short-term investments	400,407	311,730	189,237	92,536	83,761	98,383	103,928	140,786
Interest income	64,544	62,981	61,455	60,127	58,511	57,407		
Interest expense - long-term debt	(772,225)	(172,817)	(228,502)	(61,796)	(26,985)			
Interest expense - component units	(429)							
Debt issuance costs	(1,738,746)							
Distributions to former members	(1,000)							
Realized gain (loss) on investments	(104,466)	(510,207)	(93,974)	(33,723)	(1,180,285)	(350,000)	(1,034,605)	
Unrealized gain (loss) on investments			(999,998)			349,999	378,059	434,702
Provision for loan losses	(2,908,974)	(361,711)	(956,489)	(1,021,826)	(563,825)	(1,310,933)		
Net Nonoperating Revenues (Expenses)	(1,153,130)	2,621,677	893,439	1,930,822	996,485	(120,191)	30,957	1,164,495
<b>Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)</b>	(494,396)	(3,447,974)	(2,985,061)	12,405,916	26,004,214	24,029,431	17,928,358	8,407,970
<b>Capital Contributions</b>							1,000	
<b>Transfers to State of Connecticut</b>	(14,000,000)	(14,000,000)			(19,200,000)	(6,200,000)		
<b>Change in Net Position</b>	\$ (14,494,396)	\$ (17,447,974)	\$ (2,985,061)	\$ 12,405,916	\$ 6,804,214	\$ 17,829,431	\$ 17,929,358	\$ 8,407,970

\*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

CONNECTICUT GREEN BANK  
 CHANGES IN NET POSITION (CONTINUED)  
 Last Eight Fiscal Years\*

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>CT Solar Lease 2 LLC</b>								
<b>Operating Revenues</b>	\$ 3,940,415	\$ 3,836,228	\$ 3,659,883	\$ 2,416,597	\$ 210,869	\$ 1,770	\$	\$
<b>Operating Expenses</b>								
Program administration expenditures	3,517,018	4,083,177	3,884,129	3,078,633	1,201,123	600,186		
General and administrative expenses	274,833	288,724	620,912	305,217	124,748	127,511	853,480	
Total Operating Expenses	3,791,851	4,371,901	4,505,041	3,383,850	1,325,871	727,697	853,480	
<b>Operating Income (Loss)</b>	148,564	(535,673)	(845,158)	(967,253)	(1,115,002)	(725,927)	(853,480)	-
<b>Nonoperating Revenue (Expenses)</b>								
Interest on short-term investments	16,741	23,541	17,615	27,777	9,207	8,642		
Interest expense	(1,281,591)	(1,281,262)	(1,054,848)	(729,170)	(150,871)	(57,407)		
Unrealized gain (loss) on investments	(694,702)	712,355	1,086,987	(967,791)	(660,073)			
Net Nonoperating Revenues (Expenses)	(1,959,552)	(545,366)	49,754	(1,669,184)	(801,737)	(48,765)	-	-
<b>Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)</b>	(1,810,988)	(1,081,039)	(795,404)	(2,636,437)	(1,916,739)	(774,692)	(853,480)	
<b>Capital Contributions</b>		114,755	8,145,358	21,770,182	13,556,783	1,496,135	3,736,694	
<b>Distributions to Members</b>	(510,142)	(509,564)	(436,452)	(301,548)	(104,579)	(12,584)		
<b>Change in Net Position</b>	\$ (2,321,130)	\$ (1,475,848)	\$ 6,913,502	\$ 18,832,197	\$ 11,535,465	\$ 708,859	\$ 2,883,214	\$ -

\*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

DRAFT  
 FOR DISCUSSION PURPOSES ONLY

CONNECTICUT GREEN BANK  
 CHANGES IN NET POSITION (CONTINUED)  
 Last Eight Fiscal Years\*

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>CEFIA Solar Services, Inc.</b>								
<b>Operating Revenues</b>	\$ 176,938	\$ 132,458	\$ 129,227	\$ 126,075	\$ 123,000	\$ 120,000	\$ -	\$ -
<b>Operating Expenses</b>								
Grants and program expenditures	223,512	61,520						
General and administrative expenses	4,600	4,601	4,998	4,750	8,450	10,877		
Total Operating Expenses	228,112	66,121	4,998	4,750	8,450	10,877	-	-
<b>Operating Income (Loss)</b>	(51,174)	66,337	124,229	121,325	114,550	109,123	-	-
<b>Nonoperating Revenue (Expenses)</b>								
Interest on short-term investments	585	4,827	16,446	300	981			
Interest income	48,129	46,958	31,437					
Interest expense long-term debt	(42,359)	(44,729)	(31,926)					
Net Nonoperating Revenues (Expenses)	6,355	7,056	15,957	300	981	-	-	-
<b>Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)</b>	(44,819)	73,393	140,186	121,625	115,531	109,123	-	-
<b>Capital Contributions</b>							100	
<b>Change in Net Position</b>	\$ (44,819)	\$ 73,393	\$ 140,186	\$ 121,625	\$ 115,531	\$ 109,123	\$ 100	\$ -

\*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>CT Solar Lease 3 LLC</b>								
<b>Operating Revenues</b>	\$ 776,695	\$ 343,814	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Operating Expenses</b>								
Grants and program expenditures	513,289	354,566						
General and administrative expenses	94,125	37,332						
Total Operating Expenses	607,414	391,898	-	-	-	-	-	-
<b>Operating Income (Loss)</b>	169,281	(48,084)	-	-	-	-	-	-
<b>Nonoperating Revenue (Expenses)</b>								
Interest on short-term investments	261	15						
Net Nonoperating Revenues	261	15	-	-	-	-	-	-
<b>Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)</b>	169,542	(48,069)	-	-	-	-	-	-
<b>Capital Contributions</b>	2,855,179	9,483,568						
<b>Distributions to Members</b>	(78,521)	(30,607)						
<b>Change in Net Position</b>	\$ 2,946,200	\$ 9,404,892	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

\*Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

CONNECTICUT GREEN BANK  
 OPERATING REVENUE BY SOURCE  
 Last Eight Fiscal Years Ending June 30,

	Total Operating Revenues	Utility Remittances		RGGI Auction Proceeds		Grant Revenue		Sales of Energy Equipment		Sales of Renewable Energy Certificates		Other Revenues	
		Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual	Revenue	% of Annual
<b>Primary Government</b>													
2019	\$ 39,929,256	\$ 26,094,682	65.4 %	\$ 2,130,255	5.3 %	\$ 200,779	0.5 %	\$ 4,833,647	12.1 %	\$ 5,348,537	13.4 %	\$ 1,321,357	3.3 %
2018	44,481,207	\$ 25,943,182	58.3 %	1,250,260	2.8 %	81,952	0.2 %	13,559,517	30.5 %	2,827,682	6.4 %	818,614	1.8 %
2017	44,040,016	26,404,349	60.0 %	2,392,647	5.4 %	98,486	0.2 %	12,689,540	28.8 %	2,214,000	5.0 %	240,994	0.5 %
2016	69,250,883	26,605,084	38.4 %	6,481,562	9.4 %	589,917	0.9 %	32,767,009	47.3 %	2,419,990	3.5 %	387,321	0.6 %
2015	72,038,471	27,233,987	37.8 %	16,583,545	23.0 %	192,274	0.3 %	25,912,414	36.0 %	1,474,488	2.0 %	641,763	0.9 %
2014	52,301,283	27,779,345	53.1 %	20,074,668	38.4 %	321,642	0.6 %	3,548,840	6.8 %	376,559	0.7 %	200,229	0.4 %
2013	43,343,093	27,621,409	63.7 %	4,744,657	10.9 %	10,035,250	23.2 %	--	--	147,000	0.3 %	794,777	1.8 %
2012	39,753,684	27,025,088	68.0 %	2,052,748	5.2 %	10,435,251	26.2 %	--	--	142,738	0.4 %	97,860	0.2 %
<b>CT Solar Lease 2 LLC</b>													
2019	\$ 3,940,415	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ 738,153	18.7 %	\$ 3,202,263	81.3 %
2018	3,836,228	--	-- %	--	-- %	--	-- %	--	-- %	700,015	18.2 %	3,136,213	81.8 %
2017	3,659,883	--	-- %	--	-- %	--	-- %	--	-- %	356,647	9.7 %	3,303,236	90.3 %
2016	2,416,597	--	-- %	--	-- %	--	-- %	--	-- %	233,793	9.7 %	2,182,804	90.3 %
2015	210,869	--	-- %	--	-- %	--	-- %	--	-- %	--	--	210,869	100.0 %
2014	1,770	--	-- %	--	-- %	--	-- %	--	-- %	--	--	1,770	100.0 %
2013	--	--	-- %	--	-- %	--	-- %	--	-- %	--	--	--	-- %
2012	--	--	-- %	--	-- %	--	-- %	--	-- %	--	--	--	-- %
<b>CEFIA Solar Services Inc.</b>													
2019	\$ 176,938	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ 176,938	100.0 %
2018	132,458	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	132,458	100.0 %
2017	129,227	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	129,227	100.0 %
2016	126,075	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	126,075	100.0 %
2015	123,000	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	123,000	100.0 %
2014	120,000	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	120,000	100.0 %
2013	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
2012	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
<b>CT Solar Lease 3 LLC</b>													
2019	\$ 776,695	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ 402,789	51.9 %	\$ 373,906	48.1 %
2018	343,814	--	-- %	--	-- %	--	-- %	--	-- %	\$ 131,823	38.3 %	211,991	61.7 %
2017	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
2016	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
2015	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
2014	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
2013	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
2012	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
<b>Eliminations</b>													
2019	\$ (3,100,440)	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ (2,038,310)	65.7 %	\$ --	-- %	\$ (1,062,130)	34.3 %
2018	(11,912,052)	\$ --	-- %	--	-- %	--	-- %	(10,777,111)	90.5 %	--	-- %	(1,134,941)	9.5 %
2017	(13,862,578)	--	-- %	--	-- %	--	-- %	(12,689,540)	91.5 %	--	-- %	(1,173,038)	8.5 %
2016	(34,005,320)	--	-- %	--	-- %	--	-- %	(32,767,009)	96.4 %	--	-- %	(1,238,311)	3.6 %
2015	(26,077,923)	--	-- %	--	-- %	--	-- %	(25,895,727)	99.3 %	--	-- %	(182,196)	0.7 %
2014	(3,668,840)	--	-- %	--	-- %	--	-- %	(3,548,840)	96.7 %	--	-- %	(120,000)	3.3 %
2013	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
2012	--	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %	--	-- %
<b>Total Reporting Entity</b>													
2019	\$ 41,722,864	\$ 26,094,682	62.5 %	\$ 2,130,255	5.1 %	\$ 200,779	0.5 %	\$ 2,795,336	6.7 %	\$ 6,489,479	15.6 %	\$ 4,012,333	9.6 %
2018	36,881,655	\$ 25,943,182	70.3 %	1,250,260	3.4 %	81,952	0.2 %	2,782,406	7.5 %	3,659,520	9.9 %	3,164,335	8.6 %
2017	33,966,548	26,404,349	77.7 %	2,392,647	7.0 %	98,486	0.3 %	--	-- %	2,570,647	7.6 %	2,500,419	7.4 %
2016	37,788,235	26,605,084	70.4 %	6,481,562	17.2 %	589,917	1.6 %	--	-- %	2,653,783	7.0 %	1,457,889	3.9 %
2015	46,294,417	27,233,987	58.8 %	16,583,545	35.8 %	192,274	0.4 %	16,687	0.0 %	1,474,488	3.2 %	793,436	1.7 %
2014	48,754,213	27,779,345	57.0 %	20,074,668	41.2 %	321,642	0.7 %	--	-- %	376,559	0.8 %	201,999	0.4 %
2013	43,343,093	27,621,409	63.7 %	4,744,657	10.9 %	10,035,250	23.2 %	--	-- %	147,000	0.3 %	794,777	1.8 %
2012	39,753,684	27,025,088	68.0 %	2,052,748	5.2 %	10,435,251	26.2 %	--	-- %	142,738	0.4 %	97,860	0.2 %



**CONNECTICUT GREEN BANK**  
**SIGNIFICANT SOURCES OF OPERATING REVENUE**  
**Last Eight Fiscal Years**

	Year Ended June 30,															
	2019		2018		2017		2016		2015		2014		2013		2012	
	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total
<b>Utility Remittances <sup>(1)(4)</sup></b>																
Eversource	\$ 20,975,361	80.4 %	\$ 20,842,169	80.3 %	\$ 21,135,147	80.0 %	\$ 21,223,577	79.8 %	\$ 21,899,541	80.4 %	\$ 22,322,100	80.4 %	\$ 22,144,093	80.2 %	\$ 22,037,771	81.5 %
United Illuminating	5,119,321	19.6 %	5,101,013	19.7 %	5,269,202	20.0 %	5,381,507	20.2 %	5,334,446	19.6 %	5,457,245	19.6 %	5,477,316	19.8 %	4,987,317	18.5 %
Total	\$ 26,094,682	100.0 %	\$ 25,943,182	100.0 %	\$ 26,404,349	100.0 %	\$ 26,605,084	100.0 %	\$ 27,233,987	100.0 %	\$ 27,779,345	100.0 %	\$ 27,621,409	100.0 %	\$ 27,025,088	100.0 %
<b>RGGI Auction Proceeds <sup>(2)</sup></b>																
Renewables	\$ 2,130,255	100.0 %	\$ 1,250,260	100.0 %	\$ 2,392,647	100.0 %	\$ 6,481,562	100.0 %	\$ 5,631,156	34.0 %	\$ 7,476,158	37.2 %	\$ 4,744,657	100.0 %	\$ 2,052,748	100.0 %
Energy Efficiency	--	-- %	--	-- %	--	-- %	--	-- %	10,952,389	66.0 %	12,598,510	62.8 %	--	-- %	--	-- %
Total	\$ 2,130,255	100.0 %	\$ 1,250,260	100.0 %	\$ 2,392,647	100.0 %	\$ 6,481,562	100.0 %	\$ 16,583,545	100.0 %	\$ 20,074,668	100.0 %	\$ 4,744,657	100.0 %	\$ 2,052,748	100.0 %
<b>Grant Revenue</b>																
Federal ARRA Grants	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ --	-- %	\$ 8,376,681	83.5 %	\$ 8,738,726	83.8 %
DOE Grants	100,779	50.2 %	56,953	69.5 %	73,486	74.6 %	589,917	100.0 %	143,614	74.7 %	321,642	100.0 %	1,622,569	16.2 %	1,645,525	15.8 %
Private Foundation	100,000	49.8 %	24,999	30.5 %	25,000	25.4 %	--	-- %	48,660	25.3 %	--	-- %	36,000	0.4 %	50,000	0.5 %
Total	\$ 200,779	100.0 %	\$ 81,952	100.0 %	\$ 98,486	100.0 %	\$ 589,917	100.0 %	\$ 192,274	100.0 %	\$ 321,642	100.0 %	\$ 10,035,250	100.0 %	\$ 10,434,251	100.0 %
<b>Sales of Renewable Energy Certificates <sup>(3)</sup></b>																
Gross Proceeds	\$ 6,493,229	100.1 %	\$ 3,670,367	100.3 %	\$ 2,584,147	100.5 %	\$ 2,677,317	100.9 %	\$ 1,474,488	100.0 %	\$ 381,444	101.3 %	\$ 150,000	102.0 %	\$ 146,038	102.3 %
Commissions	(3,750)	(0.1 %)	(10,847)	(0.3 %)	(13,500)	(0.5 %)	(23,534)	(0.9 %)	--	-- %	(4,885)	(1.3 %)	(3,000)	(2.0 %)	(3,300)	(2.3 %)
Total	\$ 6,489,479	100.0 %	\$ 3,659,520	100.0 %	\$ 2,570,647	100.0 %	\$ 2,653,783	100.0 %	\$ 1,474,488	100.0 %	\$ 376,559	100.0 %	\$ 147,000	100.0 %	\$ 142,738	100.0 %

<sup>(1)</sup> Revenue based on Statutory rate of 1 mil per kWh generated by the utility.

<sup>(2)</sup> The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort among nine Northeastern and Mid-Atlantic states to reduce greenhouse gas emissions. RGGI holds quarterly auctions of the member state's CO2 allowances. At auction, a market-based clearing price is determined from prices submitted in the winning bids and is used to value proceeds returned to the states. The Connecticut Green Bank receives a portion of Connecticut's auction proceeds which is recognized as revenue and invested in clean energy programs.

<sup>(3)</sup> CGB owns Class 1 Renewable Energy Credits (RECs) generated by certain commercial renewable energy facilities for which CGB provided the initial funding. Through its RSIP program, CGB owns the rights to future RECs generated by facilities installed on residential properties. CGB enters into contracts to sell RECs generated during specified time periods. RECs trade on the New England Power Pool (NEPOOL) market.

<sup>(4)</sup> In fiscal years 2018 and 2019 the Green Bank made a cash payments to the State of Connecticut of \$14,000,000 per year sourced primarily from utility remittances, a major component of its operating revenues. During fiscal year 2019 the Green Bank will make an additional payment of \$14,000,000 to the State of Connecticut sourced primarily from utility remittances.

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

**CONNECTICUT GREEN BANK  
OUTSTANDING DEBT BY TYPE  
Last Eight Fiscal Years**

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>Primary Government</b>								
Line of Credit (including adjustments)	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 4,000,000	\$ --	\$ --
Cumulative Advances	1,085,956	1,085,956	1,085,956	1,085,956	1,085,956	126,088	--	--
Cumulative Repayments	(789,396)	(712,478)	(577,162)	(394,249)	(232,431)	--	--	--
Cumulative Outstanding Debt	296,560	373,478	508,794	691,707	853,525	126,088	--	--
Available LOC	--	--	--	--	--	3,873,912	--	--
<b>Primary Government</b>								
Line of Credit (including adjustments)	\$ --	\$ 16,000,000	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --
Cumulative Advances	16,000,000	1,000,000	--	--	--	--	--	--
Cumulative Repayments	(16,000,000)	--	--	--	--	--	--	--
Cumulative Outstanding Debt	--	1,000,000	--	--	--	--	--	--
Available LOC	--	15,000,000	--	--	--	--	--	--
<b>Primary Government</b>								
Original Term Note	2,510,837	2,510,837	2,510,837	2,510,837	--	--	--	--
Repayments	(1,143,151)	(921,903)	(541,664)	(8,619)	--	--	--	--
Cumulative Outstanding Debt	1,367,686	1,588,934	1,969,173	2,502,218	--	--	--	--
<b>Primary Government</b>								
Clean Renewable Energy Bond	2,957,971	2,957,971	2,957,971	--	--	--	--	--
Repayments	(159,640)	(53,417)	--	--	--	--	--	--
Cumulative Outstanding Debt	2,798,331	2,904,554	2,957,971	--	--	--	--	--
<b>Primary Government</b>								
Clean Renewable Energy Bond	9,101,729	9,101,729	--	--	--	--	--	--
Repayments	--	--	--	--	--	--	--	--
Cumulative Outstanding Debt	9,101,729	9,101,729	--	--	--	--	--	--
<b>Primary Government</b>								
SHREC ABS Bond	38,600,000	--	--	--	--	--	--	--
Discount	(71,243)	--	--	--	--	--	--	--
Repayments	(101,000)	--	--	--	--	--	--	--
Cumulative Outstanding Debt	38,427,757	--	--	--	--	--	--	--
<b>Primary Government</b>								
Original Term Note	1,000,000	--	--	--	--	--	--	--
Repayments	--	--	--	--	--	--	--	--
Cumulative Outstanding Debt	1,000,000	--	--	--	--	--	--	--
<b>CT Solar Lease 2 LLC</b>								
Line of Credit (including adjustments)	27,600,000	27,600,000	27,600,000	24,000,000	26,700,000	26,700,000	26,700,000	--
Cumulative Advances	27,500,633	27,500,633	27,500,633	18,000,000	3,000,000	--	--	--
Cumulative Repayments	(4,516,713)	(3,835,166)	(2,392,925)	(832,325)	--	--	--	--
Cumulative Outstanding Debt	22,983,920	23,665,467	25,107,708	17,167,675	3,000,000	--	--	--
Available LOC	--	--	--	6,000,000	23,700,000	26,700,000	26,700,000	--
<b>CEFIA Solar Services Inc.</b>								
Original Term Note	1,895,807	1,895,807	1,895,807	--	--	--	--	--
Repayments	(244,875)	(150,085)	(55,295)	--	--	--	--	--
Cumulative Outstanding Debt	1,650,932	1,745,722	1,840,512	--	--	--	--	--
<b>Total Reporting Entity</b>								
Cumulative Outstanding Debt	\$ 77,626,915	\$ 40,379,884	\$ 32,384,158	\$ 20,361,600	\$ 3,853,525	\$ 126,088	\$ --	\$ --
Connecticut Population <sup>(1)</sup>	3,570,000	3,572,665	3,573,880	3,578,674	3,587,509	3,594,783	3,594,915	3,594,395
Total Outstanding Debt Per Capita	\$ 21.7	\$ 11.3	\$ 9.1	\$ 5.7	\$ 1.1	\$ 0.0	\$ --	\$ --

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

<sup>(1)</sup> 2019 population estimate per World Population Review website

**CONNECTICUT GREEN BANK  
 DEMOGRAPHIC AND ECONOMIC STATISTICS - FOR THE STATE OF CONNECTICUT  
 Last Eight Fiscal Years**

<b>Fiscal Year</b>	<b>Population <sup>(1)</sup></b>	<b>Median Age <sup>(2)</sup></b>	<b>Per Capita Income <sup>(3)</sup></b>	<b>Median Household Income <sup>(3)</sup></b>	<b>Population 3 Years and Over Enrolled in Public School <sup>(4)</sup></b>	<b>Unemployment Rate <sup>(5)</sup></b>
2019	n/a	n/a	n/a	n/a	n/a	3.7%
2018	3,572,665	41.0	\$ 44,026	\$ 76,348	720,366	4.4%
2017	3,573,880	40.9	\$ 42,029	\$ 74,168	718,887	5.0%
2016	3,578,674	40.9	\$ 41,087	\$ 73,433	724,486	5.2%
2015	3,587,509	40.8	\$ 39,430	\$ 71,346	730,132	5.5%
2014	3,594,783	40.7	\$ 39,373	\$ 70,048	733,536	6.5%
2013	3,594,915	40.6	\$ 37,726	\$ 67,098	751,810	7.8%
2012	3,594,395	40.5	\$ 36,891	\$ 67,276	760,146	8.5%

- Sources: (1) US Census Bureau - Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018  
 (2) US Census Bureau - Annual Population Estimates for Selected Age Groups by Sex  
 (3) US Census Bureau - SELECTED ECONOMIC CHARACTERISTICS  
 American Community Survey 1-Year Estimates  
 (4) US Census Bureau - SCHOOL ENROLLMENT  
 American Community Survey 1-Year Estimates  
 (5) US Department of Labor - Databases, Tables & Calculators by Subject  
 Local Area Unemployment Statistics

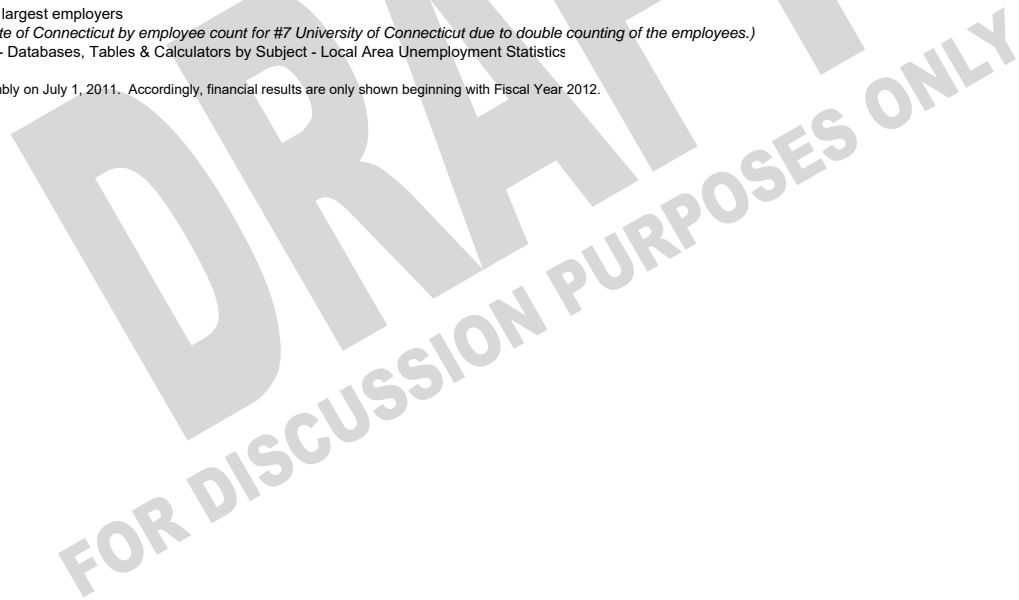
Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are

**CONNECTICUT GREEN BANK  
PRINCIPAL EMPLOYERS - FOR THE STATE OF CONNECTICUT  
Last Six Calendar Years**

Employer	2018			2017			2016			2015			2014			2013		
	Employees <sup>(1)</sup>	Rank	Percentage of Total State Employment <sup>(2)</sup>	Employees <sup>(1)</sup>	Rank	Percentage of Total State Employment <sup>(2)</sup>	Employees <sup>(1)</sup>	Rank	Percentage of Total State Employment <sup>(2)</sup>	Employees <sup>(1)</sup>	Rank	Percentage of Total State Employment <sup>(2)</sup>	Employees <sup>(1)</sup>	Rank	Percentage of Total State Employment <sup>(2)</sup>	Employees <sup>(1)</sup>	Rank	Percentage of Total State Employment <sup>(2)</sup>
State of Connecticut	48,129	1	2.61%	47,752	1	2.63%	48,912	1	2.71%	51,646	1	2.89%	54,230	1	3.05%	53,951	1	3.10%
Yale New Haven Health System	19,416	2	1.05	21,867	2	1.21	19,920	2	1.10	20,071	3	1.12	18,869	3	1.06	18,639	3	1.07
Hartford Healthcare	18,652	3	1.01	18,425	3	1.02	18,135	3	1.01	18,107	4	1.01	18,597	4	1.05	16,951	4	0.98
United Technologies	18,000	4	0.97	16,000	5	0.88	15,000	5	0.83	24,000	2	1.34	25,000	2	1.40	27,000	2	1.55
Yale University	14,440	5	0.78	16,184	4	0.89	15,018	4	0.83	14,787	5	0.83	14,787	5	0.83	14,750	5	0.85
General Dynamics Electric Boat	11,862	6	0.64	11,430	6	0.63	10,230	6	0.57	9,583	6	0.54	8,896	7	0.50	8,817	6	0.51
University of Connecticut	9,760	7	0.53	10,019	7	0.55	9,861	7	0.55									
Wal-Mart Stores Inc.	8,835	8	0.48	8,974	8	0.50	8,800	8	0.49	8,800	7	0.49	9,289	6	0.52	8,761	7	0.50
Sikorsky, A Lockheed Martin Company	7,900	9	0.43	7,730	9	0.43	8,000	9	0.44	N/A	---	--	N/A	---	--	N/A	---	--
The Travelers Cos. Inc.	7,400	10	0.40	7,400	10	0.41	7,400	10	0.41	7,300	8	0.41	7,400	9	0.42	7,400	9	0.43
Mohegan Sun	7,150	11	0.39	6,800	11	0.38	6,735	12	0.37	6,900	10	0.39	7,300	10	0.41	7,300	10	0.42
The Hartford Financial Services Group	6,800	12	0.37	6,800	11	0.38	7,000	11	0.39	7,000	9	0.39	7,000	11	0.39	7,700	11	0.44
Foxwoods Resort Casino	5,500	14	0.30	6,500	13	0.36	6,500	13	0.36	5,301	14	0.30	7,600	8	0.43	7,667	8	0.44

Sources: (1) Hartford Business Journal, Book of Lists: Connecticut's largest employers  
(Beginning in 2017, reduced employee count for #1 State of Connecticut by employee count for #7 University of Connecticut due to double counting of the employees.)  
(2) Total State Employment from US Department of Labor - Databases, Tables & Calculators by Subject - Local Area Unemployment Statistics

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.



**CONNECTICUT GREEN BANK**  
**FTEs BY FUNCTION**  
**Last Eight Fiscal Years**

	Year Ended June 30,							
	2019 <sup>(1)</sup>	2018	2017	2016	2015	2014	2013	2012
<b>Program Services</b>								
Statutory & Infrastructure	8.00	9.00	9.00	9.00	8.00	7.00	7.00	9.00
Residential	1.00	6.00	6.00	6.00	6.00	5.00	3.00	1.00
Commercial & Industrial	4.00	4.00	4.00	4.00	2.00	4.00	2.00	--
Institutional	--	--	--	--	1.00	1.00	1.00	1.00
Subtotal Program Services	13.00	19.00	19.00	19.00	17.00	17.00	13.00	11.00
<b>Administrative &amp; Support</b>								
Executive	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Finance	4.00	6.00	5.00	6.00	5.00	4.00	3.00	1.00
Accounting	5.75	5.75	5.75	5.75	5.30	3.50	2.75	2.20
Legal & Policy	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00
Marketing	5.00	5.00	6.00	6.00	6.00	5.00	5.00	5.00
Operations	3.00	3.50	3.50	3.90	3.50	3.80	4.00	3.85
Subtotal Administrative & Support	24.75	27.25	27.25	28.65	26.80	22.30	20.75	18.05
<b>Total FTEs by Function</b>	<b>37.75</b>	<b>46.25</b>	<b>46.25</b>	<b>47.65</b>	<b>43.80</b>	<b>39.30</b>	<b>33.75</b>	<b>29.05</b>

<sup>(1)</sup> Reflects staff reductions as a result of the cash payments of \$14,000,000 made to the State of Connecticut in FY 2019 and FY 201

Source: Connecticut Green Bank internal payroll records

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

**CONNECTICUT GREEN BANK  
OPERATING INDICATORS BY FUNCTION  
Last Eight Fiscal Years**

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>Clean Energy Investment (\$s in Millions)</b>								
CGB Dollars Invested	\$ 40.7	\$ 34.8	\$ 33.6	\$ 39.3	\$ 57.1	\$ 32.5	\$ 18.7	\$ 3.4
Private Dollars Invested	312.8	218.1	172.6	282.9	267.1	75.3	92.7	6.5
Total Project Investment	353.5	252.9	206.2	322.1	324.1	109.8	111.4	9.9
<b>Number of Clean Energy Projects</b>	12,815	6,743	4,911	7,274	6,492	2,454	1,115	288
<b>Annual Energy Savings of Clean Energy (MMBtu)</b>	306,383	309,190	529,664	364,057	705,025	245,243	463,274	7,539
<b>Installed Capacity of Clean Energy (MW)</b>								
Anaerobic Digesters	--	--	--	1.0	--	--	--	--
Biomass	--	--	--	--	0.6	--	--	--
CHP	0.6	--	--	--	0.3	3.0	0.7	--
CHP/Microgrid	--	--	0.8	--	--	--	--	--
Fuel Cell	--	--	--	--	--	--	--	--
Energy Efficiency	--	--	--	--	--	--	14.8	--
Geothermal	--	--	--	--	--	--	--	--
Hydro	--	--	0.2	--	0.9	--	--	--
Solar PV	72.5	57.5	49.0	65.1	55.6	20.4	8.0	1.9
Wind	--	--	--	--	5.0	--	--	--
Other	0.3	--	--	--	--	--	--	--
Total	73.4	57.5	50.0	66.1	62.4	23.4	23.5	1.9
<b>Lifetime Production of Clean Energy (MWh)</b>								
Anaerobic Digesters	--	--	--	106,171	--	--	--	--
Biomass	--	--	--	--	--	--	--	--
CHP	65,197	--	--	--	31,930	354,780	81,008	--
CHP/Microgrid	--	--	94,017	--	--	--	--	--
Energy Efficiency	47,082	124,068	71,474	109,434	43,781	57,214	4,846	--
Fuel Cell	--	--	--	--	--	--	1,166,832	--
Geothermal	76	152	329	295	38	84	--	--
Hydro	--	--	20,711	--	96,579	--	--	--
Solar PV	2,155,881	1,721,309	1,469,668	1,893,418	1,591,539	581,578	226,886	55,238
Wind	--	--	--	--	118,260	--	--	--
Other	--	--	--	--	--	--	--	--
Total	2,268,236	1,845,529	1,656,199	2,109,318	1,882,127	993,656	1,479,572	55,238
<b>Jobs Created by Year</b>								
Direct Jobs (# of Jobs)	1,453	941	841	1,872	1,730	586	572	58
Indirect and Induced Jobs (# of Jobs)	1,902	1,228	1,153	2,983	2,673	935	1,149	93
<b>Lifetime CO2 Emission Reductions (Tons)</b>								
Avoided Emissions	1,183,050	993,233	847,708	1,129,276	1,047,450	358,049	210,346	31,046
Homes' Energy Use for One Year	128,517	107,897	91,842	122,675	113,120	38,885	22,010	3,373
Passenger Vehicles Driven for One Year	227,865	191,305	163,253	217,508	201,686	68,962	40,437	5,980
Acres of U.S. Forests in One Year	1,263,126	1,060,461	905,105	1,205,712	1,118,400	382,285	224,650	33,148

Source: Internal Connecticut Green Bank Reporting: Key Performance Indicators Data File

Connecticut Green Bank was established by the Connecticut General Assembly on July 1, 2011. Accordingly, financial results are only shown beginning with Fiscal Year 2012.

**CONNECTICUT GREEN BANK**  
**CAPITAL ASSETS STATISTICS BY FUNCTION**  
**Last Eight Fiscal Years\***

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
Capital assets being depreciated:								
Solar lease equipment	\$ 84,919,294	\$ 75,602,983	\$ 64,930,842	\$ 47,534,491	\$ 21,011,832	\$ 1,035,159	\$	\$
Furniture and equipment	4,733,640	4,084,161	169,955	169,423	222,701	338,938	335,744	13,049
Computer hardware and software	201,134	215,458	234,137	212,832	128,628	88,337	136,659	28,460
Leasehold improvements	192,027	192,027	250,981	225,844	153,657	139,682	71,470	56,224
Capital assets not being depreciated:								
WIP solar lease equipment				11,931,740	6,014,560	1,759,111		
Construction in progress				4,502	7,141	7,141		
	<u>90,046,095</u>	<u>80,094,629</u>	<u>65,585,915</u>	<u>60,078,832</u>	<u>27,538,519</u>	<u>3,368,368</u>	<u>543,873</u>	<u>97,733</u>
Less accumulated depreciation and amortization:								
Solar lease equipment	8,715,513	6,053,786	3,619,121	1,600,070	319,144	9,865		
Furniture and equipment	459,632	282,278	136,379	103,079	122,149	205,820	146,560	626
Computer hardware and software	170,590	174,621	164,972	151,573	50,906	33,845	18,093	3,807
Leasehold improvements	177,320	166,723	155,236	109,196	75,232	44,501	16,715	1,971
	<u>9,523,055</u>	<u>6,677,408</u>	<u>4,075,708</u>	<u>1,963,918</u>	<u>567,431</u>	<u>294,031</u>	<u>181,368</u>	<u>6,404</u>
<b>Capital assets, net</b>	<u>\$ 80,523,040</u>	<u>\$ 73,417,221</u>	<u>\$ 61,510,207</u>	<u>\$ 58,114,914</u>	<u>\$ 26,971,088</u>	<u>\$ 3,074,337</u>	<u>\$ 362,505</u>	<u>\$ 91,329</u>

\*Note: This schedule is intended to show information for ten years. Additional years' information will be displayed as it becomes available. The Connecticut Green Bank was established in July 2011.

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**NON-FINANCIAL STATISTICS**



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**CONNECTICUT GREEN BANK  
NON-FINANCIAL STATISTICS INTRODUCTION**

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## 1. Statement of the Connecticut Green Bank

June 30, 2019

Re: Statement of the Connecticut Green Bank on the Non-Financial Statistics Contents of the Comprehensive Annual Financial Report for FY 2019 - Background and Market, Measures of Success, and Market Transformation

Dear Reader:

This is the “Non-Financial Statistics” section of the Comprehensive Annual Financial Report for FY 2019.

In FY 2019, our eighth year of operation, we continued building public private partnerships that leverage limited public funds by attracting private capital to spark the growth of green energy in Connecticut. Despite the challenges of operating on reduced revenues, the Green Bank enjoyed a year of successes including:

- The establishment of a new source of capital for Eversource’s Small Business Energy Advantage (SBEA) program where the Green Bank and Amalgamated Bank provided \$55 million dollars to provide zero interest loans to small businesses and lowered the cost of capital for the state’s ratepayers;
- The establishment of a partnership with Inclusive Prosperity Capital (IPC), a mission driven 501(C)3 lender with significant energy program management and capital raising experience, where IPC manages specific programs and scopes of work on behalf of the Green Bank;
- The issuance of our first asset-backed security which securitized the income from long term purchase contracts for the Solar Home Renewable Energy Credits (SHRECs) generated by the organization’s RSIP. This milestone transaction represents the first REC backed bond and is the first of many for the Green Bank;
- Additional hydroelectric projects financing for a project in Canton, CT and another in Putnam, CT;
- The refinancing of debt for Capital for Change, a local Community Development Financial Institution with a mission aligned to that of the Green Bank’s;
- Continued support for the local fuel cell industry with term and construction financing facilities for a project in Groton, CT and the refinancing of the Bridgeport Fuel Cell Park with Dominion energy;
- Programmatically, the Residential Solar Incentive Program (RSIP) surpassed \$1 Billion of capital deployed and is making significant progress toward its statutory goal of 350MW deployed;

## CONNECTICUT GREEN BANK

### 1. STATEMENT OF THE CONNECTICUT GREEN BANK

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- And the participation of the Green Bank in the Aspen Institute’s MBA Case Study competition where participants were given a Yale School of Management written case study about the Green Bank’s history and challenges and asked to present a strategy to advance the organization.

The year to come also presents the organization with new opportunities. Governor Lamont issued his first Executive Order (EO1<sup>1</sup>) in that mandates state agencies improve their sustainability use and reaffirmed the states commitment to fighting climate change with Executive Order 3 (EO3<sup>2</sup>). The State has a Renewable Portfolio Standard of 40% by 2030. These will undoubtedly take the Green Bank down new roads and drive continued innovation. And the Green Bank intends to apply the lessons learned through the issuance of or bonds in FY 2019 in the years to come and build our bonding capability as central to our operation.

We are making steady progress ensuring that the green economy is accessible to everyone – and throughout this report, the reader will see the progress we are making in underserved markets.

The assembly of the “Non-Financial Statistics” section of the Comprehensive Annual Financial Report is a process of continuous improvement, at the forefront of such is having established methodologies for monitoring and evaluating impact. During FY2019, we continued to make great strides in terms of our Evaluation, Measurement, and Verification agenda. Building on our economic development (i.e., job creation), environmental protection (i.e., air emission reductions), and public health benefits (e.g. reduced hospitalizations, sick days, etc.) from clean energy deployment, we operationalized our methodology to estimate corporate, individual, and sales tax revenues generated for the State of Connecticut from clean energy investment. In FY2020, we intend to focus our efforts to develop methodologies to estimate the energy burden reduction from the deployment of clean energy in Connecticut with a focus on renewable energy as well as working with the Department of Banking on Community Reinvestment Act Investments.

As we continue to bolster our work on social impact methodology and transparency, we have re-engaged Kestrel to assess the Green Bank’s methods for representing impact using our indicators. The team from Kestrel has reviewed and endorsed the Green Bank’s current methodologies and found the Connecticut Green Bank’s reporting to provide a high degree of transparency both in terms of activity and the underlying methodologies used to calculate this activity. They also reviewed the Green Bank’s calculations.

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<sup>1</sup> <https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-1.pdf>

<sup>2</sup> <https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-3.pdf>

**CONNECTICUT GREEN BANK**  
**1. STATEMENT OF THE CONNECTICUT GREEN BANK**

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The result is an ever evolving and more transparent Non-Financial Statistics section that we hope is useful to those striving to learn from the successes and challenges of the Connecticut Green Bank.

Regards,

Bryan Garcia  
President and CEO



Eric Shrago  
Director of Operations

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

## 2. Statement of Non-Financial Statistics Auditor



Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067

**September 20, 2019**

To the Board of Directors  
Connecticut Green Bank:

### **Report on Non-Financial Metrics Included in the 2019 CAFR**

In September 2019, the Connecticut Green Bank engaged Kestrel Verifiers (Kestrel) to conduct an independent external review of the metrics and underlying data collection and calculation methods outlined in the non-financial statistics section of Connecticut Green Bank's Comprehensive Annual Financial Report (CAFR or "Report") for FY2019.

Kestrel evaluated data collection methods and performance calculation methodologies described in the Report and assessed the degree of transparency exhibited in reporting on the following metrics: staff diversity, clean energy generated, job years created, public health benefits, carbon dioxide (CO<sub>2</sub>) emissions avoided, and nitrogen oxides (NO<sub>x</sub>), Sulfur Dioxide (SO<sub>2</sub>), and particulate matter (PM<sub>2.5</sub>) avoided. Kestrel also made recommendations for addressing social and environmental impacts in the report.

We note that the Green Bank's efforts in FY2019 resulted in improved air quality, benefits to public health and productivity, including avoiding premature deaths and lost work days. In total, the cumulative health benefits from CTGB's 2019 efforts are estimated at between \$1,737,717 and \$3,923,485. The Green Bank's FY2019 efforts also resulted in 1,453 direct jobs, an increase of 512 jobs over the previous year, and \$17,883,751 in individual, corporate and sales tax revenue, which supports public programs and services.

Our firm also reviewed non-financial statistics disclosures in the CAFR for alignment with the [United Nations Sustainable Development Goals](#). We determined that the organization meets 8 out of 17 Sustainable Development Goals including: health, affordable and clean energy, economic growth, innovation, sustainable cities/communities, climate action, strong institutions, and partnerships. Most of the other United Nations Sustainability Goals are not relevant to the activities of Connecticut Green Bank.

Based on the information provided to Kestrel Verifiers by Connecticut Green Bank and our understanding of best practices in goal setting, measurement and disclosure, it is our opinion that Connecticut Green Bank's metrics, data collection and calculation methodologies are sound and represent best practice. It is our opinion that Connecticut Green Bank adequately reports on these metrics and performance against them and demonstrates a high level of transparency.

Sincerely,

**Monica Reid**  
CEO  
Kestrel Verifiers

### 3. Organizational Background

The Connecticut Green Bank is the nation’s first green bank. The organization is creating a thriving marketplace to accelerate clean energy adoption in Connecticut by making clean energy financing accessible and affordable for homeowners, businesses and institutions.

#### Governance

##### Board of Directors

Pursuant to Section 16-245n of the General Statutes of Connecticut, the powers of the Connecticut Green Bank are vested in and exercised by the Board of Directors that is comprised of eleven voting and one non-voting member each with knowledge and expertise in matters related to the purpose of the organization – see Table 1.

**Table 1. Composition of the Board of Directors of the Connecticut Green Bank for FY 2019**

<b>Position</b>	<b>Name</b>	<b>Status</b>	<b>Voting</b>
Commissioner of DECD (or designee)	Catherine Smith <sup>3</sup> Binu Chandy <sup>4</sup>	Ex Officio	Yes
Commissioner of DEEP (or designee)	Rob Klee <sup>5</sup> Mary Sotos <sup>6</sup>	Ex Officio	Yes
State Treasurer (or designee)	Bettina Bronisz	Ex Officio	Yes
Finance of Renewable Energy	Unfilled	Resigned	Yes
Finance of Renewable Energy	Kevin Walsh	Appointed	Yes
Labor Organization	John Harrity	Appointed	Yes
R&D or Manufacturing	Gina McCarthy <sup>7</sup>	Appointed	Yes
Investment Fund Management	Eric Brown	Appointed	Yes
Environmental Organization	Matthew Ranelli	Appointed	Yes
Finance or Deployment	Tom Flynn	Appointed	Yes
Residential or Low Income	Betsy Crum	Appointed	Yes
President of the Green Bank	Bryan Garcia	Ex Officio	No

<sup>3</sup> Commissioner Smith served on the Green Bank Board of Directors through the end of her term as DECD Commissioner, January 9, 2019.

<sup>4</sup> Ms. Chandy was appointed to the Green Bank Board of Directors on February 21, 2019.

<sup>5</sup> Commissioner Klee served on the Green Bank Board of Directors through the end of his term as DEEP Commissioner, January 9, 2019.

<sup>6</sup> Deputy Commissioner Sotos was appointed to the Green Bank Board of Directors on January 16, 2019.

<sup>7</sup> Former EPA Administrator McCarthy served on the Green Bank Board of Directors through December 31, 2018.



## CONNECTICUT GREEN BANK

### 3. ORGANIZATIONAL BACKGROUND

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The Board of Directors of the Connecticut Green Bank is governed through statute, as well as an [Ethics Statement](#)<sup>8</sup> and [Ethical Conduct Policy](#)<sup>9</sup>, [Resolutions of Purposes](#)<sup>10</sup>, [Bylaws](#)<sup>11</sup>, [Joint Committee Bylaws](#)<sup>12</sup>, and [Comprehensive Plan](#)<sup>13</sup>. The Comprehensive Plan for the Connecticut Green Bank provides a multi-year strategy to support the vision and mission of the organization and the public policy objective of delivering consumers cheaper, cleaner, and more reliable sources of energy while creating jobs and supporting local economic development. An Employee Handbook and [Operating Procedures](#)<sup>14</sup> have also been approved by the Board of Directors and serve to guide the staff to ensure that it is following proper contracting, financial assistance, and other requirements.

As noted above, the Connecticut Green Bank's Board of Directors is comprised of eleven (11) ex officio and appointed voting members and two (2) ex officio non-voting members. The leadership of the Board of Directors, includes:

- **Chair** - Presently Vacant
- **Vice Chair** - Mary Sotos, Deputy Commissioner of DEEP (voted in by her peers of the Connecticut Green Bank Board of Directors); acting as Chair in absence of a designee
- **Secretary** - Matthew Ranelli, Partner at Shipman and Goodwin (voted in by his peers of the Connecticut Green Bank Board of Directors)
- **Staff Lead** – Bryan Garcia, President and CEO

During FY 2019, the Board of Directors of the Connecticut Green Bank met nine (9) times, including seven (7) regularly scheduled meetings and two (2) special meetings. There was an attendance rate of 70% by the Board of Directors and 42 approved resolutions. For a link to the materials from the Board of Directors meetings that are publicly accessible – click [here](#)<sup>15</sup>.

#### Committees of the Board of Directors

There are four (4) committees of the Board of Directors of the Connecticut Green Bank, including:

- Audit, Compliance, and Governance
- Budget and Operations
- Deployment
- Joint Committee of the Energy Efficiency Board and the Connecticut Green Bank

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<sup>8</sup>Ethics Statement: [http://www.ctgreenbank.com/wp-content/uploads/2017/02/Green-Bank\\_Ethics-Statement-CLEAN-REVISED-102214.pdf](http://www.ctgreenbank.com/wp-content/uploads/2017/02/Green-Bank_Ethics-Statement-CLEAN-REVISED-102214.pdf)

<sup>9</sup> Ethical Conduct Policy: [https://www.ctgreenbank.com/wp-content/uploads/2017/08/Green-Bank\\_Ethical-Conduct-Policy\\_BOD\\_CLEAN\\_REVISED-101714.pdf](https://www.ctgreenbank.com/wp-content/uploads/2017/08/Green-Bank_Ethical-Conduct-Policy_BOD_CLEAN_REVISED-101714.pdf)

<sup>10</sup> Resolutions of Purposes: <https://www.ctgreenbank.com/wp-content/uploads/2016/01/Financial-and-Gov.-CT-Green-Bank-Resolution-of-Purpose.pdf>

<sup>11</sup> Bylaws: <https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Bylaws-sec16-245n-CTGS-r12162016.pdf>

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

<sup>13</sup> Comprehensive Plan: [https://www.ctgreenbank.com/wp-content/uploads/2018/08/Comp-Plan\\_FY17-FY19\\_Final\\_072718.pdf](https://www.ctgreenbank.com/wp-content/uploads/2018/08/Comp-Plan_FY17-FY19_Final_072718.pdf)

<sup>14</sup> Operating Procedures: <https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Operating-Procedures-sec16-245n-CTGS-r12162016.pdf>

<sup>15</sup> Board of Directors meetings: <http://www.ctgreenbank.com/about-us/governance/connecticut-grboard-meetings/>

## CONNECTICUT GREEN BANK

### 3. ORGANIZATIONAL BACKGROUND

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#### Audit, Compliance and Governance Committee

The Connecticut Green Bank's Audit, Compliance and Governance (ACG) Committee is comprised of three (3) ex officio and appointed voting members. The leadership of the ACG Committee includes:

- **Chair** – Matthew Ranelli, Partner and Shipman and Goodwin (designated as the Chair by former Chair of the Green Bank, Commissioner Catherine Smith)
- **Members**<sup>16</sup> –Gina McCarthy and Tom Flynn (designated as a member of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith)

During FY 2019, the ACG Committee of the Connecticut Green Bank met one (1) time, with one scheduled meeting cancelled. There was an attendance rate of 100% by the Committee members and 2 approved resolutions. For a link to the materials from the ACG Committee meetings that are publicly accessible – click [here](#)<sup>17</sup>.

#### Budget and Operations Committee

The Connecticut Green Bank's Budget & Operations (B&O) Committee is comprised of three (3) ex officio and appointed voting members. The leadership of the B&O Committee, includes:

- **Chair** - John Harrity, retired President of the Connecticut State Council of Machinists (designated as the Chair by former Chair of the Green Bank, Commissioner Catherine Smith)
- **Members**<sup>18</sup> - Eric Brown (designated as member of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith) and Mary Sotos (designated as member of the Committee by herself as current Vice Chair of the Green Bank).

During FY 2019, the B&O Committee of the Connecticut Green Bank met four (4) times, including three (3) regularly scheduled meetings and one (1) special meeting. There was an attendance rate of 73% by the Committee members and 3 approved resolutions. For a link to the materials from the B&O Committee meetings that are publicly accessible – click [here](#)<sup>19</sup>.

#### Deployment Committee

The Connecticut Green Bank's Deployment Committee is comprised of four (4) ex officio and appointed voting members. The leadership of the Deployment Committee includes:

- **Chair** - Mary Sotos, Senior Policy Advisor to DEEP (designated as the Chair by herself as Vice Chair of the Green Bank).
- **Members** - Bettina Bronisz (ex officio per bylaws), Matthew Ranelli, and / Betsy Crum (designated as members of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith)

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<sup>16</sup> Note – the Chair and/or Vice Chair of the Board of Directors of the Connecticut Green Bank can attend the Audit, Compliance, and Governance Committee meeting to establish a quorum.

<sup>17</sup> ACG, B&O, Deployment Committee meetings: <https://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/>

<sup>18</sup> Note – the Chair and/or Vice Chair of the Board of Directors of the Connecticut Green Bank can attend the Audit, Compliance, and Governance Committee meeting to establish a quorum.

<sup>19</sup> ACG, B&O, Deployment Committee meetings: <http://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/>

## CONNECTICUT GREEN BANK

### 3. ORGANIZATIONAL BACKGROUND

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During FY 2019, the Deployment Committee of the Connecticut Green Bank met five (5) times, including four (4) regularly scheduled meetings and one (1) special meetings. There was an attendance rate of 80% by Committee members and 10 approved resolutions. For a link to the materials from the Deployment Committee meetings that are publicly accessible – click [here](#)<sup>20</sup>.

#### Joint Committee

A Joint Committee of the Energy Efficiency Board and the Connecticut Green Bank was established pursuant to Section 16-245m(d)(2) of the Connecticut General Statutes. Per by-laws established and approved by the EEB and Connecticut Green Bank, the Joint Committee is comprised of four (4) appointed and voting members, one (1) ex officio and voting member, and four (4) ex officio and non-voting members. The leadership of the Joint Committee includes:

- **Chair** - Eric Brown, Attorney with CBIA (voted in by his peers of the EEB and the Connecticut Green Bank)
- **Vice Chair** - Mary Sotos, Senior Policy Advisor to DEEP
- **Secretary** - Bryan Garcia (non-voting), Connecticut Green Bank, and Craig Diamond, Connecticut Energy Efficiency Fund (voted in by their peers of the EEB and the Connecticut Green Bank)
- **Members**<sup>21</sup> - Bert Hunter (non-voting), and John Harrity (designated as members of the Committee by former Chair of the Green Bank, Commissioner Catherine Smith)

During FY 2019, the Joint Committee of the EEB and the Connecticut Green Bank met four (4) times, including four (4) regularly scheduled meetings and no special meetings. There was an attendance rate of 88% by the Joint Committee members and 0 approved resolutions. For a link to the materials from the Joint Committee meetings that are publicly accessible – click [here](#)<sup>22</sup>.

#### Open Connecticut

Open Connecticut centralizes state financial information to make it easier to follow state dollars. In Connecticut, quasi-public agencies are required to submit annual reports to the legislature, including a summary of their activities and financial information. In addition, as of Public Act 19-102, quasi-public agencies are required to provide checkbook-level vendor payment data for display on Open Connecticut. The Connecticut Green Bank was among the first to voluntarily submit this information to the State Comptroller since the inception of Open Connecticut, and it will continue doing so to satisfy this obligation. To access this information, click [here](#)<sup>23</sup>.

#### Ethics and Transparency

##### Statement of Financial Interest

It is required by state ethics laws and a determination of the Governor's standard that senior-level staff (i.e. Director-level and above) and members of the Board of Directors annually file a Statement of Financial Interest (SFI). The Governor's standard is the following:

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<sup>20</sup> ACG, B&O, Deployment Committee meetings: <http://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/>

<sup>21</sup> Note – these members are representatives from the Connecticut Green Bank.

<sup>22</sup> Joint Committee meeting: <http://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/>

<sup>23</sup> Open Connecticut: <http://www.osc.ct.gov/openCT/quasi.html>

**CONNECTICUT GREEN BANK**  
**3. ORGANIZATIONAL BACKGROUND**

“Governor Malloy has established a standard which requires “filing of Annual Statements of Financial Interests by all persons in the Executive Branch and Quasi-Public Agencies who exercise (i) significant policy-making, regulatory or contractual authority; (ii) significant decision-making and/or supervisory responsibility for the review and/or award of State contracts; or (iii) significant decision-making and/or supervisory responsibility over staff that monitor State contracts.”

These statements include information such as names of all associated business, income over \$1,000, a list of all real property, and a list of creditors. SFIs that have been filed are available to the public under the Freedom of Information Act. The SFIs serve two purposes. First, the financial disclosure provides a checklist or reminder to the official/employee to be mindful of potential conflicts of interest. Second, the statements serve as a tool to maximize public confidence in governmental decision making.

With respect to the 2019 SFI filing - required by May 1, 2019 - the Connecticut Office of State Ethics received the following from the Connecticut Green Bank – see Table 2.

**Table 2. Summary of State of Financial Interest Filings with the Office of State Ethics for FY 2019**

	<u>Number of SFIs Submitted</u>	<u>% Submitted on Time</u>
Senior Staff	9	100%
Board of Directors	8	100%

The Connecticut Green Bank received a Certificate of Excellence Ethics Compliance from the Connecticut Office of State Ethics. The organization has received this designation in each of its first eight years of operation.

**Small and Minority Business Procurement**

The State of Connecticut’s Supplier Diversity Program was established to ensure Connecticut small businesses have an opportunity to bid on a portion of the State’s purchases. Through Fiscal Year 2015, the program required agencies and political subdivisions to set aside 25% of their annual budgets for construction, housing rehabilitation, and purchasing goods and services (after approved exemptions by the Department of Administrative Services) to be awarded to certified small businesses, with 25% of this amount to be awarded to certified minority business enterprises. Although reporting is no longer required, the Connecticut Green Bank is performing the analysis to ensure we are still committed to voluntarily meeting our set aside goals.

**Table 3. Small Business Procurement**

<b>Year</b>	<b>Goal</b>	<b>Actual</b>	<b>Percentage</b>
2012	\$ 59,775	\$ 39,520	66%
2013	\$ 62,598	\$ 59,340	95%
2014	\$ 135,320	\$ 120,560	89%
2015	\$ 221,750	\$ 251,980	113%
2016	\$ 238,550	\$ 510,797	214%
2017	\$ 209,725	\$ 379,246	180%
2018	\$ 187,142	\$ 537,962	287%
2019	\$ 137,355	\$ 334,575	244%

**CONNECTICUT GREEN BANK**  
**3. ORGANIZATIONAL BACKGROUND**

**Table 4. Minority Business Enterprise Procurement**

Year	Goal	Actual	Percentage
2012	\$ 14,944	\$ 31,474	211%
2013	\$ 15,649	\$ 52,308	334%
2014	\$ 33,830	\$ 88,427	261%
2015	\$ 55,438	\$ 153,319	277%
2016	\$ 9,638	\$ 96,020	161%
2017	\$ 52,431	\$ 107,974	205%
2018	\$ 46,785	\$ 28,075	60%
2019	\$ 34,339	\$ 15,423	45%

**Operational Efficiency**

As a result of the Connecticut General Assembly’s sweeps for FY 2018 and FY2019, the Green Bank has reduced financial resources, real estate, and human capital. As demonstrated in the following table, staff has grown by 1.6 FTEs, office space has increased by 3.4 times, and general administration has increased by 2.8 times since 2012. As a result of the FY 2019 sweeps, CEF and RGGI revenues have declined by over 55 percent and nearly 40 percent respectively.

**Table 5. Human and Financial Resources of the Green Bank FY 2012 vs FY 2019**

Fiscal Year	Human Resources		Financial Resources				
	FTE	Office Space (ft2)	Total Expenses	General Admin & Program Admin	General Admin	SBC Revenue	RGGI Revenue
2012	29.1	3,626	\$32,510,209	\$4,532,520	\$1,387,854	\$27,025,088	\$2,052,748
2019	39.42	12,4966	\$42,434,0178	\$12,442,6139	\$5,610,7882	\$26,094,682	\$2,130,2545
Multiple	1.35x	3.4x	1.3x	2.75x	4x	.97x	1x

With a sixty percent increase in FTEs, the impact of the organization has grown significantly. The Green Bank has also had to do more with less due to the sweeps of its funding and has significantly cut its expenses, not reflected in the above numbers. Private Investment and clean energy deployment have increased over 19-fold as demonstrated in Table 6.

**Table 6. Green Bank Impact FY 2012 vs FY 2019**

Fiscal Year	Impact					
	Private Investment	Clean Energy Deployment (MW)	Expected Annual Generation (MWh)	Annual Saved / Produced (MMBtu)	Job Years Supported	Annual CO2 Emissions Avoided (tons)
2012	\$10,184,827	2.9	3,278	11,183	231	1,833
2019	\$312,779,716	73.3	94,508	306,383	3,355	48,402
Multiple	30.7x	25.3x	28.8x	27.4x	14.5x	26.4x

**CONNECTICUT GREEN BANK**  
**3. ORGANIZATIONAL BACKGROUND**

As a quasi-public organization, the Connecticut Green Bank strives to leverage its resources in attracting investment and in deploying clean energy as efficiently as possible. Reviewing the Green Bank’s human capital, real estate, and expenses versus the amount of private investment and clean energy deployed shows a marked increase during the organization’s first seven years of existence.

**Table 7. Green Bank Deployment Efficiency FY 2012 vs FY 2019**

Impact Delivered to Human and Financial Resources Used						
Fiscal Year	Private Investment / FTE	Clean Energy Deployment / FTE	Private Investment / Total Expenses	Private Investment / General Admin	Private Investment / Office Space	Clean Energy Deployment / Office Space
	(\$/FTE)	(kW/FTE)			(\$/ft2)	(kW/ft2)
2012	\$349,994	100	0.31	7.34	\$2,809	0.8
2019	\$7,934,543\	1,859	7.37	55.75	\$25,030	.006
Multiple	22.7x	18.6x	23.8x	7.6x	8.9x	.01x

**Workforce and Diversity**

In order to achieve its mission, the Connecticut Green Bank is primarily reliant upon its most valuable asset: its people. The organization’s staff is comprised of Program Staff, charged with designing and implementing products and programs that bring clean energy into the targeted markets in the state, Investment Staff, charged with tapping and leveraging efficient sources of capital, and Support Staff including marketing, legal, operations, and accounting functions.

In Fiscal Year 2019, the Green Bank added no new positions and eliminated two positions due to the FY2018 sweeps. There were two new members hired to fill open vacancies. The organization had a turnover rate of 10%.

The Green Bank realizes that part of having a strong team is ensuring that different perspectives are included in its workforce. To that end, the Green Bank monitors the diversity of its team and, per Connecticut regulations, informs the Governor’s office of this. The following is the report that will be filed for the fiscal year ending June 30, 2018.

**Table 8. Green Bank Workforce Analysis FY 2019**

Category or class	Grand Total	Total Male	Total Female	White Male	White Female	Black Male	Black Female	Hispanic Male	Hispanic Female	Other Male	Other Female
<b>ALL CATEGORIES</b>											
Officials/Managers	27	15	12	16	10	0	0	1	0	2	2
Professionals	7	1	6	1	6	0	0	0	0	0	0
Administrative - Clerical	3	0	3	0	1	0	2	0	0	0	0
<b>TOTALS</b>	37	16	21	17	17	0	2	1	0	2	2

## 4. Measures of Success

The Green Bank develops a comprehensive plan every two to three years, establishing performance targets associated with its overall Green Bank and individual program objectives. Results are reported in this document through Key Performance Indicators at various levels of detail about the Green Bank’s performance. This section presents results across all the programs – that is, at the Green Bank portfolio level. At the highest level, management is interested in the number of “Closed” Projects, the amount of Capital Deployed, the amount Clean Energy Generated, and fossil generation avoided. Table 9 below highlights these indicators. It is, of course, important to recognize that these data show the summation of numbers of projects, deployed funds, and clean energy generated across all of the Green Bank’s programs, each of which has its own unique set of projects, funds, clean energy generation, and avoided fossil generation. These are each presented in the later sections of this report, in the program specific presentations.

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

**CONNECTICUT GREEN BANK**  
**4. MEASURES OF SUCCESS**

Table 9. Green Bank Actuals vs Targets by FY Closed<sup>24</sup>

Fiscal Year	Target	Actual	% of Target
		<b>Closed Projects</b>	
2012	-	288	0%
2013	-	1,115	0%
2014	4,396	2,454	56%
2015	4,485	6,492	145%
2016	14,252	7,274	51%
2017	6,846	4,911	72%
2018	5,566	6,743	121%
2019	7,748	12,815	165%
<b>Total</b>	<b>43,293</b>	<b>42,092</b>	<b>97%</b>
		<b>Capital Deployed<sup>25</sup></b>	
2012	\$0	\$9,901,511	0%
2013	\$0	\$111,066,476	0%
2014	\$56,439,000	\$101,830,141	180%
2015	\$291,602,500	\$312,039,701	107%
2016	\$591,131,745	\$316,923,441	54%
2017	\$264,858,518	\$200,400,602	76%
2018	\$211,296,752	\$241,187,125	114%
2019	\$258,917,500	\$351,734,649	136%
<b>Total</b>	<b>\$1,674,246,015</b>	<b>1,645,083,646</b>	<b>98%</b>
		<b>Capacity Installed (MW)</b>	
2012	-	1.9	-
2013	-	23.5	-
2014	29.6	23.4	79%
2015	55.5	62.4	112%
2016	119.5	66.1	55%
2017	66.2	50.0	76%
2018	48.6	57.5	118%
2019	72.3	73.3	101%
<b>Total</b>	<b>391.7</b>	<b>358.2</b>	<b>91%</b>

The above metrics show that the Green Bank continues to deploy capital to new projects that lead to increased deployment of clean energy.

<sup>24</sup> Residential solar projects that receive financing also receive an incentive under the Residential Solar Incentive Program and Multifamily and Commercial Lease projects may also use C-PACE, so they are counted in each sector's results. In this document, unless we are separating out a specific program, these projects have been removed from the total to avoid double counting.

<sup>25</sup> Capital Deployment is defined by the Green Bank as the total project cost of projects financed or incentivized by the organization except for the residential programs where capital deployment only includes the amount financed.



# CONNECTICUT GREEN BANK

## 4. MEASURES OF SUCCESS

The following info-graphic illustrates the activity and impact of the Connecticut Green Bank from FY 2012 through FY 2019:

FY 12 -  
FY 19



### Green Bank Impact Report

Since the Connecticut Green Bank's inception through the bipartisan passage of Public Act 11-80 on July 1, 2011, we have accelerated the deployment of clean energy to benefit families, businesses, and our communities. The impact of our green bank innovation is shown below in terms of investment, economic development, and environmental protection from FY 2012 through FY 2019.

#### INVESTMENT IN CONNECTICUT

**Investment** Since inception, the Green Bank has mobilized **\$1.68 billion** of investment into the State's economy.



**Leverage ratio** The Green Bank's leverage ratio is the relationship between private investment and Green Bank investment.



**Tax revenues** The Green Bank's activities have helped generate an estimated **\$87.1 million** in state tax revenues.

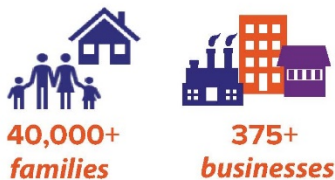


#### ECONOMIC DEVELOPMENT

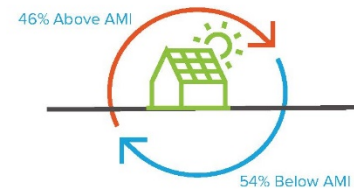
**Jobs** The Green Bank has supported the creation of more than **20,000** direct, indirect, and induced job-years.



**Energy burden** The Green Bank has reduced the energy costs on families, businesses, and our communities.



**Accessible and affordable** The Green Bank has supported residential solar PV installation to reach income parity and pursuing beyond.

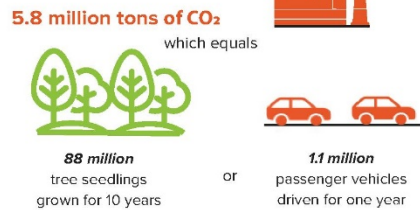


#### ENVIRONMENTAL PROTECTION

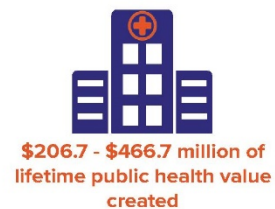
**Deployment** The Green Bank has accelerated the growth of clean energy to more than **350 MW**.



**Pollution** The Green Bank has helped reduce air emissions that cause climate change and worsen public health, including 5.1 million pounds of SOx and 6.3 million pounds of NOx.



**Public health** The Green Bank has improved the lives of families, helping them avoid sick days, hospital visits, and even death.



Learn more by visiting [ctgreenbank.com/strategy-impact/impact](http://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. We're creating a thriving marketplace to accelerate green energy deployment in Connecticut by making green energy financing accessible and affordable for homeowners, businesses and institutions.

Sources: Connecticut Green Bank Comprehensive Annual Financial Reports

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**Activity**

The Connecticut Green Bank tracks projects through three phases as they move through the pipeline from application until the completed implementation – Approved, Closed, and Completed. “Approved” signifies that the appropriate authority within the Connecticut Green Bank, whether President & CEO, Deployment Committee, or Board of Directors, has approved the Connecticut Green Bank’s investment in the project per the Comprehensive Plan and Budget. “Closed” indicates all financial and legal documents have been executed and any additional funding has been secured. “Completion” indicates the project has closed, all construction and installation are completed, and the project is operational. The full forward -looking estimates of the energy, economic, and environmental benefits from these projects begin to be fully accounted and reported after they close. Table 10 below presents annual project activity by these three phases.

**Table 10. Green Bank Project Activity by FY Closed**

<b>Fiscal Year</b>	<b>Approved</b>	<b>Closed</b>	<b>Completed</b>
2012	288	288	17
2013	1,132	1,115	756
2014	2,467	2,454	1,155
2015	6,429	6,492	3,893
2016	7,396	7,274	9,651
2017	5,031	4,911	5,429
2018	6,717	6,743	5,884
2019	12,992	12,815	6,834
<b>Total</b>	<b>42,452</b>	<b>42,092</b>	<b>33,619</b>

Summary by fields such as “Number of projects” does not capture the extent of the organization’s activities in a year as different projects have different sizes. Further demonstration of the organization’s reach can be seen in the number of multi-family units impacted by closed projects each year.

**Table 11. Green Bank Number of Multifamily Housing Units Impacted by FY Closed**

<b>Fiscal Year</b>	<b>Affordable</b>	<b>Market Rate</b>	<b>Total</b>
2014	120	-	120
2015	326	82	408
2016	1,576	191	1,767
2017	1,435	100	1,535
2018	1,792	-	1,792
2019	2,225	-	2,225
<b>Total</b>	<b>7,474</b>	<b>373</b>	<b>7,847</b>

**Capital Deployed**

**Clean Energy Investment**

The Connecticut Green Bank’s intent, stated in the Comprehensive Plan, is to use public funds to attract multiples of private investment into Connecticut’s green energy economy, both to decrease the reliance on public funds over time, as well as expand the scale of clean energy investments in the state. Several of the tables below, including Tables 12-14 show activity to date on this subject.

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Table 12. Green Bank Clean Energy Investment by Source - Public and Private by FY Closed

Fiscal Year	CGB Investment	Private Investment	Total Investment
2012	\$3,401,642	\$6,499,869	\$9,901,511
2013	\$18,668,534	\$92,702,675	\$111,371,209
2014	\$32,500,513	\$75,322,080	\$107,822,593
2015	\$57,055,549	\$267,075,720	\$324,131,269
2016	\$39,286,015	\$282,853,528	\$322,139,543
2017	\$33,632,162	\$172,567,243	\$206,199,405
2018	\$34,812,393	\$218,096,359	\$252,908,752
2019	\$40,732,511	\$312,779,716	\$353,512,226
<b>Total</b>	<b>\$260,089,318</b>	<b>\$1,427,897,190</b>	<b>\$1,687,986,508</b>

The table above shows the average total investment of public and private funds per project, by fiscal year, and in total. In reviewing the results from year to year it is important to note that the mix, size, and financial requirements of projects differ significantly across the program portfolio offered by the Green Bank.

Table 13. Green Bank Actuals by FY Closed

Fiscal Year	Closed Projects									
	CSPACE	Commercial Lease	Solar Lease	Residential Solar	Smart-E	Low Income Leases	Multi-Family	Solar Loan	AD & CHP	Strategic
2012	-	-	-	288	-	-	-	-	-	-
2013	3	-	-	1,109	4	-	-	3	2	1
2014	23	-	107	2,382	143	-	1	140	1	-
2015	49	16	610	6,397	282	4	6	136	2	2
2016	53	27	472	6,807	226	340	31	-	1	-
2017	38	30	-	4,469	539	666	19	-	1	1
2018	66	30	-	5,239	1,772	647	19	-	-	-
2019	38	20	-	7,657	838	847	19	-	-	-
Total	270	123	1,189	34,348	3,804	2,504	95	279	7	4
	Total Investment									
2012	\$0	\$0	\$0	\$9,901,511	\$0	\$0	\$0	\$0	\$0	\$0
2013	\$1,512,144	\$0	\$0	\$35,426,043	\$275,174	\$0	\$0	\$91,924	\$3,189,000	\$70,800,000
2014	\$21,785,167	\$0	\$4,324,454	\$73,853,653	\$2,606,746	\$0	\$428,739	\$4,461,833	\$6,300,000	\$0
2015	\$33,716,566	\$11,547,562	\$23,672,593	\$214,705,219	\$8,698,493	\$109,380	\$5,843,311	\$4,505,386	\$642,578	\$56,500,000
2016	\$36,669,384	\$16,711,392	\$18,325,441	\$218,226,286	\$6,551,956	\$9,776,138	\$33,782,328	\$0	\$10,500,000	\$0
2017	\$15,487,305	\$34,878,766	\$0	\$120,904,517	\$11,442,115	\$18,257,090	\$25,501,271	\$0	\$3,401,392	\$4,538,212
2018	\$26,732,114	\$26,037,540	\$0	\$150,222,182	\$35,969,802	\$18,039,049	\$26,868,739	\$0	\$0	\$0
2019	\$22,628,489	\$13,421,345	\$0	\$229,643,988	\$10,054,247	\$24,705,401	\$35,719,734	\$0	\$0	\$0
Total	\$158,531,169	\$102,596,605	\$46,322,488	\$1,052,883,398	\$75,598,531	\$70,887,057	\$128,144,124	\$9,059,143	\$24,032,970	\$131,838,212
	Capacity Installed (MW)									
2012	-	-	-	1.9	-	-	-	-	-	-
2013	0.1	-	-	7.9	0.0	-	-	0.0	0.7	14.8
2014	3.6	-	0.8	17.1	0.4	-	-	1.1	3.0	-
2015	7.3	3.5	4.9	48.7	1.3	0.0	0.9	1.1	0.1	5.0
2016	6.4	5.5	3.8	53.4	0.9	2.2	1.3	-	1.0	-
2017	3.9	11.6	-	34.8	1.3	4.2	2.1	-	0.8	0.2
2018	7.3	8.4	-	42.7	3.9	4.3	0.1	-	-	-
2019	5.4	4.1	-	65.1	0.9	6.0	0.3	-	-	-
Total	34.0	33.1	9.6	271.6	8.8	16.7	4.8	2.2	5.6	20.0

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Table 14. Green Bank Clean Energy Projects - Average Public and Private Investments by FY Closed

Fiscal Year	Average Investment
2012	\$34,380.25
2013	\$99,884.49
2014	\$43,937.49
2015	\$49,927.80
2016	\$44,286.44
2017	\$41,987.25
2018	\$37,506.86
2019	\$27,585.82
<b>Total</b>	<b>\$40,102.31</b>

**Leverage Ratio**

The table below shows in ratio form the extent to which public monies are driving private investment into the Green Bank’s programs and the clean energy economy. The Green Bank’s “leverage ratio,” as it is commonly referenced, is calculated by dividing the total monies available in each period – here the Green Bank’s fiscal year periods – by the amount of public investment. The table presents these ratios by fiscal year and the Green Bank’s program categories. The leverage ratios for the Connecticut Green Bank shows a trending increase through FY2019. Due to the Green Bank’s financing solution for the SBEA program, the organization achieved an all-time high leverage ratio in FY2019 of 8.7:1.

Table 15. Green Bank Sector Leverage Ratios by FY Closed

Fiscal Year	Commercial	Infrastructure	Residential	Strategic	Total
2012	0.0	2.9	0.0	0.0	2.9
2013	3.8	3.2	2.0	12.2	6.0
2014	2.2	3.9	9.2	0.0	3.3
2015	2.8	6.5	4.5	17.5	5.7
2016	4.6	11.0	7.5	0.0	8.2
2017	4.7	10.3	5.7	1.2	6.1
2018	4.7	11.7	6.9	0.0	7.3
2019	4.7	13.2	9.7	0.0	8.7
<b>Total</b>	<b>3.9</b>	<b>8.1</b>	<b>6.8</b>	<b>10.2</b>	<b>6.5</b>

**Clean Energy Produced and Avoided Energy Use**

The data below present the output of the projects supported by the Green Bank: electric capacity (megawatts [MW]), electricity production (megawatt hours [MWh]), and Energy Saved or Produced (MMBtu) – see Table 16.

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Table 16. Green Bank Installed Capacity, Estimated Generation and Energy Saved and/or Produced by FY Closed<sup>26</sup>

Fiscal Year	MW	Estimated Generation (MWh)			Energy Saved/Produced (MMBtu) <sup>27</sup>		
		Annual	Lifetime <sup>28</sup>	Lifetime Clean Energy Produced (kWh) / Green Bank Investment (\$)	Annual	Lifetime	Green Bank Investment (\$) / Lifetime Combined Energy Generated & Saved (MMBtu)
2012	1.9	2,210	55,238	16.2	7,539	188,473	18.0
2013	23.5	131,563	1,479,573	79.3	463,274	5,266,888	3.5
2014	23.4	51,694	993,656	30.6	245,243	4,507,634	7.2
2015	62.4	209,806	1,882,128	33.0	705,025	6,168,294	9.2
2016	66.1	91,988	2,109,318	53.7	364,057	8,150,643	4.8
2017	50.0	71,868	1,656,199	49.2	529,664	9,776,863	3.4
2018	57.5	79,212	1,845,529	53.0	309,190	7,219,075	4.8
2019	73.3	94,508	2,268,236	55.7	306,383	7,174,436	6.5
<b>Total</b>	<b>358.2</b>	<b>732,849</b>	<b>12,289,877</b>	<b>47.3</b>	<b>2,930,374</b>	<b>48,452,307</b>	<b>5.4</b>

**Clean Energy Technology Deployment**

The Connecticut Green Bank takes a technology-agnostic approach to its financing products, with any commercially available technology that meets eligibility guidelines. The tables below present the number of projects by technology and project type by FY closed.

Clean energy means solar photovoltaic energy, solar thermal, geothermal energy, wind, ocean thermal energy, wave or tidal energy, fuel cells, landfill gas, hydropower that meets the low-impact standards of the Low-Impact Hydropower Institute, hydrogen production and hydrogen conversion technologies, low emission advanced biomass conversion technologies, alternative fuels, used for electricity generation including ethanol, biodiesel or other fuel produced in Connecticut and derived from agricultural produce, food waste or waste vegetable oil, provided the Commissioner of Energy and Environmental Protection determines that such fuels provide net reductions in greenhouse gas emissions and fossil fuel consumption, usable electricity from combined heat and power systems with waste heat recovery systems, thermal storage systems, other energy resources and emerging technologies which have significant potential for commercialization and which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission, financing of energy efficiency projects, projects that seek to deploy electric, electric hybrid, natural gas or alternative fuel vehicles and associated infrastructure, any related storage, distribution, manufacturing technologies or facilities and any Class I renewable energy source, as defined in section 16-1.<sup>29</sup>

<sup>26</sup> Residential solar projects that receive financing also receive an incentive under the Residential Solar Incentive Program and Multifamily and Commercial Lease projects may also use C-PACE, so they are counted in each sector's results. These projects have been removed from the total to avoid double counting.

<sup>27</sup> The MMBTU's include those forecast to be saved from green bank energy efficiency projects and the forecast MWh from generation projects converted to MMBTU's.

<sup>28</sup> The lifetime numbers are based on the aggregation of projects' impact for one year multiplied by the useful life of the technology for each project

<sup>29</sup> [https://www.cga.ct.gov/current/pub/chap\\_277.htm#sec\\_16-1](https://www.cga.ct.gov/current/pub/chap_277.htm#sec_16-1), updated by Connecticut Public Act 11-80

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Table 17. Green Bank Projects by Technology<sup>30</sup> by FY Closed <sup>31</sup>

	2012	2013	2014	2015	2016	2017	2018	2019	Total
<b># of Projects</b>									
AD	0	0	0	0	1	0	0	0	1
Biomass	0	0	0	1	0	0	0	0	1
CHP	0	2	1	4	0	0	0	2	9
CHP/Microgrid	0	0	0	0	0	1	0	0	1
EE	0	4	101	134	127	390	1,352	5,055	7,163
Fuel Cell	0	1	0	0	0	0	0	0	1
Geothermal	0	0	2	1	8	7	5	9	32
Hydro	0	0	0	1	0	1	0	0	2
PV	288	1,107	2,343	6,337	7,128	4,497	5,343	7,711	34,754
Waste Heat Recovery	0	0	0	1	0	0	0	0	1
Wind	0	0	0	1	0	0	0	0	1
Other	0	1	7	12	10	15	43	38	126
<b>Total</b>	<b>288</b>	<b>1,115</b>	<b>2,454</b>	<b>6,492</b>	<b>7,274</b>	<b>4,911</b>	<b>6,743</b>	<b>12,815</b>	<b>42,092</b>
<b>MW</b>									
AD	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
Biomass	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6
CHP	0.0	0.7	3.0	0.3	0.0	0.0	0.0	0.6	4.5
CHP/Microgrid	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8
EE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.0	14.8
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydro	0.0	0.0	0.0	0.9	0.0	0.2	0.0	0.0	1.1
PV	1.9	8.0	20.4	55.6	65.1	49.0	57.5	72.5	330.0
Waste Heat Recovery	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wind	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	5.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
<b>Total</b>	<b>1.9</b>	<b>23.5</b>	<b>23.4</b>	<b>62.4</b>	<b>66.1</b>	<b>50.0</b>	<b>57.5</b>	<b>73.3</b>	<b>358.2</b>
<b>Expected Lifetime Savings or Generation (MWh)</b>									
AD	0	0	0	0	106,171	0	0	0	106,171
Biomass	0	0	0	0	0	0	0	0	0
CHP	0	81,008	354,780	31,930	0	0	0	65,197	532,915
CHP/Microgrid	0	0	0	0	0	94,017	0	0	94,017
EE	0	4,846	57,214	43,781	109,434	71,474	124,068	47,082	457,899
Fuel Cell	0	1,166,832	0	0	0	0	0	0	1,166,832
Geothermal	0	0	84	38	295	329	152	76	974
Hydro	0	0	0	96,579	0	20,711	0	0	117,290
PV	55,238	226,886	581,578	1,591,539	1,893,418	1,469,668	1,721,309	2,155,881	9,695,519
Waste Heat Recovery <sup>32</sup>	0	0	0	0	0	0	0	0	0
Wind	0	0	0	118,260	0	0	0	0	118,260
Other	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>55,238</b>	<b>1,479,573</b>	<b>993,656</b>	<b>1,882,128</b>	<b>2,109,318</b>	<b>1,656,199</b>	<b>1,845,529</b>	<b>2,268,236</b>	<b>12,289,877</b>

<sup>30</sup> Commercial and Residential projects can be a combination of RE and EE measures and the data presented includes the EE generation for those projects, but it is assigned to the applicable RE technology.

<sup>31</sup> 98% of RSIP projects are accompanied by energy efficiency measures made by the energy assessment required by the program. See the Residential Solar Investment Program case study for more information.

<sup>32</sup> The expected annual generation for the Bridgeport Heating Loop project is 12,611 MWh. Lifetime generation is not available.

**CONNECTICUT GREEN BANK**  
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Solar PV deployment makes up the largest portion of Connecticut Green Bank’s projects by technology: about 83% of all clean energy projects deployed are from solar PV. When comparing deployment to clean energy production, solar PV produces the most energy (79% of all clean energy production), fuel cells also contribute a large proportion given the efficiency of the technology (9% of all clean energy production), both providing highly reliable power. The Green Bank also supports additional deployment of energy efficiency not captured in the above tables by requiring an energy assessment for all residential solar PV projects incentivized through the Residential Solar Investment Program (RSIP). RSIP-wide, energy assessments have been performed for an estimated 98% of completed RSIP projects, of which approximately 87% were performed through the utility-administered Home Energy Solutions (HES) program or via the DOE Home Energy Score (DOE HES) overall. If the Green Bank were to include residential energy assessments (or audits) in the number of projects supported through its residential solar PV program, then nearly 55% of all projects are energy efficiency.

**Table 18. Green Bank Project Types by FY Closed<sup>33</sup>**

	2012	2013	2014	2015	2016	2017	2018	2019	Total
<b># of Projects</b>									
EE	0	4	101	134	127	390	1,352	5,055	7,163
RE	288	1,109	2,337	6,267	6,902	3,996	4,817	6,970	32,686
RE/EE	0	1	9	78	238	511	534	754	2,125
Other	0	1	7	13	7	14	40	36	118
<b>Total</b>	<b>288</b>	<b>1,115</b>	<b>2,454</b>	<b>6,492</b>	<b>7,274</b>	<b>4,911</b>	<b>6,743</b>	<b>12,815</b>	<b>42,092</b>
<b>MW</b>									
EE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RE	1.9	23.4	22.8	60.5	63.9	46.2	52.3	67.6	338.6
RE/EE	0.0	0.1	0.6	1.8	2.2	3.8	5.2	5.8	19.5
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>1.9</b>	<b>23.5</b>	<b>23.4</b>	<b>62.4</b>	<b>66.1</b>	<b>50.0</b>	<b>57.5</b>	<b>73.3</b>	<b>358.1</b>
<b>Expected Lifetime Savings or Generation (MWh)</b>									
EE	0	4,846	57,214	43,781	109,434	71,474	124,068	47,082	457,899
RE	55,238	1,471,851	918,047	1,783,447	1,913,324	1,425,400	1,517,724	1,975,010	11,060,041
RE/EE	0	2,875	18,395	54,900	86,560	159,325	203,737	246,144	771,937
Other	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>55,238</b>	<b>1,479,573</b>	<b>993,656</b>	<b>1,882,128</b>	<b>2,109,318</b>	<b>1,656,199</b>	<b>1,845,529</b>	<b>2,268,236</b>	<b>12,289,877</b>

<sup>33</sup> Note that projects that are part of the Residential Solar Investment Program have an EE component not reflected in this table.

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**The Green Bank Model**

**Assets – Current and Non-Current**

The Connecticut Green Bank’s successful shift to a financing model from one formerly driven by grants and subsidies is evidenced by a net positive change in assets since its inception. The growth of the Green Bank’s financing programs has led to a steady increase in non-current assets over time as more and more loans and leases are closed. Since 2012, the Green Bank’s balance sheet has grown by a factor of 2.3x representing the value of its investments.

**Table 19. Current and Non-Current Assets**

	Year Ended June 30,							
	2019	2018	2017	2016	2015	2014	2013	2012
<b>Current Assets</b>								
Cash and cash equivalents	\$ 18,947,212	\$ 19,830,102	\$ 37,148,283	\$ 48,072,061	\$ 39,893,649	\$ 71,411,034	\$ 68,105,014	\$ 64,672,910
Receivables	6,673,737	5,036,838	3,682,469	4,531,258	2,867,233	8,253,318	4,545,661	3,305,301
Prepaid expenses and other assets	6,090,135	5,815,523	10,012,025	4,245,806	1,030,251	619,639	520,814	350,302
Contractor loans	--	--	--	2,272,906	3,112,663	--	--	--
Current portion of solar lease notes	942,056	908,541	869,831	845,479	803,573	766,086	704,032	670,645
Current portion of SBEA Promissory Notes	1,709,491	--	--	--	--	--	--	--
Current portion of program loans	3,756,932	2,138,512	1,910,048	1,378,242	10,264,825	652,447	--	--
<b>Total Current Assets</b>	<b>38,119,563</b>	<b>33,729,516</b>	<b>53,622,656</b>	<b>61,345,752</b>	<b>57,972,194</b>	<b>81,702,524</b>	<b>73,875,521</b>	<b>68,999,158</b>
<b>Noncurrent Assets</b>								
Portfolio investments	1	1	1	1,000,000	1,000,000	1,000,000	1,000,000	2,155,525
Fair Value of interest rate swap	--	171,478	--	--	--	--	--	--
Bonds receivable	3,288,655	3,328,530	3,328,530	3,492,282	1,600,000	1,600,000	--	--
Solar lease notes - less current portion	5,361,206	6,358,184	7,242,822	8,162,635	9,015,437	9,778,315	10,536,136	11,064,879
SBEA Promissory Notes - less current portion	1,799,007	--	--	--	--	--	--	--
Program loans - less current portion	64,800,014	43,525,021	40,296,113	31,889,275	30,253,119	12,750,457	3,788,094	--
Renewable energy certificates	468,736	547,556	654,767	812,770	933,054	1,069,390	1,217,491	1,324,614
Capital assets, net of depreciation and amortization	80,523,040	73,417,221	61,510,207	58,114,914	26,971,087	3,074,337	362,505	91,329
Asset retirement obligation, net	2,828,461	2,927,687	2,535,104	2,261,472	1,029,196	--	--	--
Restricted assets:								
Cash and cash equivalents	16,667,797	24,368,185	22,063,406	9,749,983	8,799,005	9,513,715	9,536,656	8,540,684
<b>Total noncurrent assets</b>	<b>175,736,917</b>	<b>154,643,863</b>	<b>137,630,950</b>	<b>115,483,331</b>	<b>79,600,898</b>	<b>38,786,214</b>	<b>26,440,882</b>	<b>23,177,031</b>
<b>Total Assets</b>	<b>\$213,856,480</b>	<b>\$ 188,373,379</b>	<b>\$191,253,606</b>	<b>\$176,829,083</b>	<b>\$137,573,092</b>	<b>\$120,488,738</b>	<b>\$100,316,403</b>	<b>\$ 92,176,189</b>

**Ratio of Public Funds Invested**

As highlighted below – in Figures 1 and 2, the Connecticut Green Bank has moved towards this model by increasing the overall ratio of financing investments from subsidies. In addition, it should be noted that funds used for subsidies through the RSIP (including administrative and financing costs) are recovered through the sale of SHRECs to the electric distribution companies (i.e., Avangrid and Eversource Energy) through 15-year Master Purchase Agreements (“MPA”), and that RSIP subsidies continue to decrease and leverage private capital at an increasing rate. This trend has developed even as total investment in clean energy has increased to \$1.7 billion in total from 2012 through 2019, enabling the Connecticut Green Bank to do more at a faster pace while managing ratepayer resources more efficiently.



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Figure 1. Green Bank Capital Deployment by FY Closed

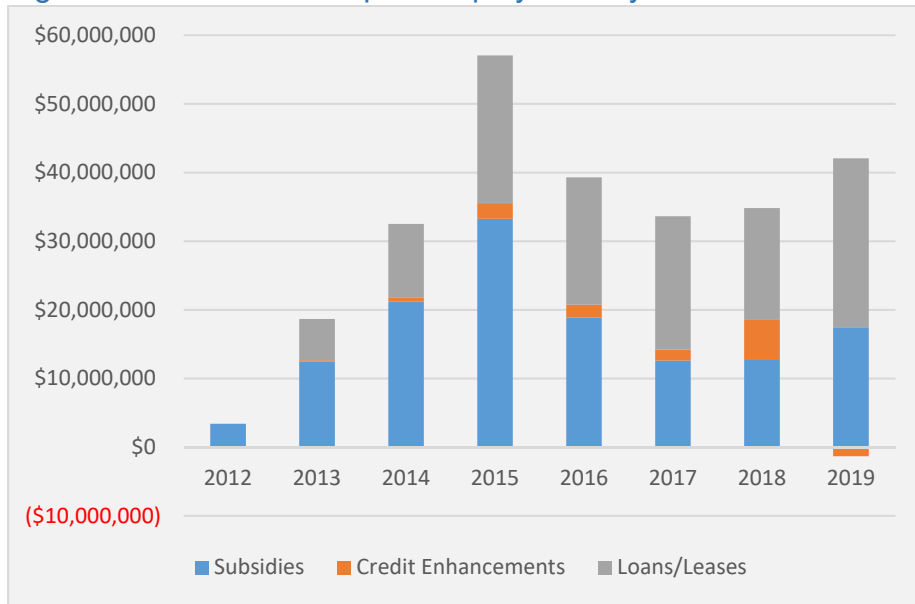
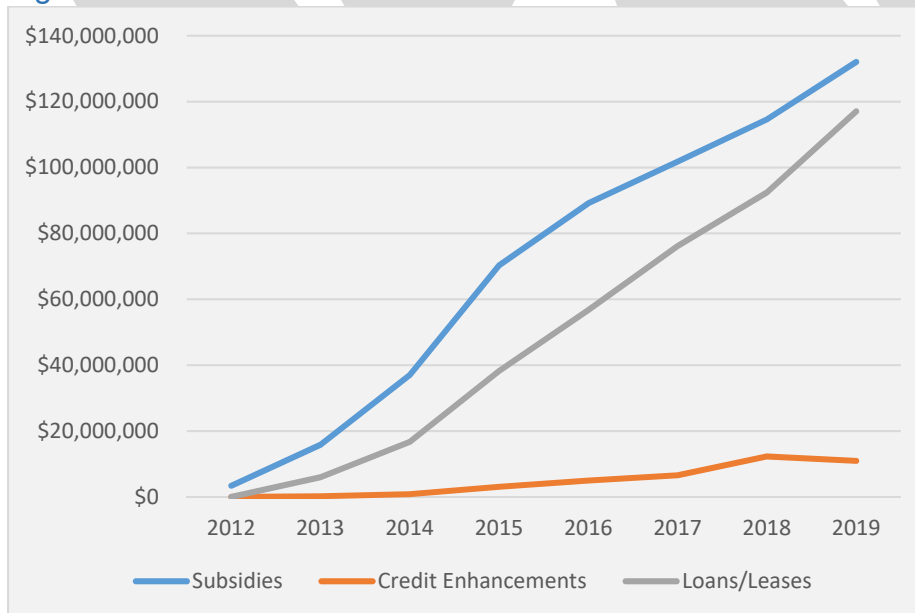


Figure 2. Green Bank Cumulative Green Bank Funds Invested by Type by FY Closed



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Table 20. Green Bank Ratio of Capital Invested as Subsidies, Credit Enhancements, and Loans and Leases by FY Closed

Fiscal Year	Subsidies (Grants & Incentives)	% Subsidies	Credit Enhancements (LLR & IRB)	% Credit Enhancements	Loans and Leases (includes sell downs)	% Loans and Leases	Total
2012	\$3,401,642	100%	\$0	0%	\$0	0%	\$3,401,642
2013	\$12,470,374	67%	\$187,859	1%	\$6,010,302	32%	\$18,668,534
2014	\$21,179,208	65%	\$629,246	2%	\$10,692,059	33%	\$32,500,513
2015	\$33,262,580	58%	\$2,269,884	4%	\$21,523,084	38%	\$57,055,549
2016	\$18,853,119	48%	\$1,887,806	5%	\$18,545,090	47%	\$39,286,015
2017	\$12,604,142	37%	\$1,604,224	5%	\$19,423,797	58%	\$33,632,162
2018	\$12,825,094	37%	\$5,706,754	16%	\$16,280,545	47%	\$34,812,393
2019	\$17,460,024	43%	(\$1,326,518) <sup>34</sup>	-3%	\$24,599,005	60%	\$40,732,511
<b>Total</b>	<b>\$132,056,183</b>	<b>44%</b>	<b>\$10,959,255</b>	<b>4%</b>	<b>\$117,073,881</b>	<b>45%</b>	<b>\$260,089,318</b>

**Creation of Private Investment Opportunities**

As stated above, the Connecticut Green Bank’s approach to leveraging limited public resources has created new opportunities for the private market investment. These financial innovations have broad impact in Connecticut and beyond. In FY 2019, the Green Bank, was a part of or a stimulus for upward of \$300 million dollars of clean energy financings. These include:

**Cargill Falls**

In October 2018, the Green Bank, through its CPACE program, provided \$1.5 million in gap financing to the multifamily housing and commercial development at Cargill Falls in Putnam CT. The project includes the refurbishment of the historic powerhouse and dam, along with deep energy efficiency retrofits for the mixed-use property and relied on a total Green Bank loan of \$2.3 million.

**Small Business Energy Advantage facility**

In December 2018, the Green Bank and Amalgamated Bank collaborated on a new financing source for the successful Energize CT Small Business Energy Advantage (SBEA) program, which provides loans for energy efficiency retrofit projects at commercial, industrial, and municipal properties. The \$55 million facility, including \$5.6 million subordinated financing from the Green Bank, lowers the cost of funds for Connecticut ratepayers and frees up money in the Energy Efficiency Fund, specifically for Eversource Energy. The Green Bank’s development of the deal will serve as a template for the structuring of future financing solutions to serve Connecticut ratepayers, including more low-cost capital available to reduce the burden of energy costs for the State of Connecticut and municipal facilities.

**Sunwealth Commercial PPA**

The Green Bank partnered with Sunwealth and sold to them an array of commercial solar power purchase agreement projects developed by the Green Bank team in absence of having a fully operating PPA fund to own the projects long term. The projects were sold for approximately \$2 million in December 2018.

<sup>34</sup> The Credit Enhancements for FY2019 show a negative number to reflect a decrease in the loan loss reserves provided due to updated methodologies that require less of a reserve be set aside in the case of a loss for the Smart-E loan program. This is reflective of a greater comfort with energy lending by the program partners and demonstrates a decrease in reliance on public funds for the program.

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#### Growing solar in LMI communities

In January 2019, a three-year, \$90 million credit facility was structured by LibreMax Capital, a New York based asset management firm, the Green Bank and Inclusive Prosperity Capital, and provided to PosiGen, a provider of renewable energy and efficiency solutions for low-to-moderate income households. The facility allowed PosiGen to continue to lease solar systems and provide energy efficiency upgrades to low-to-moderate income homeowners in Louisiana, Connecticut, New York and New Jersey. It also enables the company to expand its footprint into additional markets and states.

#### SHREC backed green bond issuance

In April 2019, the Green Bank sold \$38.6 million of investment-grade rated ABS notes in a first-of-its-kind issuance that monetized the solar home renewable energy credits (SHRECs) generated through the Residential Solar Investment Program (RSIP). The sale was comprised of two tranches of SHRECs produced by more than 105 megawatts of 14,000 residential solar photovoltaic (PV) systems. The financing was certified against the [Climate Bonds Standard](#) by [Kestrel Verifiers](#), providing investors with assurance of the deal's green credentials, and an independent review of the beneficial impacts of the RSIP was provided by [Climate Action Reserve](#). The funds raised through this sale will recover the costs of administering and managing the RSIP, including the incentives offered to program participants.

#### Bridgeport Fuel Cell

In May 2019, FuelCell Energy acquired a 14.9-megawatt fuel cell park in Bridgeport, CT, for \$35.5 million from Dominion Energy, in a step towards diversification of their generation portfolio. FuelCell Energy funded the acquisition with a combination of third-party financing, restricted cash on hand, a senior project-level debt facility of \$25 million from Liberty Bank and Fifth Third Bank, and additional subordinated capital from the Green Bank.

#### C-PACE

In FY2019, the Green Bank completed \$20.7 million in C-PACE financing. This includes \$7.2 million in new transactions underwritten throughout the year and the successful repurchase of transactions by the Green Bank from its financing facility with Hannon Armstrong. This warehouse, where every dollar of Green Bank investment was matched by 9 dollars from Hannon, facilitated transactions over the past 4 years. As part of this transaction, the Green Bank repurchased \$13.5 million of C-PACE loans in April 2019 from the warehouse as an investment to strengthen its balance sheet.

#### Amalgamated Bank Revolving Line of Credit

In May 2019, the Green Bank established a \$5 million revolving line of credit from Amalgamated Bank to finance its ongoing investments. The line of credit is secured by the Green Bank's Solar Lease 1 receivables.

#### Canton Hydro

In May 2019, the Green Bank participated in the \$6.6 million capital stack for the development of a dam in Canton, CT. The construction of a 1 megawatt (MW) hydroelectric facility at the Upper Collinsville Dam on the Farmington River is the result of more than a decade of work. The Green Bank's subordinated loan and limited guaranty leveraged Provident Bank's loan through the US Small Business Administration's 504 Loan Program and will preserve the historic dam and powerhouse.

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#### Capital for Change Bridge Loan

Capital for Change (C4C) is a Connecticut Community Development Financial Institution that has long partnered with the Green Bank and the Connecticut Energy Efficiency Fund in the administration of programs. C4C sought out the Green Bank's expertise to source capital in FY2019 to continue to operate as a lender for the energy efficiency fund, the Green Bank's Smart-E program, and its LIME loan program. The Green Bank, while working on a long-term solution provided C4C a \$1.5 million bridge loan in May 2019.

Overall, these \$300 million financings support the goals, targets and mission of the Green Bank but are not necessarily captured in the capital deployed discussed elsewhere in this document. When exclusively looking at these financings, the Green Bank invested \$58.8 million of its own capital into \$256.5 in total capital raised for others representing a 4.4:1 leverage ratio. Capital sourced for the Green Bank (the SHREC-backed green bond and revolving line of credit) totaled \$43.6m.

#### Societal Benefits

##### Societal Benefits and the Evaluation Framework

One of the Connecticut Green Bank's evaluation activities is intended to understand how the increase in investment and deployment of clean energy supported by the Green Bank results in benefits to society. Working with internal and external subject matter experts, the Connecticut Green Bank has established an evaluation framework to guide the assessment, monitoring and reporting of the program impacts and processes, including, but not limited to energy savings and clean energy production and the resulting societal impacts or benefits arising from clean energy investment. The evaluation framework can be found [here](#)<sup>35</sup>.

##### Societal Benefits: Jobs

The Connecticut Green Bank stimulates economic activity in the state through the lending and investing conducted by its programs. This economic activity can be measured by job creation. The Green Bank, in conjunction with the Connecticut Department of Economic and Community Development commissioned a study by Navigant Consulting in 2010 to quantify those jobs. This study was updated in 2016 and is the basis for how the Green Bank measures its impact on job creation. This study and calculator were reviewed by the Connecticut Department of Economic and Community Development which deemed them a reasonable estimation and an appropriate tool for assessing this impact. For more information on this study and the methodology, click [here](#)<sup>36</sup>. An overview of our Jobs methodology can be found [here](#)<sup>37</sup>. Essentially, investments into clean energy can be translated into manufacturing, engineering, installation and project management jobs in the clean energy sector. In 2019, the direct jobs showed a 54% increase over the previous year.

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<sup>35</sup> CGB Evaluation Framework: [https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB\\_DECD\\_Jobs-Study\\_Fact-Sheet.pdf](https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf)

<sup>36</sup> Clean Energy Jobs in Connecticut: <http://ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Clean-Energy-Jobs-CT-August102016.pdf>

<sup>37</sup> CGB Economic Development Factsheet: [https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB\\_DECD\\_Jobs-Study\\_Fact-Sheet.pdf](https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf)

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Table 21. Green Bank Job Years Supported by FY Closed<sup>40,41</sup>

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	58	93	151
2013	572	1,149	1,722
2014	586	935	1,522
2015	1,730	2,673	4,404
2016	1,872	2,983	4,855
2017	841	1,153	1,994
2018	941	1,228	2,169
2019	1,453	1,902	3,355
<b>Total</b>	<b>8,054</b>	<b>12,117</b>	<b>20,172</b>

**Societal Benefits: Tax Revenue**

The aforementioned economic stimulation by the Connecticut Green Bank also generates tax revenue for the state through personal and corporate income taxes as well as through sales and use taxes. Tax revenues go into the State’s General Fund, where they are used for a wide variety of public benefit activities such as education, transportation and public safety. In 2018, the Green Bank engaged Navigant Consulting to do a study on the levels of this revenue generation. The result of this study is the Navigant Tax Calculator that the Green Bank has adopted to estimate the impact of its projects to state tax revenues. This study and calculator were reviewed by the Connecticut Department of Revenue Services who have deemed them a reasonable estimation and an appropriate tool for assessing this impact. For more information on this study and the methodology, click [here](#)<sup>42</sup>. An overview of our Tax methodology can be found [here](#)<sup>43</sup>. In 2019, individual income tax revenue generated increased 48.38% over the previous year, and total tax revenue generated increased 64.2%.

Table 22. Green Bank Tax Revenues Generated by FY Closed<sup>44</sup>

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	\$1,252,282	\$742,909	\$174,738	\$2,169,929
2013	\$3,078,958	\$1,159,413	\$4,143,940	\$8,382,311
2014	\$2,805,699	\$1,753,706	\$810,263	\$5,369,668
2015	\$8,866,654	\$4,798,853	\$3,889,787	\$17,555,293
2016	\$9,002,643	\$3,996,175	\$2,561,169	\$15,559,988
2017	\$4,636,139	\$2,815,217	\$1,899,787	\$9,351,143
2018	\$5,403,772	\$3,247,315	\$2,239,729	\$10,890,815
2019	\$8,018,357	\$4,496,047	\$5,369,348	\$17,883,751
<b>Total</b>	<b>\$43,064,504</b>	<b>\$23,009,633</b>	<b>\$21,088,761</b>	<b>\$87,162,899</b>

<sup>40</sup> The Green Bank updated its job study in 2016 and implemented new job creation factors in FY2017

<sup>41</sup> See Appendix for Job Year Factors.

<sup>42</sup> Tax Report: [https://www.ctgreenbank.com/wp-content/uploads/2018/09/Tax-Study\\_Final\\_Report\\_01-19-18.pdf](https://www.ctgreenbank.com/wp-content/uploads/2018/09/Tax-Study_Final_Report_01-19-18.pdf)

<sup>43</sup> Tax Methodology: <https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf>

<sup>44</sup> See Appendix for Average Emission Rates.

### Societal Benefits: Environmental Impacts and Equivalencies

The Green Bank assesses the impact of its projects in terms of the local environmental protection benefits these projects produce. These benefits are primarily in the form of cleaner air in the state and are measured in terms of tons of Carbon Dioxide (CO<sub>2</sub>) and pounds of Nitrous Oxide (NO<sub>x</sub>), Sulfur Dioxide (SO<sub>x</sub>) and particulate matter (PM 2.5) not emitted. The Green Bank has developed its methodology for these measurements in conjunction with outside experts at the Connecticut Department of Energy and Environmental Protection and at the United States Environmental Protection Agency. These agencies have deemed the methodology to be a reasonable estimation and an appropriate tool for assessing this impact. For more information on this methodology, click [here](#)<sup>45</sup>. For more information on the EPA's AvERT, click [here](#)<sup>46</sup>. Note that the lifetime values are based on the aggregation of projects' impact for one year multiplied by the useful life of the technology for each project.

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<sup>45</sup> CGB Environmental Impact Factsheet: <https://www.ctgreenbank.com/wp-content/uploads/2017/05/CGB-Environmental-Impact-051617.pdf>

<sup>46</sup> Environmental Protection Agency AvERT User Manual: [https://www.ctgreenbank.com/wp-content/uploads/2017/05/AVERT\\_fact\\_sheet\\_user\\_manual\\_03-01-17.pdf](https://www.ctgreenbank.com/wp-content/uploads/2017/05/AVERT_fact_sheet_user_manual_03-01-17.pdf)

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Table 23. Green Bank Avoided Emissions by FY Closed<sup>47</sup>

<b>CO2 Emissions Avoided (tons)</b>			
<b>Fiscal Year</b>	<b>Annual</b>	<b>Lifetime</b>	<b>Green Bank Investment (\$) / Project Lifetime Tons of Avoided CO<sub>2</sub> Emissions</b>
2012	1,242	31,046	\$109.57
2013	13,254	210,346	\$88.75
2014	15,714	358,049	\$90.77
2015	44,644	1,047,450	\$54.47
2016	47,831	1,129,276	\$34.79
2017	35,553	847,708	\$39.67
2018	42,576	993,233	\$35.05
2019	48,402	1,183,050	\$34.43
<b>Total</b>	<b>249,217</b>	<b>5,800,158</b>	<b>\$44.84</b>
<b>NOx Emissions Avoided (pounds)</b>			
<b>Fiscal Year</b>	<b>Annual</b>	<b>Lifetime</b>	<b>Green Bank Investment (\$) / Project Lifetime Pounds of Avoided NO<sub>x</sub> Emissions</b>
2012	1,640	40,997	\$82.97
2013	70,850	822,216	\$22.71
2014	20,589	471,875	\$68.88
2015	50,296	1,197,186	\$47.66
2016	50,802	1,197,328	\$32.81
2017	31,355	752,256	\$44.71
2018	36,009	846,468	\$41.13
2019	41,353	1,013,419	\$40.19
<b>Total</b>	<b>302,894</b>	<b>6,341,745</b>	<b>\$41.01</b>
<b>SOx Emissions Avoided (pounds)</b>			
<b>Fiscal Year</b>	<b>Annual</b>	<b>Lifetime</b>	<b>Green Bank Investment (\$) / Project Lifetime Pounds of Avoided SO<sub>x</sub> Emissions</b>
2012	2,119	52,975	\$64.21
2013	55,538	699,271	\$26.70
2014	23,042	527,440	\$61.62
2015	48,271	1,153,343	\$49.47
2016	41,068	955,609	\$41.11
2017	21,038	505,071	\$66.59
2018	23,560	553,868	\$62.85
2019	27,051	662,949	\$61.44
<b>Total</b>	<b>241,688</b>	<b>5,110,526</b>	<b>\$50.89</b>
<b>PM 2.5 Emissions Avoided (pounds)</b>			
<b>Fiscal Year</b>	<b>Annual</b>	<b>Lifetime</b>	<b>Green Bank Investment (\$) / Project Lifetime Pounds of Avoided PM 2.5 Emissions</b>
2012	111	2,772	\$1,227.29
2013	473	11,604	\$1,608.81
2014	1,359	31,726	\$1,024.40
2015	3,626	86,374	\$660.57
2016	4,133	98,419	\$399.17
2017	3,000	71,772	\$468.60
2018	3,608	84,596	\$411.51
2019	4,130	101,137	\$402.75
<b>Total</b>	<b>20,440</b>	<b>488,400</b>	<b>\$532.53</b>

<sup>47</sup> See Appendix for Average Emission Rates.

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To help put this environmental impact into everyday terms, the Green Bank calculates the environmental "equivalencies" of reduced emissions, as shown in Table 24. The Green Bank calculates environmental equivalencies using factors from the EPA's environmental equivalency calculator, which was also reviewed and deemed to be a reasonable estimation of impact by the Connecticut Department of Energy and Environment. The calculator translates abstract reductions into everyday equivalencies. For example, avoided carbon dioxide emissions can translate to avoided emissions from vehicles, or the number of tree seedlings needed to sequester an equivalent amount of carbon. For more information on this methodology, click [here](#)<sup>48</sup>. The EPA environmental equivalency calculator can be found [here](#)<sup>49</sup>.

Table 24. Green Bank Greenhouse Gas Equivalencies (based on reductions of CO<sub>2</sub> tons) by FY Closed

	Greenhouse gas emissions from:			
	Passenger vehicles driven for one year		Miles driven by an average passenger vehicle	
Fiscal Year	Annual	Lifetime of Asset	Annual	Lifetime of Asset
2012	239	5,980	2,754,500	68,862,501
2013	2,566	40,437	29,441,808	466,987,842
2014	3,027	68,962	34,854,116	794,177,973
2015	8,606	201,686	99,046,314	2,323,641,449
2016	9,213	217,508	106,091,197	2,504,796,569
2017	6,850	163,253	78,866,354	1,880,388,062
2018	8,201	191,305	94,436,903	2,203,045,237
2019	9,323	227,865	107,359,302	2,624,070,949
<b>Total</b>	<b>48,024</b>	<b>1,116,995</b>	<b>552,850,494</b>	<b>12,865,970,582</b>
	CO <sub>2</sub> emissions from:			
	Gallons of gasoline consumed		Homes' energy use for one year	
Fiscal Year	Annual	Lifetime of Asset	Annual	Lifetime of Asset
2012	126,768	3,169,209	135	3,373
2013	1,353,009	21,472,139	1,356	22,010
2014	1,604,056	36,549,639	1,707	38,885
2015	4,557,295	106,923,647	4,805	113,120
2016	4,882,559	115,276,449	5,196	122,675
2017	3,629,244	86,533,965	3,847	91,842
2018	4,346,202	101,389,164	4,625	107,897
2019	4,940,920	120,765,728	5,258	128,517
<b>Total</b>	<b>25,440,053</b>	<b>592,079,941</b>	<b>26,928</b>	<b>628,318</b>
	Carbon sequestered by:			
	Tree seedlings grown for 10 years		Acres of U.S. forests in one year	
Fiscal Year	Annual	Lifetime of Asset	Annual	Lifetime of Asset
2012	18,628	465,710	1,326	33,148
2013	265,850	3,825,573	14,158	224,650
2014	236,042	5,379,136	16,777	382,285
2015	705,130	16,243,907	47,670	1,118,400
2016	717,484	16,939,693	51,068	1,205,712
2017	545,729	12,912,651	37,961	905,105
2018	638,667	14,898,978	45,458	1,060,461
2019	726,060	17,746,334	51,679	1,263,126
<b>Total</b>	<b>3,853,593</b>	<b>88,411,981</b>	<b>266,097</b>	<b>6,192,887</b>

<sup>48</sup> <http://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>

<sup>49</sup> EPA Greenhouse Gas Equivalencies Calculator: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>



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**Societal Benefits: Public Health**

The avoided emissions described above result in cleaner air which correlates to public health benefits. Air pollution influences the prevalence and severity of asthma, bronchitis, coronary and respiratory disease, and even death.

With the adoption of the AvERT tool for assessing environmental impacts, the Green Bank is now able to leverage this information to can now gauge the public health impacts of its activities. in terms of public health. The Green Bank assesses public health benefits and illnesses, or deaths avoided using data from the AvERT tool. In partnership with the US Environmental Protection Agency, after a 2017 review by the Connecticut Department of Public Health and Connecticut Department of Energy & Environmental Protection, the Green Bank’s Board of Directors approved the use of the EPA’s Co-Benefit Risk Assessment Tool (CoBRA). These agencies have deemed the methodology to be a reasonable estimation and an appropriate tool for assessing this impact. The CoBRA tool reports back low and high estimates of avoided incidents, locations, and associated costs of the health outcomes described above. These public health impacts are quantified and presented as total estimated public health savings of the policies in dollars. For more information on this methodology, click here<sup>44</sup>. An overview of CoBRA can be found here<sup>45</sup>. The factors used to measure impact from CoBRA can be found in the appendix. Table 25. Green Bank Economic Value of Public Health Impact by FY Closed.

**Table 25. Economic Savings due to Public Health from Green Bank projects (based on reductions of emissions) by FY Closed**

Fiscal Year	Annual		Lifetime		Green Bank Investment (\$) / Lifetime Public Health Savings	
	Low	High	Low	High	Low	High
2012	\$42,865	\$96,778	\$1,071,624	\$2,419,440	\$1.41	\$3.17
2013	\$1,021,899	\$2,309,410	\$12,873,272	\$29,086,803	\$0.64	\$1.45
2014	\$529,991	\$1,196,805	\$12,227,083	\$27,608,191	\$1.18	\$2.66
2015	\$1,446,287	\$3,265,003	\$34,128,919	\$77,049,244	\$0.74	\$1.67
2016	\$1,619,825	\$3,657,564	\$38,539,508	\$87,017,072	\$0.45	\$1.02
2017	\$1,244,487	\$2,810,015	\$29,834,570	\$67,362,231	\$0.50	\$1.13
2018	\$1,506,361	\$3,401,451	\$35,441,318	\$80,022,883	\$0.44	\$0.98
2019	\$1,737,717	\$3,923,485	\$42,601,341	\$96,184,643	\$0.42	\$0.96
<b>Total</b>	<b>\$9,149,433</b>	<b>\$20,660,511</b>	<b>\$206,717,634</b>	<b>\$466,750,505</b>	<b>\$0.56</b>	<b>\$1.26</b>

**Social Cost of Carbon**

The Green Bank using the methodology adopted by the Obama Administration, has estimated the total avoided economic costs of the carbon emissions avoided by its projects. This was done by forecasting out when the projected estimated emissions savings are to occur and then applying the prices identified by the Whitehouse Council on Environmental Quality at the various discount rates adjusted to 2019 dollars<sup>50</sup>.

<sup>50</sup> [https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc\\_tsd\\_final\\_clean\\_8\\_26\\_16.pdf](https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf)

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Table 26 shows the annual forecasted emissions avoided and the social cost of those emissions at various discount rates. Using the 3% discount rate, around which the initial study was created, the overall value of the Green Banks projects in terms of emissions avoided is \$389,686,708.

**Table 26. Avoided CO<sub>2</sub> Emissions Forecast and the Social Costs of Carbon**

Year	Estimated CO <sub>2</sub> annual emissions avoided (tons)	Economic Value of Avoided Emissions at Different Discount Rates			
		5% Average	3% Average	2.5% Average	High Impact (95th Pct at 3%)
2011	1,002	\$11,901.27	\$34,621.86	\$55,178.59	\$97,373.99
2012	4,577	\$55,889.32	\$167,667.96	\$269,284.91	\$472,518.81
2013	22,952	\$282,762.60	\$873,993.50	\$1,388,107.32	\$2,493,452.05
2014	57,192	\$717,191.07	\$2,281,971.57	\$3,585,955.33	\$6,585,117.97
2015	116,085	\$1,455,700.51	\$4,764,110.75	\$7,410,838.95	\$13,895,323.03
2016	157,946	\$2,015,390.07	\$6,962,256.59	\$10,443,384.89	\$19,787,466.11
2017	202,884	\$2,633,434.84	\$9,336,723.52	\$14,124,786.86	\$26,813,154.73
2018	251,014	\$3,644,721.25	\$12,149,070.82	\$18,223,606.24	\$35,232,305.39
2019	291,276	\$4,334,182.56	\$14,808,457.10	\$22,032,094.70	\$43,341,825.65
2020	291,276	\$4,334,182.56	\$15,169,638.98	\$22,393,276.58	\$44,425,371.29
2021	291,276	\$4,334,182.56	\$15,169,638.98	\$22,754,458.47	\$45,508,916.93
2022	283,400	\$4,568,401.39	\$15,110,866.14	\$22,490,591.46	\$45,332,598.42
2023	283,400	\$4,568,401.39	\$15,462,281.63	\$22,842,006.95	\$46,386,844.89
2024	280,671	\$4,524,422.48	\$15,661,462.45	\$22,970,144.92	\$46,984,387.34
2025	279,236	\$4,847,529.50	\$15,927,596.91	\$23,545,143.26	\$47,782,790.74
2026	273,484	\$4,747,676.86	\$15,938,629.45	\$23,399,264.52	\$47,815,888.36
2027	271,008	\$5,040,743.41	\$16,130,378.90	\$23,523,469.23	\$48,055,087.14
2028	261,802	\$4,869,513.48	\$15,907,077.37	\$23,049,030.47	\$47,396,597.87
2029	258,893	\$4,815,401.43	\$15,730,311.34	\$23,113,926.86	\$47,832,987.54
2030	258,228	\$5,123,246.50	\$16,010,145.30	\$23,374,812.14	\$48,670,841.71
2031	258,228	\$5,123,246.50	\$16,330,348.21	\$23,695,015.04	\$49,631,450.43
2032	258,207	\$5,442,999.98	\$16,649,176.40	\$24,013,235.19	\$50,587,882.13
2033	258,207	\$5,442,999.98	\$16,969,352.87	\$24,333,411.66	\$51,548,411.54
2034	258,207	\$5,763,176.45	\$17,289,529.34	\$24,653,588.13	\$52,508,940.95
2035	257,205	\$5,740,816.49	\$17,541,383.73	\$24,876,871.47	\$53,580,953.93
2036	253,629	\$5,975,510.78	\$17,612,031.79	\$24,845,544.84	\$53,779,597.06
2037	245,881	\$5,792,955.89	\$17,378,867.67	\$24,696,285.63	\$53,051,280.24
2038	217,241	\$5,387,571.10	\$15,623,956.18	\$22,089,041.49	\$47,680,004.20
2039	164,100	\$4,069,688.68	\$12,005,581.61	\$16,889,208.02	\$36,627,198.12
2040	124,715	\$3,247,577.82	\$9,278,793.77	\$12,990,311.28	\$28,300,320.99
2041	84,818	\$2,208,661.24	\$6,415,635.03	\$8,939,819.31	\$19,562,428.13
2042	39,597	\$1,080,218.44	\$2,995,151.12	\$4,222,672.07	\$9,280,058.38
<b>Total</b>	<b>6,557,634</b>	<b>\$122,200,298</b>	<b>\$389,686,708</b>	<b>\$567,234,366</b>	<b>\$1,171,049,376</b>

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**Other Societal Benefits**

The Green Bank is presently working on methodologies to further measure additional societal impacts of its programs. During Fiscal Year 2020, the Green Bank will review Community Reinvestment Act eligibility for projects, equity (i.e., income and race) from investments in clean energy, as well as the economic relief from the energy burden felt by participating property owners and tenants that install clean energy systems annually and over the life of the renewable energy projects.

**Community Impacts**

**Community and Market Descriptions**

Communities across Connecticut are demonstrating leadership in their support of clean energy. The Connecticut Green Bank distributes reports to communities on an annual basis to provide them with a breakdown of their performance. There are many leaders of clean energy deployment across the state, and we have assembled the “Top 5” in energy, economy, and environment for both FY 2019 as well as FY 2012 through FY 2019. It should be noted that in a 2016 UN report, an estimated \$90 trillion must be invested to further all these Sustainable Development Goals through 2030 in order to confront climate change.<sup>51</sup> This comes to an average annual investment per capita of approximately \$790<sup>52</sup>.

Table 27. The “Top 5” on Energy, Economy, and Environmental Performance - FY 2019 Closed Activity

Municipality	Watts / Capita	Municipality	Investment / Capita	Municipality	Total Lifetime CO2 Emissions (Tons)
North Stonington	112.0	New Britain	\$408.26	Bridgeport	51,400
Stonington	82.9	Stonington	\$302.39	Hamden	47,476
North Haven	81.8	North Haven	\$293.32	Hartford	34,733
North Canaan	81.3	North	\$290.63	Waterbury	34,080
Easton	67.6	Essex	\$265.46	Stratford	33,872

Table 28. The “Top 5” on Energy, Economy, and Environmental Performance - FY 2012 – 2019 Closed Activity

Municipality	Watts / Capita	Municipality	Investment / Capita	Municipality	Total Lifetime CO2 Emissions (Tons)
Colebrook	3,459.1	Colebrook	\$15,551.91	Bridgeport	298,216
Canaan	367.8	Deep River	\$1,654.73	Hartford	173,650
Union	312.8	Canaan	\$1,578.13	Waterbury	136,340
Woodbridge	307.5	Bridgeport	\$1,285.03	Stratford	132,231
Durham	259.9	Union	\$1,157.05	Hamden	129,191

<sup>51</sup> <https://www.un.org/pga/71/wp-content/uploads/sites/40/2017/02/Financing-Sustainable-Development-in-a-time-of-turmoil.pdf>

<sup>52</sup> \$90,000,000,000,000/7.6B people/15 years until 2030 = \$790

### Projects by Income Bands

In addition to looking at funding and clean energy deployment in distressed municipalities, the Green Bank works to ensure that low to moderate income (LMI) census tracts across the entire state are benefiting from its programs. The Green Bank defines low to moderate income as 100% or less of the Area Median Income (AMI) of a Metropolitan Statistical Area (MSA). Table 29 groups the Green Bank's residential projects based upon the average area median income (AMI) of their census tract from the American Community Survey (ACS) 5-Year Estimate data. Table 30 groups the Green Bank's residential projects based upon the average state median income (SMI) of their census tract from the American Community Survey (ACS) 5-Year Estimate data.

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Table 29. Overview of Connecticut Population and Households by Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands<sup>5354</sup>

<b>MSA AMI Band</b>	<b>Total Population</b>	<b>% Total Population Distribution</b>	<b>Total Households</b>	<b>% Total Household Distribution</b>	<b>Total Owner Occupied 1-4 Unit Households</b>	<b>% Owner Occupied 1-4 Unit Household Distribution</b>	<b>Total Owner/Rental Occupied 5+ Unit Households</b>	<b>% Owner/Rental Occupied 5+ Unit Household Distribution</b>
<60%	620,528	17%	227,171	17%	56,843	7%	81,851	35%
60%-80%	485,371	14%	187,979	14%	93,759	11%	43,776	19%
80%-100%	584,823	16%	238,365	18%	145,386	17%	49,089	21%
100%-120%	723,850	20%	283,139	21%	208,761	24%	36,677	16%
>120%	1,171,128	33%	425,060	31%	360,595	42%	23,934	10%
<b>Total</b>	<b>3,585,700</b>	<b>100%</b>	<b>1,361,714</b>	<b>100%</b>	<b>865,344</b>	<b>100%</b>	<b>235,327</b>	<b>100%</b>

Table 30. Overview of Connecticut Population and Households by Metropolitan Statistical Area (MSA) State Median Income (SMI) Bands<sup>5556</sup>

<b>MSA SMI Band</b>	<b>Total Population</b>	<b>% Total Population Distribution</b>	<b>Total Households</b>	<b>% Total Household Distribution</b>	<b>Total Owner Occupied 1-4 Unit Households</b>	<b>% Owner Occupied 1-4 Unit Household Distribution</b>	<b>Total Owner/Rental Occupied 5+ Unit Households</b>	<b>% Owner/Rental Occupied 5+ Unit Household Distribution</b>
<60%	629,607	18%	231,843	17%	56,740	7%	85,223	36%
60%-80%	447,148	12%	175,421	13%	84,681	10%	44,523	19%
80%-100%	561,857	16%	227,072	17%	138,187	16%	45,231	19%
100%-120%	770,389	21%	302,853	22%	220,230	25%	39,253	17%
>120%	1,176,699	33%	424,525	31%	365,506	42%	21,097	9%
<b>Total</b>	<b>3,585,700</b>	<b>100%</b>	<b>1,361,714</b>	<b>100%</b>	<b>865,344</b>	<b>100%</b>	<b>235,327</b>	<b>100%</b>

<sup>53</sup> 2017 American Community Survey (ACS)

<sup>54</sup> The suite of products offered by the Connecticut Green Bank do not currently address rental properties of 1-4 units.

<sup>55</sup> 2017 American Community Survey (ACS)

<sup>56</sup> The suite of products offered by the Connecticut Green Bank do not currently address rental properties of 1-4 units.

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Table 31. Green Bank Residential<sup>57</sup> Annual Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed <sup>58</sup>

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	<60%	6	2%	0.0	2%	\$211,372	2%	228,062	17%	0.0	\$0.93	0.1
2012	60%-80%	7	2%	0.0	2%	\$246,769	2%	207,439	15%	0.0	\$1.19	0.2
2012	80%-100%	31	11%	0.2	10%	\$1,264,888	10%	239,356	18%	0.1	\$5.28	0.8
2012	100%-120%	84	29%	0.5	28%	\$3,812,022	29%	280,563	21%	0.3	\$13.59	2.0
2012	>120%	160	56%	1.1	58%	\$7,768,100	58%	404,748	30%	0.4	\$19.19	2.8
2012	Total	288	100%	1.9	100%	\$13,303,152	100%	1,360,168	100%	0.2	\$9.78	1.4
2013	<60%	20	2%	0.1	1%	\$569,790	1%	224,259	17%	0.1	\$2.54	0.4
2013	60%-80%	56	5%	0.4	5%	\$2,267,397	5%	222,791	16%	0.3	\$10.18	1.7
2013	80%-100%	124	11%	0.8	10%	\$4,975,718	11%	236,905	17%	0.5	\$21.00	3.4
2013	100%-120%	220	20%	1.5	18%	\$8,978,013	19%	264,685	20%	0.8	\$33.92	5.5
2013	>120%	688	62%	5.2	66%	\$30,415,754	64%	407,204	30%	1.7	\$74.69	12.7
2013	Total	1,108	100%	7.9	100%	\$47,206,671	100%	1,355,844	100%	0.8	\$34.82	5.8
2014	<60%	84	3%	0.4	2%	\$2,458,782	3%	224,369	17%	0.4	\$10.96	1.9
2014	60%-80%	163	6%	0.9	5%	\$5,333,262	6%	216,437	16%	0.8	\$24.64	4.2
2014	80%-100%	527	21%	2.6	15%	\$14,815,188	16%	231,014	17%	2.3	\$64.13	11.1
2014	100%-120%	612	24%	4.3	26%	\$23,806,103	26%	278,174	21%	2.2	\$85.58	15.6
2014	>120%	1,160	46%	8.5	51%	\$45,519,002	50%	406,185	30%	2.9	\$112.06	20.9
2014	Total	2,546	100%	16.7	100%	\$91,932,338	100%	1,356,179	100%	1.9	\$67.79	12.3
2015	<60%	272	4%	1.5	3%	\$7,755,519	3%	240,062	18%	1.1	\$32.31	6.3
2015	60%-80%	652	10%	3.9	8%	\$20,448,189	8%	193,188	14%	3.4	\$105.85	20.3
2015	80%-100%	1,234	18%	7.9	16%	\$42,436,709	17%	264,609	20%	4.7	\$160.38	29.7
2015	100%-120%	1,637	24%	12.3	26%	\$63,946,777	26%	240,485	18%	6.8	\$265.91	51.0
2015	>120%	2,926	44%	22.2	46%	\$112,160,316	45%	414,212	31%	7.1	\$270.78	53.5

<sup>57</sup> Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units.

<sup>58</sup> Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2015	Total	6,721	100%	47.7	100%	\$246,747,510	100%	1,352,556	100%	5.0	\$182.43	35.3
2016	<60%	886	11%	3.9	7%	\$36,768,437	13%	236,643	17%	3.7	\$155.38	16.7
2016	60%-80%	1,147	14%	6.5	12%	\$29,291,985	10%	199,269	15%	5.8	\$147.00	32.4
2016	80%-100%	1,633	20%	10.7	19%	\$53,240,448	19%	261,240	19%	6.3	\$203.80	41.1
2016	100%-120%	1,907	24%	13.3	24%	\$63,613,305	23%	251,604	19%	7.6	\$252.83	53.0
2016	>120%	2,516	31%	21.2	38%	\$96,172,354	34%	405,921	30%	6.2	\$236.92	52.2
2016	Total	8,089	100%	55.6	100%	\$279,086,528	100%	1,354,677	100%	6.0	\$206.02	41.1
2017	<60%	1,135	19%	3.9	11%	\$26,840,826	17%	242,723	18%	4.7	\$110.58	16.2
2017	60%-80%	1,100	18%	5.3	15%	\$26,775,828	17%	190,564	14%	5.8	\$140.51	28.0
2017	80%-100%	1,274	21%	6.8	19%	\$27,640,925	18%	250,616	18%	5.1	\$110.29	27.0
2017	100%-120%	1,066	17%	7.6	21%	\$29,250,931	19%	280,637	21%	3.8	\$104.23	27.0
2017	>120%	1,531	25%	11.8	33%	\$46,094,261	29%	397,174	29%	3.9	\$116.06	29.6
2017	Total	6,106	100%	35.4	100%	\$156,602,770	100%	1,361,714	100%	4.5	\$115.00	26.0
2018	<60%	2,418	29%	4.1	9%	\$43,655,402	21%	242,723	18%	10.0	\$179.86	16.7
2018	60%-80%	983	12%	5.6	13%	\$23,293,346	11%	190,564	14%	5.2	\$122.23	29.6
2018	80%-100%	1,348	16%	8.3	19%	\$34,679,581	17%	250,616	18%	5.4	\$138.38	33.3
2018	100%-120%	1,532	18%	10.5	24%	\$43,255,811	21%	280,637	21%	5.5	\$154.13	37.4
2018	>120%	2,123	25%	14.5	34%	\$63,401,195	30%	397,174	29%	5.3	\$159.63	36.6
2018	Total	8,404	100%	43.1	100%	\$208,285,336	100%	1,361,714	100%	6.2	\$152.96	31.6
2019	<60%	2,052	20%	6.0	9%	\$52,036,326	18%	242,723	18%	8.5	\$214.39	24.8
2019	60%-80%	1,579	15%	8.7	13%	\$35,269,883	12%	190,564	14%	8.3	\$185.08	45.8
2019	80%-100%	1,973	19%	11.6	18%	\$47,300,579	16%	250,616	18%	7.9	\$188.74	46.4
2019	100%-120%	2,100	20%	17.2	26%	\$68,548,227	24%	280,637	21%	7.5	\$244.26	61.1
2019	>120%	2,556	25%	21.7	33%	\$85,074,442	30%	397,174	29%	6.4	\$214.20	54.6
2019	Total	10,260	100%	65.2	100%	\$288,229,456	100%	1,361,714	100%	7.5	\$211.67	47.9

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
Total	<60%	6,873	16%	20.0	7%	\$170,296,455	13%	242,723	18%	28.3	\$701.61	82.4
Total	60%-80%	5,687	13%	31.4	11%	\$142,926,660	11%	190,564	14%	29.8	\$750.02	164.8
Total	80%-100%	8,144	19%	48.9	18%	\$226,354,036	17%	250,616	18%	32.5	\$903.19	195.1
Total	100%-120%	9,158	21%	67.2	25%	\$305,211,189	23%	280,637	21%	32.6	\$1,087.57	239.3
Total	>120%	13,660	31%	106.1	39%	\$486,605,423	37%	397,174	29%	34.4	\$1,225.17	267.1
Total	Total	43,522	100%	273.5	100%	\$1,331,393,762	100%	1,361,714	100%	32.0	\$977.73	200.9

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Table 32. Green Bank Residential<sup>59</sup> Activity in Metropolitan Statistical Area (MSA) State Median Income (SMI) Bands by FY Closed<sup>60</sup>

Fiscal Year Closed	MSA SMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	<60%	8	3%	0.0	2%	\$228,043	2%	249,608	18%	0.0	\$0.91	0.1
2012	60%-80%	6	2%	0.0	2%	\$212,644	2%	204,836	15%	0.0	\$1.04	0.2
2012	80%-100%	66	23%	0.4	21%	\$2,884,452	22%	293,878	22%	0.2	\$9.82	1.4
2012	100%-120%	79	27%	0.5	27%	\$3,737,526	28%	260,689	19%	0.3	\$14.34	2.0
2012	>120%	129	45%	0.9	47%	\$6,240,488	47%	351,157	26%	0.4	\$17.77	2.6
2012	Total	288	100%	1.9	100%	\$13,303,152	100%	1,360,168	100%	0.2	\$9.78	1.4
2013	<60%	30	3%	0.2	2%	\$1,061,165	2%	251,171	19%	0.1	\$4.22	0.7
2013	60%-80%	50	5%	0.3	4%	\$1,923,848	4%	211,049	16%	0.2	\$9.12	1.4
2013	80%-100%	194	18%	1.3	16%	\$7,864,995	17%	295,748	22%	0.7	\$26.59	4.3
2013	100%-120%	224	20%	1.5	19%	\$9,478,832	20%	247,329	18%	0.9	\$38.32	6.0
2013	>120%	610	55%	4.6	59%	\$26,877,830	57%	350,547	26%	1.7	\$76.67	13.2
2013	Total	1,108	100%	7.9	100%	\$47,206,671	100%	1,355,844	100%	0.8	\$34.82	5.8
2014	<60%	120	5%	0.6	4%	\$3,536,565	4%	264,100	19%	0.5	\$13.39	2.3
2014	60%-80%	163	6%	1.0	6%	\$5,566,256	6%	189,153	14%	0.9	\$29.43	5.0
2014	80%-100%	708	28%	3.9	23%	\$22,173,980	24%	288,116	21%	2.5	\$76.96	13.6
2014	100%-120%	598	23%	4.2	25%	\$23,090,814	25%	242,617	18%	2.5	\$95.17	17.3
2014	>120%	957	38%	7.1	42%	\$37,564,723	41%	372,193	27%	2.6	\$100.93	19.0
2014	Total	2,546	100%	16.7	100%	\$91,932,338	100%	1,356,179	100%	1.9	\$67.79	12.3
2015	<60%	428	6%	2.2	5%	\$11,872,108	5%	236,756	18%	1.8	\$50.14	9.4
2015	60%-80%	855	13%	5.1	11%	\$26,080,390	11%	235,289	17%	3.6	\$110.84	21.5
2015	80%-100%	1,456	22%	10.3	22%	\$54,124,487	22%	262,503	19%	5.5	\$206.19	39.3
2015	100%-120%	1,770	26%	12.2	26%	\$63,536,446	26%	247,545	18%	7.2	\$256.67	49.3
2015	>120%	2,212	33%	17.9	38%	\$91,134,080	37%	370,463	27%	6.0	\$246.00	48.4
2015	Total	6,721	100%	47.7	100%	\$246,747,510	100%	1,352,556	100%	5.0	\$182.43	35.3

<sup>59</sup> Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units.

<sup>60</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**

**4. MEASURES OF SUCCESS**

Fiscal Year Closed	MSA SMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2016	<60%	991	12%	4.4	8%	\$37,816,687	14%	235,940	17%	4.2	\$160.28	18.5
2016	60%-80%	1,326	16%	8.6	15%	\$38,758,357	14%	235,390	17%	5.6	\$164.66	36.4
2016	80%-100%	1,900	23%	12.6	23%	\$65,089,081	23%	278,870	21%	6.8	\$233.40	45.1
2016	100%-120%	1,721	21%	13.1	23%	\$59,753,338	21%	248,827	18%	6.9	\$240.14	52.5
2016	>120%	2,151	27%	17.1	31%	\$77,669,066	28%	355,650	26%	6.0	\$218.39	48.0
2016	Total	8,089	100%	55.6	100%	\$279,086,528	100%	1,354,677	100%	6.0	\$206.02	41.1
2017	<60%	1,083	18%	3.6	10%	\$24,972,275	16%	227,939	17%	4.8	\$109.56	15.8
2017	60%-80%	1,465	24%	6.9	19%	\$33,135,888	21%	235,460	17%	6.2	\$140.73	29.1
2017	80%-100%	1,313	22%	7.8	22%	\$30,849,797	20%	285,522	21%	4.6	\$108.05	27.4
2017	100%-120%	980	16%	7.2	20%	\$28,238,948	18%	242,028	18%	4.0	\$116.68	29.6
2017	>120%	1,265	21%	9.9	28%	\$39,405,862	25%	370,765	27%	3.4	\$106.28	26.8
2017	Total	6,106	100%	35.4	100%	\$156,602,770	100%	1,361,714	100%	4.5	\$115.00	26.0
2018	<60%	2,278	27%	4.1	9%	\$39,382,543	19%	227,939	17%	10.0	\$172.78	17.8
2018	60%-80%	1,369	16%	7.1	17%	\$33,303,714	16%	235,460	17%	5.8	\$141.44	30.3
2018	80%-100%	1,583	19%	10.1	23%	\$41,629,614	20%	285,522	21%	5.5	\$145.80	35.2
2018	100%-120%	1,363	16%	9.0	21%	\$38,024,714	18%	242,028	18%	5.6	\$157.11	37.1
2018	>120%	1,811	22%	12.8	30%	\$55,944,751	27%	370,765	27%	4.9	\$150.89	34.6
2018	Total	8,404	100%	43.1	100%	\$208,285,336	100%	1,361,714	100%	6.2	\$152.96	31.6
2019	<60%	2,026	20%	5.7	9%	\$51,268,738	18%	227,939	17%	8.9	\$224.92	25.2
2019	60%-80%	1,915	19%	11.0	17%	\$45,924,591	16%	235,460	17%	8.1	\$195.04	46.8
2019	80%-100%	2,380	23%	15.4	24%	\$61,572,964	21%	285,522	21%	8.3	\$215.65	53.8
2019	100%-120%	1,838	18%	14.8	23%	\$57,434,511	20%	242,028	18%	7.6	\$237.31	61.3
2019	>120%	2,101	20%	18.2	28%	\$72,028,653	25%	370,765	27%	5.7	\$194.27	49.2
2019	Total	10,260	100%	65.2	100%	\$288,229,456	100%	1,361,714	100%	7.5	\$211.67	47.9
Total	<60%	6,964	16%	20.8	8%	\$170,138,124	13%	227,939	17%	30.6	\$746.42	91.1

**CONNECTICUT GREEN BANK**

**4. MEASURES OF SUCCESS**

Fiscal Year Closed	MSA SMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
Total	60%-80%	7,149	16%	39.9	15%	\$184,905,688	14%	235,460	17%	30.4	\$785.30	169.6
Total	80%-100%	9,600	22%	61.7	23%	\$286,189,369	21%	285,522	21%	33.6	\$1,002.34	216.3
Total	100%-120%	8,573	20%	62.5	23%	\$283,295,128	21%	242,028	18%	35.4	\$1,170.51	258.1
Total	>120%	11,236	26%	88.6	32%	\$406,865,453	31%	370,765	27%	30.3	\$1,097.37	239.0
Total	Total	43,522	100%	273.5	100%	\$1,331,393,762	100%	1,361,714	100%	32.0	\$977.73	200.9

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**CONNECTICUT GREEN BANK**  
**4. MEASURES OF SUCCESS**

In recent years the Green Bank has focused on increasing its penetration in the LMI market to deliver inclusive prosperity through the green economy. It has done so through a number of Through such products and initiatives, among them as the LMI solar incentive, its partnership with PosiGen, ongoing education to the market about the good credit quality of low and moderate income homeowners, and market research made available to industry participants for targeting candidate projects (customer segmentation, demographic and geographic data), and its affordable multifamily housing energy financing products, . the Green Bank has focused on increasing its penetration in the LMI market shown in Tables 33 and 34 to deliver inclusive prosperity through the green economy. present annual accomplishments by AMI and SMI bands.

Table 33. Green Bank Residential<sup>61</sup> Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed <sup>62</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	288	244	44	15%	1.9	1.7	0.3	14%	\$13,303,152	\$11,580,123	\$1,723,030	13%
2013	1,108	908	200	18%	7.9	6.6	1.3	16%	\$47,206,671	\$39,393,766	\$7,812,904	17%
2014	2,546	1,772	774	30%	16.7	12.8	3.9	23%	\$91,932,338	\$69,325,105	\$22,607,233	25%
2015	6,721	4,563	2,158	32%	47.7	34.4	13.3	28%	\$246,747,510	\$176,107,093	\$70,640,417	29%
2016	8,089	4,423	3,666	45%	55.6	34.5	21.1	38%	\$279,086,528	\$159,785,659	\$119,300,869	43%
2017	6,106	2,597	3,509	57%	35.4	19.3	16.0	45%	\$156,602,770	\$75,345,191	\$81,257,579	52%
2018	8,404	3,655	4,749	57%	43.1	25.0	18.0	42%	\$208,285,336	\$106,657,006	\$101,628,330	49%
2019	10,260	4,656	5,604	55%	65.2	38.8	26.4	40%	\$288,229,456	\$153,622,668	\$134,606,788	47%
<b>Total</b>	<b>43,522</b>	<b>22,818</b>	<b>20,704</b>	<b>48%</b>	<b>273.5</b>	<b>173.2</b>	<b>100.3</b>	<b>37%</b>	<b>\$1,331,393,762</b>	<b>\$791,816,612</b>	<b>\$539,577,150</b>	<b>41%</b>

<sup>61</sup> Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units

<sup>62</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**4. MEASURES OF SUCCESS**

Table 34. Green Bank Residential<sup>63</sup> Activity in Metropolitan Statistical Area (MSA) State Median Income (SMI) Bands Above or Below 100% by FY Closed <sup>64</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% SMI	100% or Below SMI	% at 100% or Below	Total	Over 100% SMI	100% or Below SMI	% at 100% or Below	Total	Over 100% SMI	100% or Below SMI	% at 100% or Below
2012	288	208	80	28%	1.9	1.5	0.5	25%	\$13,303,152	\$9,978,014	\$3,325,138	25%
2013	1,108	834	274	25%	7.9	6.1	1.7	22%	\$47,206,671	\$36,356,662	\$10,850,009	23%
2014	2,546	1,555	991	39%	16.7	11.2	5.5	33%	\$91,932,338	\$60,655,536	\$31,276,802	34%
2015	6,721	3,982	2,739	41%	47.7	30.1	17.6	37%	\$246,747,510	\$154,670,525	\$92,076,984	37%
2016	8,089	3,872	4,217	52%	55.6	30.1	25.5	46%	\$279,086,528	\$137,422,404	\$141,664,124	51%
2017	6,106	2,245	3,861	63%	35.4	17.1	18.3	52%	\$156,602,770	\$67,644,810	\$88,957,960	57%
2018	8,404	3,174	5,230	62%	43.1	21.8	21.2	49%	\$208,285,336	\$93,969,465	\$114,315,871	55%
2019	10,260	3,939	6,321	62%	65.2	33.1	32.1	49%	\$288,229,456	\$129,463,164	\$158,766,292	55%
<b>Total</b>	<b>43,522</b>	<b>19,809</b>	<b>23,713</b>	<b>54%</b>	<b>273.5</b>	<b>151.1</b>	<b>122.4</b>	<b>45%</b>	<b>\$1,331,393,762</b>	<b>\$690,160,581</b>	<b>\$641,233,180</b>	<b>48%</b>

**Distressed Communities**

Connecticut’s “distressed communities<sup>65</sup>” are particularly affected by the state’s high energy prices. On average, Connecticut’s neediest households owe \$2,165 more in annual energy bills than they can afford<sup>66</sup>. The Green Bank’s financing products and marketing efforts seek to bring lower and more predictable energy costs to homes and businesses in these communities.

Table 35. Distressed and Not Distressed Municipalities, Population, and Households in Connecticut<sup>67</sup>

For more information on DECD Distressed Municipality criterions, click [here](#)<sup>68</sup>

<sup>63</sup> Residential Owner-occupied properties of 1-4 units and multifamily housing greater than 4 units.

<sup>64</sup> Excludes projects in unknown bands.

<sup>65</sup> Distressed Municipalities are defined by the Connecticut Department of Economic and community Development by a combination of per capita income, poverty rates, unemployment rates, growth, age of buildings, education. More information can be found here: <https://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248>

<sup>66</sup> Home Energy Affordability in Connecticut: [www.operationfuel.org/wp-content/uploads/2017/12/2017-ConnecticutHEAG-11-27-17-RDC-edits.pdf](http://www.operationfuel.org/wp-content/uploads/2017/12/2017-ConnecticutHEAG-11-27-17-RDC-edits.pdf) \$2,615 is the average energy affordability gap for Households earning less than 49% of the Federal Poverty Level. For households earning less than 200% FPL (approximately 320,000 households in CT) the average energy affordability gap is \$1,404.

<sup>67</sup> As designated by DECD in 2019.

<sup>68</sup> Department of Economic and Community Development: <http://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248>

**CONNECTICUT GREEN BANK**  
**4. MEASURES OF SUCCESS**

2019 <sup>69</sup> DECD Distressed Designation				
	Distressed	Not Distressed	Total	% Distressed
# Towns	25	144	169	15%
2017 ACS Population	1,150,554	244,3924	<b>3,594,478</b>	32%
2017 ACS Households	435,595	926,160	<b>1,361,755</b>	32%

The Green Bank has steadily increased its percentage of projects deployed each year in distressed municipalities.

**Table 36. Green Bank Commercial and Residential Activity in Distressed Communities by FY Closed**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	35	12%	0.2	10%	\$1,364,466	10%	447,962	33%	0.1	\$3.05	0.4
2012	No	253	88%	1.7	90%	\$11,938,686	90%	912,222	67%	0.3	\$13.09	1.9
2012	Total	288	100%	1.9	100%	\$13,303,152	100%	1,360,184	100%	0.2	\$9.78	1.4
2013	Yes	118	11%	0.7	9%	\$4,474,378	9%	426,564	31%	0.3	\$10.49	1.7
2013	No	990	89%	7.1	91%	\$42,732,293	91%	929,285	69%	1.1	\$45.98	7.7
2013	Total	1,108	100%	7.9	100%	\$47,206,671	100%	1,355,849	100%	0.8	\$34.82	5.8
2014	Yes	379	15%	2.4	15%	\$13,647,066	15%	416,415	31%	0.9	\$32.77	5.8
2014	No	2,167	85%	14.3	85%	\$78,285,272	85%	939,791	69%	2.3	\$83.30	15.2
2014	Total	2,546	100%	16.7	100%	\$91,932,338	100%	1,356,206	100%	1.9	\$67.79	12.3
2015	Yes	1,474	22%	9.1	19%	\$47,355,564	19%	423,559	31%	3.5	\$111.80	21.4
2015	No	5,247	78%	38.7	81%	\$199,391,946	81%	929,024	69%	5.6	\$214.63	41.6
2015	Total	6,721	100%	47.7	100%	\$246,747,510	100%	1,352,583	100%	5.0	\$182.43	35.3
2016	Yes	2,430	29%	15.3	27%	\$87,388,625	31%	438,710	32%	5.5	\$199.19	35.0

<sup>69</sup> <https://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248>

**CONNECTICUT GREEN BANK**

**4. MEASURES OF SUCCESS**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2016	No	5,851	71%	40.6	73%	\$192,582,015	69%	916,003	68%	6.4	\$210.24	44.3
2016	Total	8,281	100%	55.9	100%	\$279,970,641	100%	1,354,713	100%	6.1	\$206.66	41.3
2017	Yes	2,270	37%	11.6	33%	\$55,115,591	35%	435,595	32%	5.2	\$126.53	26.6
2017	No	3,853	63%	23.8	67%	\$101,686,493	65%	926,160	68%	4.2	\$109.79	25.7
2017	Total	6,123	100%	35.4	100%	\$156,802,083	100%	1,361,755	100%	4.5	\$115.15	26.0
2018	Yes	3,730	44%	13.8	32%	\$78,632,297	38%	435,595	32%	8.6	\$180.52	31.8
2018	No	4,675	56%	29.3	68%	\$129,738,774	62%	926,160	68%	5.0	\$140.08	31.6
2018	Total	8,405	100%	43.1	100%	\$208,371,071	100%	1,361,755	100%	6.2	\$153.02	31.6
2019	Yes	4,676	45%	20.7	32%	\$112,299,982	39%	435,595	32%	10.7	\$257.81	47.6
2019	No	5,653	55%	44.5	68%	\$175,963,947	61%	926,160	68%	6.1	\$189.99	48.0
2019	Total	10,329	100%	65.2	100%	\$288,263,929	100%	1,361,755	100%	7.6	\$211.69	47.9
Total	Yes	15,112	35%	73.9	27%	\$400,277,970	30%	435,595	32%	34.7	\$918.92	169.7
Total	No	28,689	65%	199.9	73%	\$932,319,425	70%	926,160	68%	31.0	\$1,006.65	215.8
Total	Total	43,801	100%	273.8	100%	\$1,332,597,395	100%	1,361,755	100%	32.2	\$978.59	201.1

**CONNECTICUT GREEN BANK**  
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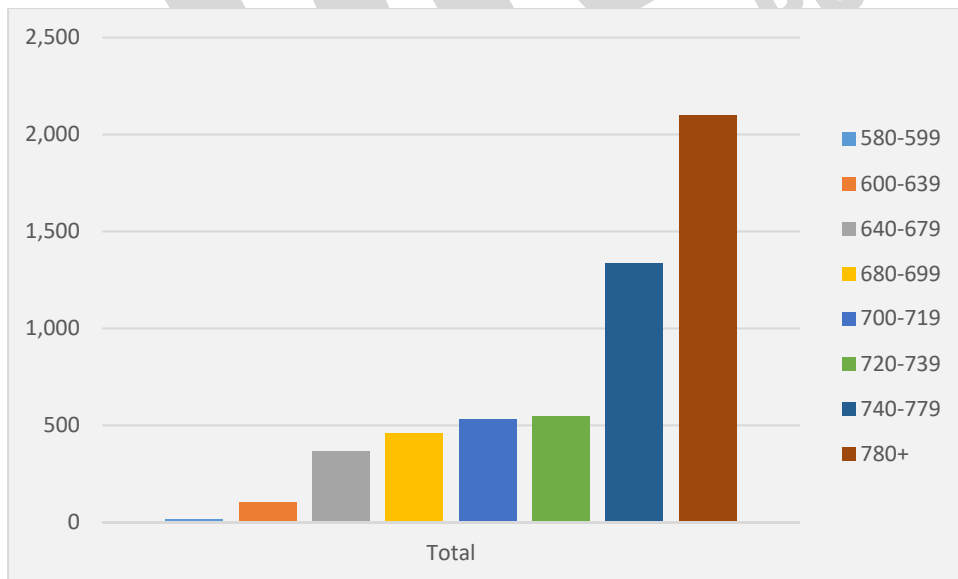
**Credit Quality of Homeowners**

The credit quality of Green Bank’s borrowers in Green Bank residential 1-4 programs that do FICO-based underwriting reflects the relatively high FICO scores in the state; 90% of single-family households that are Green Bank borrowers in these programs have a FICO of 680 or higher. The Green Bank has begun to focus on ensuring that credit challenged customers have access to energy financing products through such initiatives as its partnership with PosiGen (which uses an alternative underwriting approach) and launching a credit-challenged version of the Smart-E program that broadens the credit eligibility and now has six lenders including Capital 4 Change (a Community Development Financial Institution) and all the credit unions participating (all institutions with experience serving this market).

**Table 37. Credit Score Ranges of Household Borrowers Using Residential Financing Programs FY2012-FY2019**

Program Name	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
Smart-E	16	101	324	407	437	428	982	1,299	3,994
Solar Lease		1	45	39	78	85	264	673	1,185
Solar Loan				11	15	34	90	129	279
<b>Grand Total</b>	<b>16</b>	<b>102</b>	<b>369</b>	<b>457</b>	<b>530</b>	<b>547</b>	<b>1,336</b>	<b>2,101</b>	<b>5,458</b>
	0%	2%	7%	8%	10%	10%	24%	38%	100%

**Figure 3. Credit Score Ranges of Household Borrowers Using Residential Financing Programs**





**CONNECTICUT GREEN BANK**  
**4. MEASURES OF SUCCESS**

**Projects by CRA Eligibility**

The Community Reinvestment Act was enacted by Congress in 1977 to encourage depository institutions to lend in low-to-moderate-income communities. These lending institutions are rated by regulators as to the volume of their lending to projects in these communities by regulators. Projects are potentially compliant with CRA requirements if they are below 80% of a Metropolitan Statistical Area’s (MSA) Adjusted Median Income (AMI) level. For FY 2019, an estimated 35% of projects maybe CRA compliant.

**Table 38. Green Bank Commercial and Residential Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 80% by FY Closed<sup>70 71</sup>**

Fiscal Year Closed	# Project Units <sup>72</sup>				MW				Total Investment			
	Total	Over 80% AMI	80% or Below AMI	% at 80% or Below	Total	Over 80% AMI	80% or Below AMI	% at 80% or Below	Total	Over 80% AMI	80% or Below AMI	% at 80% or Below
2012	288	275	13	5%	1.9	1.9	0.1	4%	\$13,303,152	\$12,845,011	\$458,141	3%
2013	1,108	1,032	76	7%	7.9	7.4	0.5	6%	\$47,206,671	\$44,369,484	\$2,837,187	6%
2014	2,546	2,299	247	10%	16.7	15.4	1.3	8%	\$91,932,338	\$84,140,293	\$7,792,045	8%
2015	6,721	5,797	924	14%	47.7	42.3	5.4	11%	\$246,747,510	\$218,543,802	\$28,203,708	11%
2016	8,089	6,056	2,033	25%	55.6	45.2	10.4	19%	\$279,086,528	\$213,026,106	\$66,060,422	24%
2017	6,106	3,871	2,235	37%	35.4	26.1	9.3	26%	\$156,602,770	\$102,986,117	\$53,616,654	34%
2018	8,404	5,003	3,401	40%	43.1	33.4	9.7	23%	\$208,285,336	\$141,336,587	\$66,948,749	32%
2019	10,260	6,629	3,631	35%	65.2	50.5	14.7	23%	\$288,229,456	\$200,923,247	\$87,306,209	30%
<b>Total</b>	<b>43,522</b>	<b>30,962</b>	<b>12,560</b>	<b>29%</b>	<b>273.5</b>	<b>222.1</b>	<b>51.4</b>	<b>19%</b>	<b>\$1,331,393,762</b>	<b>\$1,018,170,647</b>	<b>\$313,223,115</b>	<b>24%</b>

<sup>70</sup> Excludes projects in unknown bands.

<sup>71</sup> This table has been adjusted to include all the Low-Income Solar Lease (ESA) and Multifamily Affordable Housing projects as 80% or Below AMI regardless of which census tract the project falls into as these programs are designed to serve the LMI market.

<sup>72</sup> Project units are counted as 1 for each CI&I, Residential 1-4 project and are the number of units in the multifamily housing development for multifamily projects.

**CONNECTICUT GREEN BANK**  
**4. MEASURES OF SUCCESS**

**Customer Types and Market Segments**

The Connecticut Green Bank targets end users of energy in Connecticut both at work and at home. A breakdown of projects by year (2012-2018) by sector is shown in Table 39.

**Table 39. Green Bank Activity in Residential and Commercial Markets by FY Closed**

<b>Fiscal Year Closed</b>	<b>Market</b>	<b># of Projects</b>	<b># of Project Units</b>	<b>Total Investment</b>	<b>Installed Capacity (MW)</b>	<b>Expected Annual Generation (MWh)</b>	<b>Annual Saved / Produced (MMBtu)</b>
2012	Residential	288	288	\$9,901,511	1.9	2,210	7,539
2012 Total		288	288	\$9,901,511	1.9	2,210	7,539
2013	Commercial	7	7	\$75,751,144	15.6	122,597	432,678
	Residential	1,108	1,108	\$35,364,806	7.9	8,966	30,596
2013 Total		1,115	1,115	\$111,115,950	23.5	131,563	463,274
2014	Commercial	27	27	\$29,371,586	6.7	32,134	179,454
	Residential	2,426	2,426	\$74,686,388	16.7	19,543	65,728
	Multifamily	1	120	\$428,739		18	61
2014 Total		2,454	2,573	\$104,486,713	23.4	51,694	245,243
2015	Commercial	62	62	\$98,138,894	14.6	154,405	519,995
	Residential	6,427	6,427	\$218,572,018	47.7	55,345	184,818
	Multifamily	3	294	\$1,051,296		56	212
2015 Total		6,492	6,783	\$317,762,207	62.4	209,806	705,025
2016	Commercial	71	71	\$56,438,526	10.2	25,614	115,260
	Residential	7,184	7,184	\$232,215,624	55.3	65,284	220,421
	Multifamily	19	1,097	\$31,015,866	0.5	1,091	28,376
2016 Total		7,274	8,352	\$319,670,016	66.1	91,988	364,057
2017	Commercial	61	61	\$54,575,841	14.7	26,289	373,488
	Residential	4,835	4,835	\$125,930,738	34.5	44,455	152,069
	Multifamily	15	1,288	\$22,309,139	0.8	1,125	4,106
2017 Total		4,911	6,184	\$202,815,718	50.0	71,868	529,664
2018	Commercial	86	86	\$48,844,889	14.4	18,800	64,593
	Residential	6,639	6,639	\$172,435,306	43.0	59,003	197,967
	Multifamily	18	1,768	\$26,710,739	0.1	1,409	46,630
2018 Total		6,743	8,493	\$247,990,935	57.5	79,212	309,190
2019	Commercial	4,389	4,389	\$79,021,789	8.1	13,717	31,743
	Residential	8,411	8,411	\$238,721,346	65.2	80,791	274,640
	Multifamily	15	1,918	\$34,602,872			0
2019 Total		12,815	14,718	\$352,346,006	73.3	94,508	306,383
<b>Total</b>	<b>Commercial</b>	<b>4,703</b>	<b>4,703</b>	<b>\$442,142,668</b>	<b>84.3</b>	<b>393,555</b>	<b>1,717,211</b>
<b>Total</b>	<b>Residential</b>	<b>37,318</b>	<b>37,318</b>	<b>\$1,107,827,735</b>	<b>272.4</b>	<b>335,595</b>	<b>1,133,777</b>
<b>Total</b>	<b>Multifamily</b>	<b>71</b>	<b>6,485</b>	<b>\$116,118,652</b>	<b>1.5</b>	<b>3,699</b>	<b>79,386</b>
<b>Grand Total</b>		<b>42,092</b>	<b>48,506</b>	<b>\$1,666,089,056</b>	<b>358.2</b>	<b>732,849</b>	<b>2,930,374</b>

## 5. Programs

### Program Logic Model and the Financing Market Transformation Strategy

The Connecticut Green Bank has prepared an Evaluation Framework<sup>73</sup> and developed a Program Logic Model (PLM) that presents the green bank model of attracting and deploying private capital through financing – see Figure 4. In addition to representing graphically how a program is structured, this PLM serves as a foundation for evaluating clean energy deployment through subsidy and financing programs of the Connecticut Green Bank.

Figure 4. Connecticut Green Bank Program Logic Model – Including Subsidies and Financing



The above figure is a generalized market transformation and impact logic model. It has been adapted to individual Green Bank programs to incorporate the unique circumstances of each of those programs, enabling a clearer definition of program objectives and of metrics for reporting and future evaluation. Additionally, with the continued maturation of the organization’s programs, more data are becoming available to quantify and present the societal impacts associated with those programs.

While the Green Bank’s capital availability expands to further support clean energy deployment, even greater coordination between the Green Bank’s programs and those administered by the utilities is continually sought. As such, various other key participants have been included in this overall logic model. Beginning by identifying the multitude of interactions that occur across their respective programs, the Green Bank and the utilities will be better prepared to accommodate the funding demands of clean energy projects over the short, medium, and long term. In addition, the model

<sup>73</sup> Evaluation Framework – Assessing, Monitoring, and Reporting of Program Impacts and Processes by Opinion Dynamics and Dunsky Energy Consulting for the Connecticut Green Bank (July 2016)

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facilitates the identification and capture of known interventions in the clean energy environment that may impact the trajectory of the Green Bank’s financing efforts over time.

The PLM includes three (3) components – Energize CT Market Environment (including Other Ongoing Market Activities), Green Bank Financing Market Transformation Process, and Societal Impacts.

#### Energize CT Market Environment

Energize CT is an initiative of the Green Bank, the Connecticut Energy Efficiency Fund, the State, and the local electric and gas utilities. It provides Connecticut consumers, businesses and communities the resources and information they need to make it simple to save energy and build a clean energy future for everyone in the state. Under this umbrella, the electric and gas investor owned utilities (IOUs) provide information, marketing, and deliver the energy efficiency programs that have been approved by the State and supported by the Connecticut Energy Efficiency Fund. Operating under a statutory mandate that all cost-effective energy efficiency be acquired, with guidance from the Connecticut Energy Efficiency Board and its consultants, the utilities offer a variety of programs and encouragements for residential, commercial, and industrial customers to make decisions to participate in these cost-reducing opportunities. A range of methods is used to encourage customers to participate in the programs, among them targeted information, low cost/no cost measures, financial incentives, discounted retail products, and product and project financing. The Connecticut Green Bank, with a statutorily established residential solar PV target of 350 MW<sup>74</sup> on or before December 31, 2022, also markets and delivers its clean energy programs to residential customers. Informed by aggregate consumer and demographic data, the Green Bank promotes its programs and market offerings with direct incentives and financing opportunities in addition to a host of marketing, communication and outreach tools.<sup>75</sup>

Within the Green Bank’s current programs, only participants in the Residential Solar Investment Program (RSIP) are required to receive a home energy assessment through the utility-administered [Home Energy Solutions \(HES\)](#) program<sup>76</sup>, the DOE Home Energy Score, or an alternate RSIP-approved energy assessment conducted by a [BPI](#)<sup>77</sup> or equivalently credentialed professional. Having satisfied the program’s qualifying energy producing measures, RSIP participants may also receive rebates or incentives from the utilities (intended to overcome barriers to customer participation and/or encourage increased selection of energy efficient measures), or other levels of government (e.g., state incentives and Federal tax credits for several energy saving technologies), as well as opportunities to access affordable financing for some or all of the remaining portion of their clean energy project. In the context of a PLM, one may also anticipate similar links between the Green Bank programs and those of the investor owned utilities (IOU’s).

The impetus behind increased coordination among the utility administered energy efficiency programs and the Green Bank’s programs is threefold: 1) more energy savings, and resulting emissions reductions, are expected to be acquired more economically both to the programs and to the project

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<sup>74</sup> Updated by PA 19-35. <https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf>, passed June 28, 2019

<sup>75</sup> Per Public Act 15-194 “An Act Concerning the Encouragement of Local Economic Development and Access to Residential Renewable Energy,” the Connecticut Green Bank administers a rebate and performance-based incentive program to support solar PV.

<sup>76</sup> <https://www.energizect.com/your-home/solutions-list/home-energy-solutions-core-services>

<sup>77</sup> <http://www.bpi.org/about-us>

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participants, 2) delivery efficiencies and greater savings could be found in coordinating financing that each entity offers to common customer segments within the sphere of program activities that they offer, and 3) coordination through a Joint Committee of the Energy Efficiency Board and the Connecticut Green Bank is required by statute.<sup>78</sup> It is important to note that a number of other ongoing market activities are occurring through Energize CT or outside of the Green Bank’s market transformation process. From introducing new products, reducing purchasing barriers, education and awareness programs to workforce development, and improving building practices – there are a variety of activities that help move the market towards more clean energy deployment.

#### Finance Market Transformation Process

The efforts of the Green Bank are exemplified through the financing market transformation process which focuses on accelerating the deployment of clean energy – more customers and “deeper” more comprehensive measures being undertaken – by securing increasingly affordable and attractive private capital. The Green Bank can enter the process at several points (i.e., from numbers 2 through 4 in the above PLM figure), such as supplying capital through financing offers, marketing clean energy financing, or offsetting clean energy financing risk by backstopping loans, or sharing loan performance data.

Below is a breakdown of each component of the financing market transformation process of the Green Bank:

- **Supply of Capital** – financing programs aim to increase the supply of affordable and attractive capital available to support energy savings and clean energy production in the market place. This is done at the Green Bank by:
  - a. Providing financing (loans or leases) to customers using Green Bank capital; and/or
  - b. Establishing structures, programs, and public-private partnerships that connect third-party capital to support energy savings projects.

Beyond ensuring that financing is available for clean energy projects, the Green Bank’s Supply of Capital interventions can lead to, but are not limited to benefits such as:

- a. Reduced interest rates, which lower the cost of capital for clean energy projects;
- b. More loan term options to better match savings cash flows (e.g., longer terms for longer payback projects, early repayment, or deferred first year payments);
- c. Less restrictive underwriting criteria, resulting in increased eligibility and access to financing; and
- d. Increased marketing efforts by lenders to leverage clean energy investment opportunities.

Each of these features is intended to increase uptake of clean energy projects, leading to increased energy savings, clean energy production, and other positive societal impacts. The long-term goal of the

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<sup>78</sup> Pursuant to Section 15-245m(d)(2) of Connecticut General Statutes, the Joint Committee shall examine opportunities to coordinate the programs and activities contained in the plan developed under Section 16-245n(c) of the General Statutes [Comprehensive Plan of the Connecticut Green Bank] with the programs and activities contained in the plan developed under section 16-245m(d)(1) of the General Statutes [Energy Conservation and Load Management Plan] and to provide financing to increase the benefits of programs funded by the plan developed under section 16-245m(d)(1) of the General Statutes so as to reduce the long-term cost, environmental impacts, and security risks of energy in the state.

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Green Bank's efforts is to achieve these attractive features in the market with a reduced need for Green Bank intervention, through the provision of performance data that convinces private capital providers to offer such features on their own.

- **Consumer Demand** – in combination with a comprehensive set of clean energy programs under the Energize CT initiative, offered by the utilities, the Green Bank drives consumer demand for clean energy by marketing financing programs and increasing awareness of the potential benefits stemming from clean energy projects through the range of programs it offers. It should also be noted that through channel marketing strategies (e.g., contractor channels to the customer) success will be determined by an increase in demand for financing. The results of the increased demand are expected to, but are not limited to:
  - a. Increase in the number of clean energy projects; and
  - b. Increase in the associated average savings and/or clean energy production per project.

Increasing affordable and attractive financing offerings in the marketplace is an important component of unlocking consumer demand and driving greater energy savings and clean energy production and is central to the Green Bank's market transformation efforts.

- **Financing Performance Data** – Green Bank gathers and communicates the performance of clean energy financing either through its own programs or for other financing options in the market place. This increases access to valuable information that can help lenders and customers identify promising clean energy investments. Enabling access to this information (i.e., data transparency) is important to encouraging market competition.

Ultimately, data on the performance of Green Bank sponsored financial products is expected to continue to play a pivotal role in the attraction of private capital directed toward more affordable and accessible financing offerings. As the Green Bank increases the access to affordable and attractive capital, and more customers use this financing for their clean energy projects, data demonstrating strong and reliable performance of these projects is also expected to enable lower interest rates due to a better-informed assumption of risk.

- **Financing Risk Profile** – Green Bank can help reduce clean energy financing risk profiles in many ways. For example, it can absorb a portion or all the credit risk by providing loan loss reserve (LLR) funds and guarantees or taking the first-loss position on investments (i.e., subordinated debt). It can also channel or attract rebates and incentives to finance energy saving projects thus improving their economic performance and lowering the associated performance risk. In the long run, by making clean energy financing performance data available to the market, Green Bank programs increase lenders' and borrowers' understanding of clean energy investment risk profiles, which is expected to enable them to (1) design more affordable and attractive financing products and (2) select projects for financing to reduce risks.

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This element of the PLM plays the key linking role in the Market Transformation feedback loop, leading to longer term impacts, as the market (1) recognizes the expected advantageous risk/return profile associated with clean energy investments and (2) takes further steps to increase the supply of affordable and attractive capital with less Green Bank credit enhancement needed to support demand for clean energy investments.

Ensuring that financing performance and risk profile data are available to the market is important from various perspectives. For a deeper examination and presentation, please see the report by the State Energy Efficiency Action Network.<sup>79</sup>

#### Societal Impact

The efforts to accelerate and scale-up investment in clean energy deployment by the Green Bank, lead to a myriad of societal impacts and benefits.

All the PLM elements ultimately aim to contribute to Green Bank program impacts and benefits. These include the direct increase in energy savings and improvement of public health (e.g., asbestos remediation, lead abatement, etc.) to the customer, increase in the creation of local in-state jobs, and the reduction of greenhouse gas emissions for society. The impacts may also include consideration of secondary or indirect benefits such as GDP growth and energy savings supported by lenders who have leveraged Green Bank data or marketing efforts.

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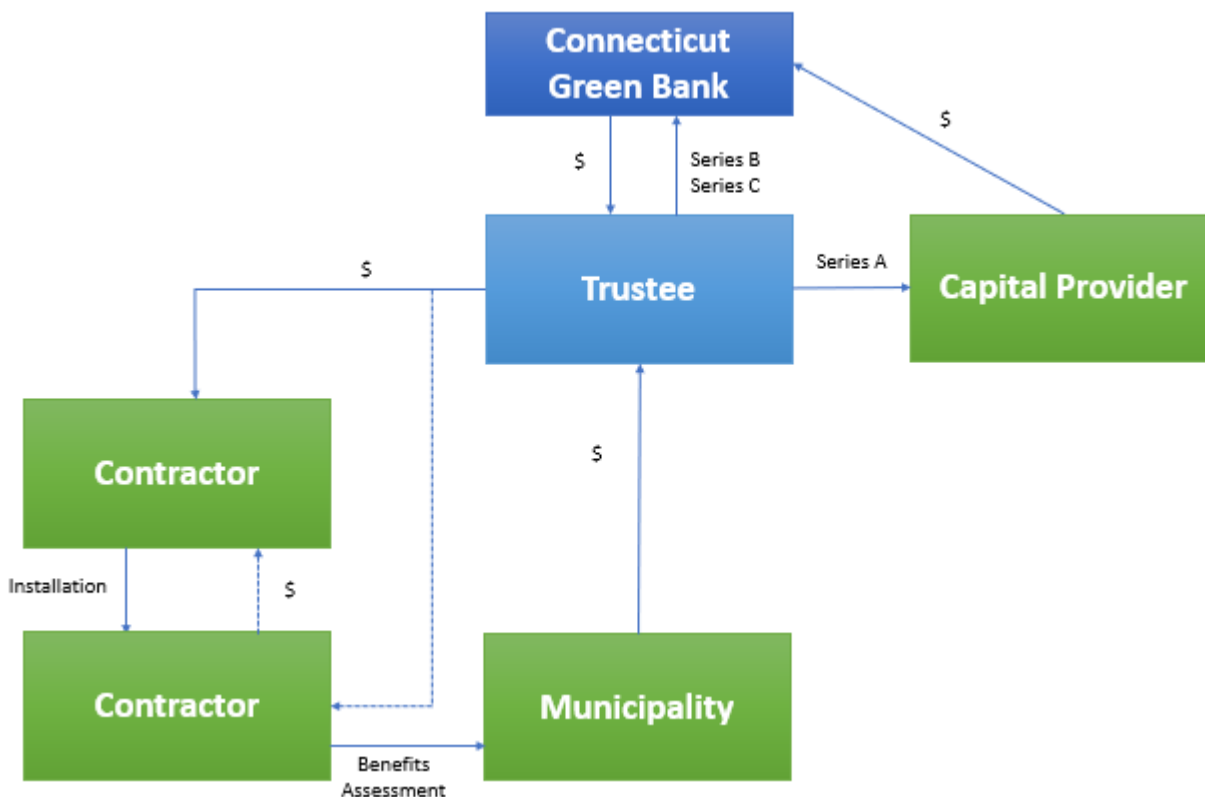
<sup>79</sup> State and Local Energy Efficiency Action Network. (2014). *Energy Efficiency Finance Programs: Use Case Analysis to Define Data Needs and Guidelines*. Prepared by: Peter Thompson, Peter Larsen, Chris Kramer, and Charles Goldman of Lawrence Berkeley National Laboratory. Click [here](http://www4.eere.energy.gov/seeaction/publication/energy-efficiency-finance-programs-use-case-analysis-define-data-needs-and-guidelines) (<http://www4.eere.energy.gov/seeaction/publication/energy-efficiency-finance-programs-use-case-analysis-define-data-needs-and-guidelines>)

## Case 1 – C-PACE

### Description

Commercial Property Assessed Clean Energy (C-PACE) enables building owners to pay for clean energy improvements or clean energy production projects over time through a voluntary benefit assessment on their property tax bills. This process makes it easier for building owners to secure low-interest capital to fund energy improvements and is structured so that energy savings more than offset the benefit assessment.

Figure 6. Legal Structure and Flows of Capital for C-PACE



For a municipality to participate in the C-PACE program, its legislative body must pass a resolution enabling it to enter into an agreement with the Connecticut Green Bank to assess, collect, remit, and assign benefit assessments against C-PACE borrowers' liabilities. As of June 30, 2019, there are 133 cities and towns signed up for C-PACE representing more than 90% of commercial and industrial building space in Connecticut. Additionally, as of June 30, 2019, nearly \$160 million in C-PACE benefit assessment advances have been closed that are expected to save over \$240 million in avoided energy costs over the life of the projects.

### Key Performance Indicators

The Key Performance Indicators for C-PACE closed activity are reflected in Tables 44 through 47. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.



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Table 44. C-PACE Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/EE	Other	# Projects	Total Investment <sup>80</sup>	Green Bank Investment <sup>81</sup>	Private Investment	Leverage Ratio
2012	-	-	-		-	-	-	-	-
2013	2		1		3	\$1,512,144	\$210,302	\$1,301,842	7.2
2014	6	14	3		23	\$21,785,167	\$9,550,120	\$12,235,046	2.3
2015	10	30	9		49	\$33,716,566	\$12,713,966	\$21,002,600	2.7
2016	10	35	8		53	\$36,669,384	\$7,624,149	\$29,045,235	4.8
2017	5	27	6		38	\$15,487,305	\$4,459,609	\$11,027,696	3.5
2018	10	46	9	1	66	\$26,732,114	\$6,432,768	\$20,299,346	4.2
2019	2	33	3		38	\$22,628,489	\$8,291,517	\$14,336,972	2.7
<b>Total</b>	<b>45</b>	<b>185</b>	<b>39</b>	<b>1</b>	<b>270</b>	<b>\$158,531,169</b>	<b>\$49,282,431</b>	<b>\$109,248,738</b>	<b>3.2</b>

Table 45. C-PACE Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	-	-	-	-	-	-	-
2013	101.0	513,495	7,657	2,021	32,845	\$132,907	\$2,538,186
2014	3,631.0	8,409,814	154,673	36,264	716,930	\$1,905,050	\$40,635,908
2015	7,275.9	14,301,795	308,545	41,464	877,020	\$2,792,189	\$58,534,753
2016	6,367.7	15,315,444	278,056	59,323	1,125,290	\$3,842,877	\$82,458,936
2017	3,909.3	6,134,595	131,490	21,662	466,881	\$813,966	\$15,172,649
2018	7,285.2	10,700,756	236,263	36,959	817,285	\$972,755	\$25,889,113
2019	5,447.1	10,653,805	208,605	21,290	409,801	\$692,041	\$19,231,873
<b>Total</b>	<b>34,017.2</b>	<b>66,029,704</b>	<b>1,325,288</b>	<b>218,984</b>	<b>4,446,051</b>	<b>\$11,151,785</b>	<b>\$244,461,418</b>

Table 46. C-PACE Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate
2012	-	-	-	-	-	-
2013	\$504,048	\$350,503	33.7	674	17	5.00
2014	\$947,181	\$883,582	157.9	1,577	18	5.57
2015	\$688,093	\$647,484	148.5	846	18	5.61
2016	\$691,875	\$638,549	130.0	1,119	18	5.66
2017	\$407,561	\$391,869	102.9	570	17	5.58
2018	\$405,032	\$376,434	113.8	560	16	5.71
2019	\$595,487	\$536,230	147.2	560	19	6.11
<b>Total</b>	<b>\$587,152</b>	<b>\$544,652</b>	<b>129.3</b>	<b>811</b>	<b>17</b>	<b>5.69</b>

<sup>80</sup> Includes closing costs and capitalized interest for C-PACE and the Fair Market Value for Commercial Leases.

<sup>81</sup> Includes incentives, interest rate buydowns and loan loss reserves.

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Table 47. C-PACE Project Application Yield<sup>82</sup> by FY Received<sup>83</sup>

Fiscal Year Received	Applications Received	Projects in Review/On Hold	Projects Approved	Projects Withdrawn	Applications Denied	Approved Rate	Denied Rate
2012	-	-	-	-	-	-	-
2013	75	1	25	27	2	70%	3%
2014	157	21	44	80	1	91%	1%
2015	147	27	51	62	4	94%	3%
2016	113	29	44	33	5	92%	6%
2017	110	11	47	38	2	86%	2%
2018	93	12	57	12	0	85%	0%
2019	79	18	37	8	0	74%	0%
<b>Total</b>	<b>774</b>	<b>119</b>	<b>305</b>	<b>260</b>	<b>14</b>	<b>86%</b>	<b>2%</b>

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<sup>82</sup> Applications received are complete initial applications that have been received for C-PACE financing. Applications denied are any initial applications received for C-PACE financing that do not meet programmatic requirements. Projects in review are projects that are being reviewed, either technically or financially, prior to being approved. Projects approved are projects that have gone through technical and financial underwriting and have met all the necessary programmatic requirements. These include projects that have been approved and are waiting to close, projects that have closed, and projects that have completed construction and are in repayment. Projects withdrawn are projects that have been approved at the application stage but have since fallen out of our pipeline for numerous reasons and are no longer active. Projects in this category could have fallen out of our pipeline in the in review or the approved stage.

<sup>83</sup> This table represents projects whose initial applications have been approved and are proceeding through the C-PACE financing pipeline prior to loan closure.

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C-PACE has been used as a financing tool across a wide variety of end-use customers in Connecticut in its 6 years of existence as illustrated by Table 48.

**Table 48. Types of End-Use Customers Participating in C-PACE**

<b>Property Type</b>	<b># of Properties</b>	<b>Square Footage</b>
Agricultural	3	10,904
Athletic/Recreational Facility	4	25,900
Education	3	131,531
Hotel	1	70,087
House of Worship	9	86,113
Industrial	65	2,956,534
Multi-family/apartment (> 5 units)	9	290,537
Non-profit	25	629,492
Nursing Home/Rehab Facility	1	175,680
Office	68	4,441,391
Public assembly	4	139,000
Retail	61	1,791,324
Special Purpose	3	78,380
Warehouse & storage	14	485,050
<b>Total</b>	<b>270</b>	<b>11,311,923</b>

To date, 133 municipalities have opted into the C-PACE program resulting in 270 closed projects – see Table 49.

**Table 49. Municipalities Participating in C-PACE**

<b>Municipality</b>	<b>Opt in Date</b>	<b># Closed Projects</b>
Ansonia	9/27/2013	1
Avon	4/9/2013	2
Barkhamsted	7/21/2014	0
Beacon Falls	4/11/2013	0
Berlin	10/30/2013	2
Bethany	9/2/2015	1
Bethel	1/24/2014	2
Bloomfield	6/21/2013	2
Branford	9/9/2013	2
Bridgeport	12/7/2012	18
Bristol	11/19/2014	10
Brookfield	8/5/2013	4
Burlington	1/12/2016	0
Canaan	8/8/2013	1
Canterbury	11/5/2014	0
Canton	7/9/2013	1
Cheshire	10/27/2014	1
Chester	7/25/2013	0
Clinton	5/29/2013	3

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<b>Municipality</b>	<b>Opt in Date</b>	<b># Closed Projects</b>
Columbia	10/21/2014	0
Coventry	6/24/2013	0
Cromwell	4/9/2014	1
Danbury	10/8/2013	3
Darien	2/28/2014	5
Deep River	7/22/2014	1
Durham	4/2/2013	1
East Granby	6/27/2013	0
East Haddam	8/1/2013	2
East Hampton	7/10/2013	0
East Hartford	4/11/2013	2
East Haven	2/28/2017	2
East Lyme	9/11/2014	3
East Windsor	11/27/2013	7
Eastford	11/10/2014	0
Easton	5/14/2015	0
Ellington	8/27/2014	1
Enfield	1/3/2014	1
Essex	7/17/2014	2
Fairfield	4/30/2014	5
Farmington	12/17/2013	7
Franklin	10/6/2015	0
Glastonbury	6/14/2013	3
Granby	11/28/2013	0
Greenwich	9/23/2013	2
Griswold	3/15/2016	0
Groton	10/21/2013	2
Guilford	3/29/2016	0
Haddam	9/18/2015	0
Hamden	3/3/2014	1
Hartford	10/26/2012	25
Hebron	12/20/2016	0
Kent	9/17/2014	0
Killingly	12/9/2014	0
Killingworth	5/31/2013	1
Lebanon	5/13/2015	0
Ledyard	1/14/2016	1
Madison	9/5/2014	1
Manchester	8/1/2013	7
Mansfield	8/27/2013	0
Meriden	5/24/2013	3
Middlefield	7/21/2015	0
Middletown	3/25/2013	8

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<b>Municipality</b>	<b>Opt in Date</b>	<b># Closed Projects</b>
Milford	8/2/2013	2
Monroe	3/8/2017	0
Montville	12/4/2013	1
Naugatuck	6/30/2014	1
New Britain	7/17/2013	6
New Canaan	10/24/2014	0
New Fairfield	4/4/2019	0
New Hartford	2/6/2018	0
New Haven	12/6/2013	1
New London	6/18/2013	9
New Milford	6/10/2013	1
Newington	10/29/2014	1
Newtown	8/8/2013	4
Norfolk	5/13/2014	0
North Branford	5/24/2013	0
North Canaan	12/19/2013	2
North Haven	7/24/2014	1
North Stonington	2/23/2015	2
Norwalk	12/3/2012	3
Norwich	10/7/2013	2
Old Lyme	1/25/2016	0
Old Saybrook	2/20/2013	0
Orange	5/17/2016	0
Oxford	3/29/2016	2
Plainfield	6/14/2016	1
Plainville	6/28/2013	3
Plymouth	2/28/2019	0
Portland	6/9/2016	1
Preston	1/8/2015	0
Putnam	3/5/2013	3
Redding	10/20/2015	0
Ridgefield	5/2/2018	3
Rocky Hill	10/8/2013	3
Salisbury	8/31/2016	0
Seymour	1/27/2014	0
Sharon	2/21/2014	0
Shelton	9/30/2014	1
Simsbury	12/11/2014	1
Somers	5/23/2014	2
South Windsor	8/29/2014	3
Southbury	4/11/2012	0
Southington	5/15/2013	3
Sprague	12/30/2013	0

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<b>Municipality</b>	<b>Opt in Date</b>	<b># Closed Projects</b>
Stafford	9/26/2013	0
Stamford	1/7/2013	12
Stonington	1/27/2014	2
Stratford	2/26/2013	4
Suffield	5/24/2013	0
Thomaston	2/23/2016	1
Tolland	4/11/2013	0
Torrington	5/8/2013	1
Trumbull	7/31/2013	2
Vernon	7/22/2013	4
Washington	5/20/2019	0
Waterbury	5/10/2013	6
Waterford	8/23/2013	1
Watertown	4/11/2014	6
West Hartford	1/3/2013	2
West Haven	5/6/2014	2
Westbrook	5/21/2013	0
Weston	9/8/2014	1
Westport	2/7/2013	4
Wethersfield	5/28/2013	1
Willington	7/2/2014	1
Wilton	2/27/2012	2
Windham	5/1/2013	1
Windsor	5/16/2013	2
Windsor Locks	7/30/2015	1
Woodbridge	5/30/2014	4
Woodbury	3/18/2015	1
Woodstock	4/15/2016	0
<b>Total</b>	<b>133</b>	<b>270</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – C-PACE**

**Area Median Income Band Penetration**

C-PACE has been used to fund projects in economically diverse locations across the state as reflected by Table 50 for Metropolitan Statistical Area (MSA) Area Median Income (AMI). It should be noted that C-PACE is not an income targeted program.

**Table 50. C-PACE Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>84</sup>**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	<60%	0	0%	0.0	0%	\$0	0%	609,363	17%	0.0	\$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	\$0	0%	527,217	15%	0.0	\$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	\$0	0%	589,440	17%	0.0	\$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	\$0	0%	722,664	20%	0.0	\$0.00	0.0
2012	>120%	0	0%	0.0	0%	\$0	0%	1,116,395	31%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	3,565,079	100%	0.0	\$0.00	0.0
2013	<60%	1	33%	0.0	0%	\$150,877	10%	604,433	17%	0.0	\$0.25	0.0
2013	60%-80%	0	0%	0.0	0%	\$0	0%	568,952	16%	0.0	\$0.00	0.0
2013	80%-100%	1	33%	0.1	100%	\$711,251	47%	588,813	16%	0.0	\$1.21	0.2
2013	100%-120%	1	33%	0.0	0%	\$650,016	43%	690,591	19%	0.0	\$0.94	0.0
2013	>120%	0	0%	0.0	0%	\$0	0%	1,131,305	32%	0.0	\$0.00	0.0
2013	Total	3	100%	0.1	100%	\$1,512,144	100%	3,584,094	100%	0.0	\$0.42	0.0
2014	<60%	7	30%	1.3	37%	\$8,907,842	41%	614,135	17%	0.0	\$14.50	2.2
2014	60%-80%	2	9%	0.2	6%	\$609,883	3%	546,132	15%	0.0	\$1.12	0.4
2014	80%-100%	5	22%	1.1	32%	\$3,593,730	16%	577,061	16%	0.0	\$6.23	2.0
2014	100%-120%	3	13%	0.3	7%	\$800,605	4%	720,856	20%	0.0	\$1.11	0.4
2014	>120%	6	26%	0.7	18%	\$7,873,108	36%	1,125,910	31%	0.0	\$6.99	0.6
2014	Total	23	100%	3.6	100%	\$21,785,167	100%	3,584,094	100%	0.0	\$6.08	1.0
2015	<60%	18	37%	1.8	25%	\$7,756,685	23%	662,619	18%	0.0	\$11.71	2.7
2015	60%-80%	5	10%	0.8	10%	\$3,408,609	10%	489,826	14%	0.0	\$6.96	1.6
2015	80%-100%	4	8%	0.4	6%	\$3,427,052	10%	650,163	18%	0.0	\$5.27	0.7

<sup>84</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – C-PACE**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2015	100%-120%	9	18%	1.2	16%	\$4,489,797	13%	631,741	18%	0.0	\$7.11	1.9
2015	>120%	13	27%	3.1	43%	\$14,634,422	43%	1,150,974	32%	0.0	\$12.71	2.7
2015	Total	49	100%	7.3	100%	\$33,716,566	100%	3,585,323	100%	0.0	\$9.40	2.0

2016	<60%	9	18%	0.7	12%	\$3,627,283	10%	649,617	18%	0.0	\$5.58	1.1
2016	60%-80%	6	12%	0.8	13%	\$2,828,263	8%	509,088	14%	0.0	\$5.56	1.5
2016	80%-100%	9	18%	0.8	13%	\$15,077,393	43%	641,084	18%	0.0	\$23.52	1.2
2016	100%-120%	10	20%	1.9	31%	\$5,733,163	16%	653,309	18%	0.0	\$8.78	2.9
2016	>120%	16	32%	1.9	31%	\$8,190,228	23%	1,126,543	31%	0.0	\$7.27	1.6
2016	Total	50	100%	6.1	100%	\$35,456,330	100%	3,579,641	100%	0.0	\$9.90	1.7

2017	<60%	7	18%	1.7	42%	\$4,623,046	30%	663,181	18%	0.0	\$6.97	2.5
2017	60%-80%	4	11%	0.4	10%	\$1,295,929	8%	488,396	14%	0.0	\$2.65	0.8
2017	80%-100%	6	16%	0.3	7%	\$1,042,060	7%	612,043	17%	0.0	\$1.70	0.4
2017	100%-120%	14	37%	0.9	23%	\$5,326,727	34%	722,803	20%	0.0	\$7.37	1.3
2017	>120%	7	18%	0.7	17%	\$3,199,542	21%	1,099,277	31%	0.0	\$2.91	0.6
2017	Total	38	100%	3.9	100%	\$15,487,305	100%	3,585,700	100%	0.0	\$4.32	1.1

2018	<60%	7	11%	1.0	15%	\$3,506,938	15%	663,181	18%	0.0	\$5.29	1.5
2018	60%-80%	13	21%	1.2	20%	\$4,219,108	18%	488,396	14%	0.0	\$8.64	2.5
2018	80%-100%	10	16%	0.9	15%	\$4,676,819	20%	612,043	17%	0.0	\$7.64	1.5
2018	100%-120%	8	13%	1.0	16%	\$3,100,413	13%	722,803	20%	0.0	\$4.29	1.4
2018	>120%	23	38%	2.1	34%	\$7,818,822	34%	1,099,277	31%	0.0	\$7.11	1.9
2018	Total	61	100%	6.2	100%	\$23,322,100	100%	3,585,700	100%	0.0	\$6.50	1.7

2019	<60%	14	38%	1.7	32%	\$7,949,365	36%	663,181	18%	0.0	\$11.99	2.5
2019	60%-80%	3	8%	0.2	4%	\$687,991	3%	488,396	14%	0.0	\$1.41	0.4
2019	80%-100%	9	24%	1.3	24%	\$5,121,027	23%	612,043	17%	0.0	\$8.37	2.0
2019	100%-120%	8	22%	1.7	33%	\$6,953,415	32%	722,803	20%	0.0	\$9.62	2.4
2019	>120%	3	8%	0.4	7%	\$1,182,152	5%	1,099,277	31%	0.0	\$1.08	0.3
2019	Total	37	100%	5.2	100%	\$21,893,949	100%	3,585,700	100%	0.0	\$6.11	1.5



**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – C-PACE**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
Total	<60%	63	24%	8.2	25%	\$36,522,036	24%	663,181	18%	0.1	\$55.07	12.3
Total	60%-80%	33	13%	3.6	11%	\$13,049,782	9%	488,396	14%	0.1	\$26.72	7.4
Total	80%-100%	44	17%	4.9	15%	\$33,649,332	22%	612,043	17%	0.1	\$54.98	8.1
Total	100%-120%	53	20%	6.9	21%	\$27,054,137	18%	722,803	20%	0.1	\$37.43	9.6
Total	>120%	68	26%	8.8	27%	\$42,898,274	28%	1,099,277	31%	0.1	\$39.02	8.0
Total	Total	261	100%	32.4	100%	\$153,173,561	100%	3,585,700	100%	0.1	\$42.72	9.0

Table 51. C-PACE Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>85</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2013	3	1	2	67%	0.1	0.0	0.1	100%	\$1,512,144	\$650,016	\$862,128	57%
2014	23	9	14	61%	3.6	0.9	2.7	75%	\$21,785,167	\$8,673,712	\$13,111,454	60%
2015	49	22	27	55%	7.3	4.3	3.0	41%	\$33,716,566	\$19,124,220	\$14,592,347	43%
2016	50	26	24	48%	6.1	3.7	2.3	38%	\$35,456,330	\$13,923,391	\$21,532,939	61%
2017	38	21	17	45%	3.9	1.6	2.3	60%	\$15,487,305	\$8,526,270	\$6,961,035	45%
2018	61	31	30	49%	6.2	3.1	3.1	50%	\$23,322,100	\$10,919,235	\$12,402,865	53%
2019	37	11	26	70%	5.2	2.1	3.1	60%	\$21,893,949	\$8,135,567	\$13,758,382	63%
<b>Total</b>	<b>261</b>	<b>121</b>	<b>140</b>	<b>54%</b>	<b>32.4</b>	<b>15.7</b>	<b>16.7</b>	<b>52%</b>	<b>\$153,173,561</b>	<b>\$69,952,411</b>	<b>\$83,221,150</b>	<b>54%</b>

**Distressed Community Penetration**

For a breakdown of C-PACE project volume and investment by census tracts categorized by Distressed Communities – see Table 52. It should be noted that C-PACE is not an income targeted program.

<sup>85</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – C-PACE**

Table 52. C-PACE Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	Yes	0	0%	0.0	0%	\$0	1,171,385	33%	0.0	\$0.00	0.0	0
2012	No	0	0%	0.0	0%	\$0	2,400,828	67%	0.0	\$0.00	0.0	0
2012	Total	0	0%	0.0	0%	\$0	3,572,213	100%	0.0	\$0.00	0.0	0
2013	Yes	2	67%	0.0	0%	\$800,893	1,124,923	31%	0.0	\$0.71	0.0	2
2013	No	1	33%	0.1	100%	\$711,251	2,458,638	69%	0.0	\$0.29	0.0	1
2013	Total	3	100%	0.1	100%	\$1,512,144	3,583,561	100%	0.0	\$0.42	0.0	3
2014	Yes	7	30%	1.4	40%	\$9,047,808	1,106,027	31%	0.0	\$8.18	1.3	7
2014	No	16	70%	2.2	60%	\$12,737,358	2,486,026	69%	0.0	\$5.12	0.9	16
2014	Total	23	100%	3.6	100%	\$21,785,167	3,592,053	100%	0.0	\$6.06	1.0	23
2015	Yes	24	49%	4.0	54%	\$17,121,093	1,122,550	31%	0.0	\$15.25	3.5	24
2015	No	25	51%	3.3	46%	\$16,595,474	2,470,672	69%	0.0	\$6.72	1.3	25
2015	Total	49	100%	7.3	100%	\$33,716,566	3,593,222	100%	0.0	\$9.38	2.0	49
2016	Yes	15	28%	1.5	23%	\$15,128,961	1,162,653	32%	0.0	\$13.01	1.3	15
2016	No	38	72%	4.9	77%	\$21,540,422	2,425,917	68%	0.0	\$8.88	2.0	38
2016	Total	53	100%	6.4	100%	\$36,669,384	3,588,570	100%	0.0	\$10.22	1.8	53
2017	Yes	10	26%	2.0	51%	\$6,515,790	1,150,554	32%	0.0	\$5.66	1.7	10
2017	No	28	74%	1.9	49%	\$8,971,514	2,443,924	68%	0.0	\$3.67	0.8	28
2017	Total	38	100%	3.9	100%	\$15,487,305	3,594,478	100%	0.0	\$4.31	1.1	38
2018	Yes	18	27%	2.4	32%	\$10,181,544	1,150,554	32%	0.0	\$8.85	2.1	18
2018	No	48	73%	4.9	68%	\$16,550,570	2,443,924	68%	0.0	\$6.77	2.0	48
2018	Total	66	100%	7.3	100%	\$26,732,114	3,594,478	100%	0.0	\$7.44	2.0	66

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – C-PACE**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2019	Yes	18	47%	2.2	41%	\$11,127,831	1,150,554	32%	0.0	\$9.67	1.9	18
2019	No	20	53%	3.2	59%	\$11,500,658	2,443,924	68%	0.0	\$4.71	1.3	20
2019	Total	38	100%	5.4	100%	\$22,628,489	3,594,478	100%	0.0	\$6.30	1.5	38

Total	Yes	94	35%	13.5	40%	\$69,923,921	1,150,554	32%	0.1	\$60.77	11.7	94
Total	No	176	65%	20.5	60%	\$88,607,248	2,443,924	68%	0.1	\$36.26	8.4	176
Total	Total	270	100%	34.0	100%	\$158,531,169	3,594,478	100%	0.1	\$44.10	9.5	270

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**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – C-PACE**

**Societal Impacts**

Ratepayers in Connecticut continue to enjoy the societal benefits of C-PACE. In its 7 years of existence, the program has supported the creation of 1,609 job years, avoided the lifetime emission of 680,616 tons of carbon dioxide, 685,986 pounds of nitrous oxide, 585,028 pounds of sulfur oxide, and 53,767 pounds of particulate matter as illustrated by Tables 54 and 55. The lifetime economic value of the public health impacts of CPACE are estimated between \$22.2 and \$50.1 million as illustrated in table 56. CPACE is estimated to have generated \$11 million in tax revenue for the state of CT since its inception as shown in Table 54.

**Table 53. C-PACE Job Years Supported by FY Closed**

<b>Fiscal Year</b>	<b>Direct Jobs</b>	<b>Indirect and Induced Jobs</b>	<b>Total Jobs</b>
2012	-	-	-
2013	9	15	24
2014	109	174	282
2015	142	227	369
2016	178	285	463
2017	55	74	130
2018	85	111	195
2019	64	82	146
<b>Total</b>	<b>641</b>	<b>967</b>	<b>1,609</b>

**Table 54. C-PACE Tax Revenues Generated by FY Closed**

<b>Fiscal Year</b>	<b>Individual Income Tax Revenue Generated</b>	<b>Corporate Tax Revenue Generated</b>	<b>Sales Tax Revenue Generated</b>	<b>Total Tax Revenue Generated</b>
2012	\$0	\$0	\$0	\$0
2013	\$42,924	\$45,544	\$46,694	\$135,162
2014	\$489,858	\$773,000	\$366,235	\$1,629,093
2015	\$711,515	\$1,074,192	\$727,217	\$2,512,924
2016	\$852,137	\$1,090,167	\$682,252	\$2,624,555
2017	\$281,277	\$433,723	\$99,582	\$814,583
2018	\$473,617	\$964,291	\$212,838	\$1,650,745
2019	\$431,903	\$796,736	\$453,309	\$1,681,948
<b>Total</b>	<b>\$3,283,230</b>	<b>\$5,177,653</b>	<b>\$2,588,128</b>	<b>\$11,049,011</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – C-PACE**

Table 55. C-PACE Avoided Emissions by FY Closed

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	283	4,224	386	5,811	477	7,148	24	360
2014	4,700	86,427	6,077	113,223	6,872	128,033	400	7,497
2015	7,345	161,794	7,841	171,075	7,480	161,286	454	9,613
2016	8,621	156,146	9,156	163,054	8,044	135,301	716	13,199
2017	3,317	71,293	2,867	62,680	1,917	41,948	279	6,062
2018	5,744	127,043	4,804	107,587	3,143	70,396	483	10,774
2019	3,250	73,689	2,731	62,555	1,786	40,916	274	6,262
<b>Total</b>	<b>33,260</b>	<b>680,616</b>	<b>33,861</b>	<b>685,986</b>	<b>29,718</b>	<b>585,028</b>	<b>2,630</b>	<b>53,767</b>

Table 56. C-PACE Economic Value of Public Health by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	\$8,806	\$19,901	\$134,682	\$304,304
2014	\$150,753	\$340,563	\$2,851,883	\$6,441,221
2015	\$199,783	\$451,267	\$4,361,705	\$9,850,991
2016	\$273,734	\$618,401	\$5,113,659	\$11,549,860
2017	\$114,131	\$257,758	\$2,492,348	\$5,628,012
2018	\$200,622	\$453,065	\$4,499,822	\$10,160,761
2019	\$119,178	\$269,124	\$2,743,897	\$6,195,609
<b>Total</b>	<b>\$1,067,009</b>	<b>\$2,410,080</b>	<b>\$22,197,998</b>	<b>\$50,130,757</b>

**Financing Program**

Commercial Property Assessed Clean Energy (C-PACE) is a structure through which commercial property owners can finance clean energy improvements through a voluntary benefit assessment on their property, repaid through their municipality along with real property taxes. A lien, or voluntary benefit assessment, is placed on the improved property as security for the financing, and the Connecticut Green Bank requires lender consent from existing mortgage holders prior to approving a C-PACE project. To date, 44 unique banks and 26 specialized lending institutions have provided lender consent for nearly 185 projects – demonstrating that existing mortgage holders see that C-PACE adds adding value to properties and increases net income to the business occupying the building as a result of lower energy prices.

## CONNECTICUT GREEN BANK

### 5. PROGRAMS – C-PACE

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The Connecticut Green Bank administers the C-PACE program as an “open” platform. Private lenders work directly with building owners to finance projects. The lenders and owners then work with the Connecticut Green to approve the project and place the benefit assessment on the property. In addition, the Connecticut Green Bank maintains a warehouse of capital from which it finances C-PACE transactions. Through the warehouse, funds are advanced to either the customer or the contractor during construction based on the project meeting certain deliverables. Once the project is completed, the construction advances convert to long term financing whereby the property owner pays a benefit assessment over time to the municipality at the same time real property taxes are paid on the property. As the benefit assessment payments are made by the property owners, they are then remitted from the associated municipalities to the Connecticut Green Bank, or its designated servicer, to repay the capital providers for the energy improvements financed through C-PACE.

#### Financial Performance

To date there have been no defaults and as of June 30, 2019, there are three (3) delinquencies.

#### Marketing

To accelerate the adoption of C-PACE to finance clean energy and energy efficiency projects, the Connecticut Green Bank has implemented marketing efforts that target specific industry verticals. The Green Bank used a group purchase model, in which it aggregated several C-PACE projects at auto retailers and offered interest rate reductions on the portfolio of projects. Connecticut Green Bank also worked with the State of Connecticut’s Department of Economic and Community Development (DECD) to target manufacturing facilities through its Manufacturing Innovation Fund (MIF). Promoted via its multi touch “Energy on the Line” marketing campaign, the Green Bank was able to access \$800,000 through MIF to provide manufacturers an incentive in the form of a grant equal to a 1% interest rate reduction, applied to the total project amount of a closed C-PACE project.

Connecticut Green Bank has also established relationships with contractors and provided them with materials and resources to support their use of C-PACE. Green Bank provides co-brandable materials and other physical sales tools, serving as both a means of originating projects for the Green Bank and a way of creating more skilled and active C-PACE contractors.

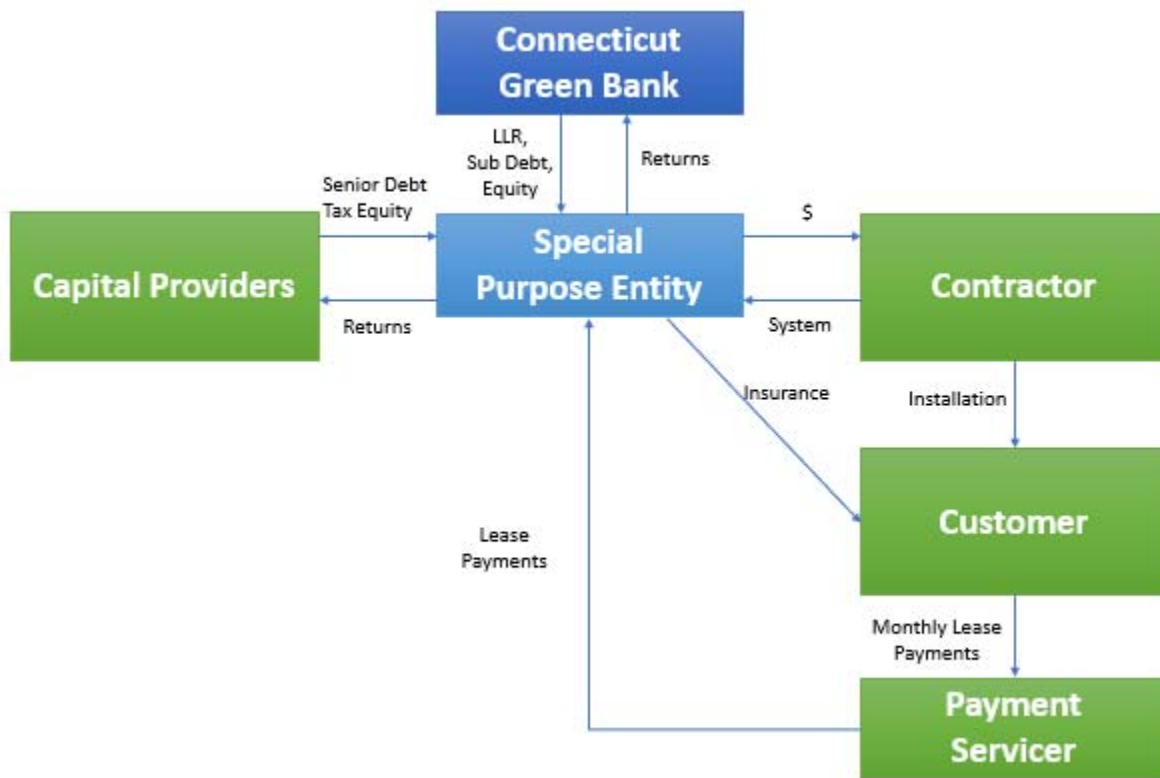
## Case 2 – Solar Lease

### Description

The Green Bank has used third-party ownership structures to deploy distributed solar generation in Connecticut in both the Residential and Commercial sectors. These funds are a unique combination of a tax equity investor and a syndicate of debt providers and the Green Bank to support solar PV installations (i.e., rooftop residential lease financing for solar PV and commercial leases and PPAs for rooftop, carport, and ground mount solar PV).

Residential leases were one of the first products to graduate from Green Bank funding, but the organization still actively pursues new projects in the Commercial, Industrial, and Institutional sector for its funds and performs asset management functions for the entire portfolio including the now closed Residential portion of the program.

Figure 7. Legal Structure and Flows of Capital for the CT Solar Lease<sup>86</sup>



The CT Solar Lease 2 fund was the second “solar PV fund” established using a combination of ratepayer funds and private capital. In developing this fund, which was fully utilized in 2017, the Green Bank sought to innovate both in the types of credits that would be underwritten and via broadening the sources of capital in the fund. Before these innovations by the Green Bank, a fund had not been established that would underwrite residential solar PV installations as well as installations on a “commercial scale” such as for municipal and school buildings, community oriented not-for-profit structures (all of which can’t take advantage of Federal tax incentives due to their tax-exempt status) as well as a vast array of for profit enterprises. These commercial-scale projects were historically the most

<sup>86</sup> It should be noted that the Special Purpose Entity structure includes several entities – CT Solar Lease II, LLC and CEFIA Holdings, LLC that provide different functions.

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difficult to finance: too small to attract investment funds, and similarly if aggregated to a size worthy of investment, comprised of off-takers that for the most part are non-investment grade or “unrated” credits that are difficult to underwrite in a manner that would permit deploying solar PV at scale. By prudently assessing these risks and operational issues, the Green Bank was able to obtain the support of the tax equity investor and lenders from Main Street – not Wall Street – in the fund. CT Solar Lease 2 was the first fund to secure solar leases and power purchase agreements using a PACE lien – an innovation that has prompted California to introduce legislation to enable the same security arrangement for its businesses and not for profit organizations. The Green Bank’s leadership and innovation was recognized by the Clean Energy States Alliance “State Leadership in Clean Energy” award in 2016, and the Green Bank has continued its work on this front – solely with respect to commercial-scale projects – via a CT Solar Lease 3 fund, as well as through a sourcing arrangement to deliver a number of these projects to Onyx Renewables (a Blackstone portfolio company) so as to accelerate market adoption of financing strategies for this sector.

**Key Performance Indicators**

The Key Performance Indicators for Solar Lease closed activity are reflected in Tables 57 through 63 for Residential and Commercial projects, respectively. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced.

**Table 57. Commercial Solar Lease Project Types and Investment by FY Closed**

<b>Fiscal Year Closed</b>	<b>EE</b>	<b>RE</b>	<b>RE/EE</b>	<b># Projects</b>	<b>Total Investment</b>	<b>Green Bank Investment<sup>87</sup></b>	<b>Private Investment</b>	<b>Leverage Ratio</b>
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	-	16		16	\$11,547,562	\$3,002,366	\$8,545,196	3.8
2016	-	27		27	\$16,711,392	\$4,344,962	\$12,366,430	3.8
2017	-	28	2	30	\$34,878,766	\$6,642,297	\$28,236,469	5.3
2018		29	1	30	\$26,037,540	\$5,982,361	\$20,055,179	4.4
2019		20		20	\$13,421,345	\$8,069,003	\$5,352,342	1.7
<b>Total</b>	<b>-</b>	<b>120</b>	<b>3</b>	<b>123</b>	<b>\$102,596,605</b>	<b>\$28,040,989</b>	<b>\$74,555,616</b>	<b>3.7</b>

**Table 58. Residential Solar Lease Project Investment by FY Closed**

<b>Fiscal Year Closed</b>	<b>EE<sup>88</sup></b>	<b>RE</b>	<b>RE/EE</b>	<b># Projects</b>	<b>Total Investment<sup>89</sup></b>	<b>Green Bank Investment<sup>90</sup></b>	<b>Private Investment</b>	<b>Leverage Ratio</b>
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	107	-	107	\$4,324,454	\$888,178	\$3,436,276	4.9
2015	-	610	-	610	\$23,672,592	\$4,861,995	\$18,810,598	4.9
2016	-	472	-	472	\$18,325,440	\$3,763,770	\$14,561,670	4.9
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>1,189</b>	<b>-</b>	<b>1,189</b>	<b>\$46,322,487</b>	<b>\$9,513,943</b>	<b>\$36,808,544</b>	<b>4.9</b>

<sup>87</sup> Includes incentives, interest rate buydowns and loan loss reserves.

<sup>88</sup> All projects that receive an RSIP incentive are required to do an energy audit/assessment.

<sup>89</sup> Includes closing costs and capitalized interest for C-PACE and the Fair Market Value for Commercial/Residential Leases.

<sup>90</sup> Includes incentives, interest rate buydowns and loan loss reserves.



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Table 59. Commercial Solar Lease Project Capacity, Generation and Savings<sup>91</sup> by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	3,482.1	3,965,381	99,135	12,790	319,755
2016	5,463.0	6,221,207	155,530	20,888	522,201
2017	11,622.3	13,235,521	330,888	45,063	1,126,574
2018	8,382.6	9,546,094	238,652	28,103	702,569
2019	4,139.1	4,713,584	117,840	10,453	261,313
<b>Total</b>	<b>33,089.0</b>	<b>37,681,787</b>	<b>942,045</b>	<b>117,297</b>	<b>2,932,413</b>

Table 60. Residential Solar Lease Project Capacity, Generation and Savings<sup>92</sup> by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	817.1	930,503	23,263	3,175	79,372
2015	4,894.7	5,574,098	139,352	19,019	475,471
2016	3,841.9	4,375,207	109,380	14,928	373,205
2017	-	-	-	-	-
2018	-	-	-	-	-
2019	-	-	-	-	-
<b>Total</b>	<b>9,553.7</b>	<b>10,879,808</b>	<b>271,995</b>	<b>37,122</b>	<b>928,048</b>

Table 61. Commercial Solar Lease Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (years)	Average PPA Lease Price
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	\$721,723	\$721,723	217.6	799	20	\$0.10
2016	\$618,940	\$618,940	202.3	774	20	\$0.10
2017	\$1,162,626	\$1,162,626	387.4	1,502	20	\$0.09
2018	\$867,918	\$867,918	279.4	937	20	\$0.08
2019	\$671,067	\$671,067	207.0	523	20	\$0.08
<b>Total</b>	<b>\$834,119</b>	<b>\$834,119</b>	<b>269.0</b>	<b>954</b>	<b>20</b>	<b>\$0.09</b>

<sup>91</sup> The Green Bank currently estimates annual savings and is in the process of reviewing and updating this methodology to include actual savings where possible.

<sup>92</sup> The Green Bank currently estimates annual savings and is in the process of reviewing and updating this methodology to include actual savings where possible.

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**Table 62. Residential Solar Lease Project Averages by FY Closed**

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average DTI	Average FICO Score
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	\$40,415	\$38,182	7.6	30	240	30	785
2015	\$38,808	\$36,663	8.0	31	240	31	777
2016	\$38,825	\$36,679	8.1	32	240	35	776
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
<b>Total</b>	<b>\$38,959</b>	<b>\$36,806</b>	<b>8.0</b>	<b>31</b>	<b>240</b>	<b>33</b>	<b>777</b>

**Table 63. Residential Solar Lease Project Application Yield<sup>93</sup> by FY Received**

Fiscal Year Received	Applications Received	Applications Approved	Applications Withdrawn	Applications Denied	Approved Rate	Denied Rate
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	669	196	256	217	68%	32%
2015	1,813	847	619	347	81%	19%
2016	351	146	154	51	85%	15%
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
<b>Total</b>	<b>2,833</b>	<b>1,189</b>	<b>1,029</b>	<b>615</b>	<b>78%</b>	<b>22%</b>

The types of Commercial end-use customers participating in the Solar Lease program are shown in Table 64.

**Table 64. Types of End-Use Customers Participating in Commercial Solar Lease**

Property Type	# of Properties
Agricultural	3
Athletic/Recreational Facility	4
Education	18
House of Worship	9
Industrial	2
Multi-family/apartment (> 5 units)	14
Municipal building	35
Non-profit	10
Nursing Home/Rehab Facility	1
Office	23

<sup>93</sup> Applications received are applications submitted to Renew Financial (servicer of the CT Solar Lease) for credit approval. Applications approved are applications that have met the credit requirements for the program and can move to lease signing, pending formal technical approval of the solar equipment by the Residential Solar Investment Program. Applications withdrawn are applications that have been cancelled by the submitter due to the project not moving forward. Applications denied are applications that are not approved because the customer does not meet underwriting requirements.

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<b>Property Type</b>	<b># of Properties</b>
Public assembly	2
Retail	1
Warehouse & storage	1
<b>Grand Total</b>	<b>123</b>

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**Area Median Income Band Penetration**

The CT Solar Lease program has been used to fund projects in economically diverse locations across the state as reflected by Tables 65 and 66 for Metropolitan Statistical Area (MSA) Area Median Income (AMI). It should be noted that these Solar Lease funds are not part of an income targeted program.

**Table 65. Commercial Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>94</sup>**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	<60%	0	0	0%	0.0	0%	\$0	0%	609,363	17%	0.0	\$0.00
2012	60%-80%	0	0	0%	0.0	0%	\$0	0%	527,217	15%	0.0	\$0.00
2012	80%-100%	0	0	0%	0.0	0%	\$0	0%	589,440	17%	0.0	\$0.00
2012	100%-120%	0	0	0%	0.0	0%	\$0	0%	722,664	20%	0.0	\$0.00
2012	>120%	0	0	0%	0.0	0%	\$0	0%	1,116,395	31%	0.0	\$0.00
2012	Total	0	0	0%	0.0	0%	\$0	0%	3,565,079	100%	0.0	\$0.00
2013	<60%	0	0	0%	0.0	0%	\$0	0%	604,433	17%	0.0	\$0.00
2013	60%-80%	0	0	0%	0.0	0%	\$0	0%	568,952	16%	0.0	\$0.00
2013	80%-100%	0	0	0%	0.0	0%	\$0	0%	588,813	16%	0.0	\$0.00
2013	100%-120%	0	0	0%	0.0	0%	\$0	0%	690,591	19%	0.0	\$0.00
2013	>120%	0	0	0%	0.0	0%	\$0	0%	1,131,305	32%	0.0	\$0.00
2013	Total	0	0	0%	0.0	0%	\$0	0%	3,584,094	100%	0.0	\$0.00
2014	<60%	0	0	0%	0.0	0%	\$0	0%	614,135	17%	0.0	\$0.00
2014	60%-80%	0	0	0%	0.0	0%	\$0	0%	546,132	15%	0.0	\$0.00
2014	80%-100%	0	0	0%	0.0	0%	\$0	0%	577,061	16%	0.0	\$0.00
2014	100%-120%	0	0	0%	0.0	0%	\$0	0%	720,856	20%	0.0	\$0.00
2014	>120%	0	0	0%	0.0	0%	\$0	0%	1,125,910	31%	0.0	\$0.00
2014	Total	0	0	0%	0.0	0%	\$0	0%	3,584,094	100%	0.0	\$0.00
2015	<60%	2	2	13%	0.1	4%	\$416,000	4%	662,619	18%	0.0	\$0.63
2015	60%-80%	1	1	6%	0.1	2%	\$300,000	3%	489,826	14%	0.0	\$0.61

<sup>94</sup> Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2015	80%-100%	2	2	13%	0.6	18%	\$1,904,000	16%	650,163	18%	0.0	\$2.93
2015	100%-120%	3	3	19%	0.4	11%	\$1,238,000	11%	631,741	18%	0.0	\$1.96
2015	>120%	8	8	50%	2.3	65%	\$7,689,562	67%	1,150,974	32%	0.0	\$6.68
2015	Total	16	16	100%	3.5	100%	\$11,547,562	100%	3,585,323	100%	0.0	\$3.22
2016	<60%	0	0	0%	0.0	0%	\$0	0%	649,617	18%	0.0	\$0.00
2016	60%-80%	1	1	4%	0.1	3%	\$486,864	3%	509,088	14%	0.0	\$0.96
2016	80%-100%	4	4	15%	0.6	11%	\$1,921,416	11%	641,084	18%	0.0	\$3.00
2016	100%-120%	10	10	37%	2.1	38%	\$6,365,606	38%	653,309	18%	0.0	\$9.74
2016	>120%	12	12	44%	2.6	48%	\$7,937,506	47%	1,126,543	31%	0.0	\$7.05
2016	Total	27	27	100%	5.5	100%	\$16,711,392	100%	3,579,641	100%	0.0	\$4.67
2017	<60%	4	4	13%	1.4	12%	\$3,564,532	10%	663,181	18%	0.0	\$5.37
2017	60%-80%	3	5	17%	2.3	20%	\$6,698,454	19%	488,396	14%	0.0	\$13.72
2017	80%-100%	6	5	17%	1.9	17%	\$5,682,127	16%	612,043	17%	0.0	\$9.28
2017	100%-120%	10	8	27%	3.0	26%	\$9,008,200	26%	722,803	20%	0.0	\$12.46
2017	>120%	6	8	27%	2.9	25%	\$9,925,453	28%	1,099,277	31%	0.0	\$9.03
2017	Total	29	30	100%	11.6	100%	\$34,878,766	100%	3,585,700	100%	0.0	\$9.73
2018	<60%	1	4	13%	1.4	16%	\$4,421,750	17%	663,181	18%	0.0	\$6.67
2018	60%-80%	2	3	10%	0.5	6%	\$1,526,640	6%	488,396	14%	0.0	\$3.13
2018	80%-100%	3	4	13%	2.1	25%	\$6,808,295	26%	612,043	17%	0.0	\$11.12
2018	100%-120%	3	4	13%	0.6	7%	\$1,668,000	6%	722,803	20%	0.0	\$2.31
2018	>120%	13	15	50%	3.8	46%	\$11,612,855	45%	1,099,277	31%	0.0	\$10.56
2018	Total	22	30	100%	8.4	100%	\$26,037,540	100%	3,585,700	100%	0.0	\$7.26
2019	<60%		6	30%	0.6	15%	\$2,017,860	15%	663,181	18%	0.0	\$3.04
2019	60%-80%		1	5%	0.0	0%	\$50,895	0%	488,396	14%	0.0	\$0.10
2019	80%-100%		3	15%	1.9	45%	\$6,012,533	45%	612,043	17%	0.0	\$9.82
2019	100%-120%		4	20%	0.6	15%	\$1,956,125	15%	722,803	20%	0.0	\$2.71

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2019	>120%		6	30%	1.0	25%	\$3,383,933	25%	1,099,277	31%	0.0	\$3.08
2019	Total		20	100%	4.1	100%	\$13,421,345	100%	3,585,700	100%	0.0	\$3.74

Total	<60%	7	16	13%	3.6	11%	\$10,420,142	10%	663,181	18%	0.0	\$15.71
Total	60%-80%	7	11	9%	3.1	9%	\$9,062,853	9%	488,396	14%	0.0	\$18.56
Total	80%-100%	15	18	15%	7.1	22%	\$22,328,371	22%	612,043	17%	0.0	\$36.48
Total	100%-120%	26	29	24%	6.7	20%	\$20,235,931	20%	722,803	20%	0.0	\$28.00
Total	>120%	39	49	40%	12.7	38%	\$40,549,309	40%	1,099,277	31%	0.0	\$36.89
Total	Total	94	123	100%	33.1	100%	\$102,596,605	100%	3,585,700	100%	0.0	\$28.61

Table 66. Residential Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>95</sup>

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	\$0	0%	61,168	7%	0.0	\$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	\$0	0%	101,640	12%	0.0	\$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	\$0	0%	151,346	17%	0.0	\$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	\$0	0%	216,988	25%	0.0	\$0.00	0.0
2012	>120%	0	0%	0.0	0%	\$0	0%	350,196	40%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	881,338	100%	0.0	\$0.00	0.0

2013	<60%	0	0%	0.0	0%	\$0	0%	59,494	7%	0.0	\$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	\$0	0%	109,189	12%	0.0	\$0.00	0.0
2013	80%-100%	0	0%	0.0	0%	\$0	0%	150,603	17%	0.0	\$0.00	0.0
2013	100%-120%	0	0%	0.0	0%	\$0	0%	203,157	23%	0.0	\$0.00	0.0
2013	>120%	0	0%	0.0	0%	\$0	0%	351,633	40%	0.0	\$0.00	0.0
2013	Total	0	0%	0.0	0%	\$0	0%	874,076	100%	0.0	\$0.00	0.0

<sup>95</sup> Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2014	<60%	0	0%	0.0	0%	\$0	0%	57,673	7%	0.0	\$0.00	0.0
2014	60%-80%	6	6%	0.0	5%	\$212,213	5%	103,934	12%	0.1	\$2.04	0.4
2014	80%-100%	13	12%	0.1	11%	\$483,999	11%	149,038	17%	0.1	\$3.25	0.6
2014	100%-120%	43	40%	0.3	42%	\$1,799,656	42%	209,561	24%	0.2	\$8.59	1.6
2014	>120%	45	42%	0.3	42%	\$1,828,585	42%	348,270	40%	0.1	\$5.25	1.0
2014	Total	107	100%	0.8	100%	\$4,324,454	100%	868,476	100%	0.1	\$4.98	0.9
2015	<60%	5	1%	0.0	1%	\$163,570	1%	64,361	7%	0.1	\$2.54	0.5
2015	60%-80%	43	7%	0.3	6%	\$1,430,822	6%	96,305	11%	0.4	\$14.86	3.0
2015	80%-100%	120	20%	0.9	19%	\$4,384,447	19%	164,873	19%	0.7	\$26.59	5.5
2015	100%-120%	165	27%	1.3	27%	\$6,309,374	27%	184,613	21%	0.9	\$34.18	7.1
2015	>120%	277	45%	2.4	48%	\$11,384,379	48%	352,621	41%	0.8	\$32.29	6.7
2015	Total	610	100%	4.9	100%	\$23,672,592	100%	862,773	100%	0.7	\$27.44	5.7
2016	<60%	20	4%	0.1	4%	\$655,757	4%	60,769	7%	0.3	\$10.79	2.3
2016	60%-80%	35	7%	0.2	6%	\$1,171,212	6%	99,220	12%	0.4	\$11.80	2.5
2016	80%-100%	84	18%	0.6	17%	\$3,079,698	17%	165,331	19%	0.5	\$18.63	3.9
2016	100%-120%	129	27%	1.0	27%	\$4,999,536	27%	187,463	22%	0.7	\$26.67	5.6
2016	>120%	204	43%	1.8	46%	\$8,419,238	46%	345,311	40%	0.6	\$24.38	5.1
2016	Total	472	100%	3.8	100%	\$18,325,440	100%	858,094	100%	0.6	\$21.36	4.5
Total	<60%	25	2%	0.2	2%	\$819,327	2%	60,769	7%	0.4	\$13.48	2.8
Total	60%-80%	84	7%	0.6	6%	\$2,814,247	6%	99,220	12%	0.8	\$28.36	5.8
Total	80%-100%	217	18%	1.6	17%	\$7,948,145	17%	165,331	19%	1.3	\$48.07	9.9
Total	100%-120%	337	28%	2.7	28%	\$13,108,566	28%	187,463	22%	1.8	\$69.93	14.4
Total	>120%	526	44%	4.5	47%	\$21,632,202	47%	345,311	40%	1.5	\$62.65	12.9
Total	Total	1,189	100%	9.6	100%	\$46,322,487	100%	858,094	100%	1.4	\$53.98	11.1

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – CT SOLAR LEASE**

Table 67. Commercial Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>96</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0
2013	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0
2014	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0
2015	16	11	5	31%	3.5	2.6	0.9	24%	\$11,547,562	\$8,927,562	\$2,620,000	23%
2016	27	22	5	19%	5.5	4.7	0.8	14%	\$16,711,392	\$14,303,112	\$2,408,280	14%
2017	30	16	14	47%	11.6	6.0	5.7	49%	\$34,878,766	\$18,933,653	\$15,945,113	46%
2018	30	19	11	37%	8.4	4.4	4.0	47%	\$26,037,540	\$13,280,855	\$12,756,685	49%
2019	20	10	10	50%	4.1	1.7	2.5	60%	\$13,421,345	\$5,340,058	\$8,081,288	60%
<b>Total</b>	<b>123</b>	<b>78</b>	<b>45</b>	<b>37%</b>	<b>33.1</b>	<b>19.4</b>	<b>13.7</b>	<b>41%</b>	<b>\$102,596,605</b>	<b>\$60,785,240</b>	<b>\$41,811,366</b>	<b>41%</b>

Table 68. Residential Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>97</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2013	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2014	107	88	19	18%	0.8	0.7	0.1	16%	\$4,324,454	\$3,628,242	\$696,212	16%
2015	610	442	168	28%	4.9	3.7	1.2	25%	\$23,672,592	\$17,693,753	\$5,978,839	25%
2016	472	333	139	29%	3.8	2.8	1.0	27%	\$18,325,440	\$13,418,773	\$4,906,667	27%
<b>Total</b>	<b>1,189</b>	<b>863</b>	<b>326</b>	<b>27%</b>	<b>9.6</b>	<b>7.2</b>	<b>2.4</b>	<b>25%</b>	<b>\$46,322,487</b>	<b>\$34,740,768</b>	<b>\$11,581,719</b>	<b>25%</b>

<sup>96</sup> Excludes projects in unknown bands.

<sup>97</sup> Excludes projects in unknown bands.



**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – CT SOLAR LEASE**

**Distressed Community Penetration**

For a breakdown of Solar Lease project volume and investment by census tracts categorized by Distressed Communities – see Tables 69 and 70. It should be noted that Solar Lease is not an income targeted program.

**Table 69. Commercial Solar Lease Activity in Distressed Communities by FY Closed**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2012	Yes	0	0%	0.0	0%	\$0	1,171,385	33%	0.0	\$0.00	0.0	0
2012	No	0	0%	0.0	0%	\$0	2,400,828	67%	0.0	\$0.00	0.0	0
2012	Total	0	0%	0.0	0%	\$0	3,572,213	100%	0.0	\$0.00	0.0	0
2013	Yes	0	0%	0.0	0%	\$0	1,124,923	31%	0.0	\$0.00	0.0	0
2013	No	0	0%	0.0	0%	\$0	2,458,638	69%	0.0	\$0.00	0.0	0
2013	Total	0	0%	0.0	0%	\$0	3,583,561	100%	0.0	\$0.00	0.0	0
2014	Yes	0	0%	0.0	0%	\$0	1,106,027	31%	0.0	\$0.00	0.0	0
2014	No	0	0%	0.0	0%	\$0	2,486,026	69%	0.0	\$0.00	0.0	0
2014	Total	0	0%	0.0	0%	\$0	3,592,053	100%	0.0	\$0.00	0.0	0
2015	Yes	2	13%	0.1	4%	\$416,000	1,122,550	31%	0.0	\$0.37	0.1	2
2015	No	14	88%	3.3	96%	\$11,131,562	2,470,672	69%	0.0	\$4.51	1.4	14
2015	Total	16	100%	3.5	100%	\$11,547,562	3,593,222	100%	0.0	\$3.21	1.0	16
2016	Yes	1	4%	0.1	3%	\$486,864	1,162,653	32%	0.0	\$0.42	0.1	1
2016	No	26	96%	5.3	97%	\$16,224,528	2,425,917	68%	0.0	\$6.69	2.2	26
2016	Total	27	100%	5.5	100%	\$16,711,392	3,588,570	100%	0.0	\$4.66	1.5	27
2017	Yes	3	10%	2.5	22%	\$7,100,532	1,150,554	32%	0.0	\$6.17	2.2	3
2017	No	27	90%	9.1	78%	\$27,778,234	2,443,924	68%	0.0	\$11.37	3.7	27
2017	Total	30	100%	11.6	100%	\$34,878,766	3,594,478	100%	0.0	\$9.70	3.2	30

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – CT SOLAR LEASE**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Project Units / 1,000 People	Total Investment / Population	Watts / Population
2018	Yes	11	37%	5.0	60%	\$16,122,385	1,150,554	32%	0.0	\$14.01	4.3	11
2018	No	19	63%	3.4	40%	\$9,915,155	2,443,924	68%	0.0	\$4.06	1.4	19
2018	Total	30	100%	8.4	100%	\$26,037,540	3,594,478	100%	0.0	\$7.24	2.3	30
2019	Yes	6	30%	0.8	19%	\$2,504,190	1,150,554	32%	0.0	\$2.18	0.7	6
2019	No	14	70%	3.4	81%	\$10,917,155	2,443,924	68%	0.0	\$4.47	1.4	14
2019	Total	20	100%	4.1	100%	\$13,421,345	3,594,478	100%	0.0	\$3.73	1.2	20
Total	Yes	23	19%	8.6	26%	\$26,629,971	1,150,554	32%	0.0	\$23.15	7.4	23
Total	No	100	81%	24.5	74%	\$75,966,634	2,443,924	68%	0.0	\$31.08	10.0	100
Total	Total	123	100%	33.1	100%	\$102,596,605	3,594,478	100%	0.0	\$28.54	9.2	123

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Table 70. Residential Solar Lease Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Population	% Population Distribution	Total Investment / Population	Watts / Population	Total Households	% Total Household Distribution	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	\$0	0%	1,171,385	33%	\$0.00	0.0	447,962	33%	\$0.00	0.0
2012	No	0	0%	0.0	0%	\$0	0%	2,400,828	67%	\$0.00	0.0	912,222	67%	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	3,572,213	100%	\$0.00	0.0	1,360,184	100%	\$0.00	0.0
2013	Yes	0	0%	0.0	0%	\$0	0%	1,124,923	31%	\$0.00	0.0	426,564	31%	\$0.00	0.0
2013	No	0	0%	0.0	0%	\$0	0%	2,458,638	69%	\$0.00	0.0	929,285	69%	\$0.00	0.0
2013	Total	0	0%	0.0	0%	\$0	0%	3,583,561	100%	\$0.00	0.0	1,355,849	100%	\$0.00	0.0
2014	Yes	15	14%	0.1	12%	\$533,309	12%	1,106,027	31%	\$0.48	0.1	416,415	31%	\$1.28	0.2
2014	No	92	86%	0.7	88%	\$3,791,145	88%	2,486,026	69%	\$1.52	0.3	939,791	69%	\$4.03	0.8
2014	Total	107	100%	0.8	100%	\$4,324,454	100%	3,592,053	100%	\$1.20	0.2	1,356,206	100%	\$3.19	0.6
2015	Yes	95	16%	0.7	15%	\$3,504,032	15%	1,122,550	31%	\$3.12	0.6	423,559	31%	\$8.27	1.7
2015	No	515	84%	4.2	85%	\$20,168,561	85%	2,470,672	69%	\$8.16	1.7	929,024	69%	\$21.71	4.5
2015	Total	610	100%	4.9	100%	\$23,672,592	100%	3,593,222	100%	\$6.59	1.4	1,352,583	100%	\$17.50	3.6
2016	Yes	97	21%	0.8	20%	\$3,601,098	20%	1,162,653	32%	\$3.10	0.6	438,710	32%	\$8.21	1.7
2016	No	375	79%	3.1	80%	\$14,724,342	80%	2,425,917	68%	\$6.07	1.3	916,003	68%	\$16.07	3.4
2016	Total	472	100%	3.8	100%	\$18,325,440	100%	3,588,570	100%	\$5.11	1.1	1,354,713	100%	\$13.53	2.8
Total	Yes	207	17%	1.6	16%	\$7,638,439	16%	1,162,653	32%	\$6.57	1.4	438,710	32%	\$17.41	3.6
Total	No	982	83%	8.0	84%	\$38,684,047	84%	2,425,917	68%	\$15.95	3.3	916,003	68%	\$42.23	8.7
Total	Total	1,189	100%	9.6	100%	\$46,322,487	100%	3,588,570	100%	\$12.91	2.7	1,354,713	100%	\$34.19	7.1

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – CT SOLAR LEASE**

**Societal Impacts**

Ratepayers in Connecticut receive the societal benefits of the CT Solar Lease. Over the course of its existence, the program has supported the creation of 1,152 job years and avoided the lifetime emission of 669,370 tons of carbon dioxide, 662,932 pounds of nitrous oxide, 523,923 pounds of sulfur oxide, and 57,999 pounds of particulate matter as illustrated by Tables 71 and 73. The value of the lifetime public health impacts of the Solar Lease programs estimated to be between \$23.5 and \$53.2 million as seen in table 74. The Green Bank’s PPA’s and leases have generated more than \$3.4 million in tax revenue for the state since inception as demonstrated in Table 72.

**Table 71. Commercial and Residential Solar Lease Job Years Supported by FY Closed**

<b>Fiscal Year</b>	<b>Direct Jobs</b>	<b>Indirect and Induced Jobs</b>	<b>Total Jobs</b>
2012	-	-	-
2013	-	-	-
2014	19	30	50
2015	149	238	387
2016	142	226	368
2017	83	109	192
2018	52	67	119
2019	16	20	36
<b>Total</b>	<b>461</b>	<b>691</b>	<b>1,152</b>

**Table 72. Commercial and Residential Solar Lease Tax Revenues Generated by FY Closed**

<b>Fiscal Year</b>	<b>Individual Income Tax Revenue Generated</b>	<b>Corporate Tax Revenue Generated</b>	<b>Sales Tax Revenue Generated</b>	<b>Total Tax Revenue Generated</b>
2012	\$0	\$0	\$0	\$0
2013	\$0	\$0	\$0	\$0
2014	\$110,473	\$109,845	\$0	\$220,317
2015	\$782,978	\$796,649	\$0	\$1,579,627
2016	\$726,083	\$748,182	\$0	\$1,474,265
2017	\$613,073	\$415,409	\$0	\$1,028,482
2018	\$488,198	\$273,960	\$0	\$762,158
2019	\$209,926	\$344,664	\$0	\$554,590
<b>Total</b>	<b>\$2,930,731</b>	<b>\$2,688,709</b>	<b>\$0</b>	<b>\$5,619,439</b>

**CONNECTICUT GREEN BANK**  
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**Table 73. Commercial and Residential Solar Lease Avoided Emissions by FY Closed**

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	518	12,863	728	18,205	876	21,779	38	1,169
2015	5,459	136,280	6,655	165,922	6,685	166,752	454	11,949
2016	5,976	149,711	6,412	159,931	5,073	126,541	510	13,142
2017	7,138	178,450	6,158	153,948	4,039	100,967	612	15,291
2018	5,143	128,577	4,416	110,409	2,889	72,222	440	11,011
2019	2,540	63,488	2,181	54,517	1,426	35,661	217	5,437
<b>Total</b>	<b>26,773</b>	<b>669,370</b>	<b>26,550</b>	<b>662,932</b>	<b>20,988</b>	<b>523,923</b>	<b>2,271</b>	<b>57,999</b>

**Table 74. Commercial and Residential Solar Lease Value of Public Health by FY Closed**

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	-	-	-	-
2014	\$18,052	\$40,756	\$451,294	\$1,018,901
2015	\$185,066	\$417,829	\$4,626,648	\$10,445,730
2016	\$205,570	\$464,123	\$5,139,261	\$11,603,074
2017	\$256,769	\$579,716	\$6,419,228	\$14,492,895
2018	\$185,194	\$418,119	\$4,629,855	\$10,452,972
2019	\$91,444	\$206,455	\$2,286,088	\$5,161,375
<b>Total</b>	<b>\$942,095</b>	<b>\$2,126,998</b>	<b>\$23,552,374</b>	<b>\$53,174,948</b>

**Financing Program**

The CT Solar Lease 2 fund was a financing structure developed in partnership with a tax equity investor (i.e., US Bank) and a syndicate of local lenders (i.e. Key Bank and Webster Bank) that used a credit enhancement (i.e., \$3,500,000 loan loss reserve),<sup>98</sup> in combination with \$2.3 million in subordinated debt and \$11.5 million in sponsor equity from the Connecticut Green Bank as the “member manager” to provide approximately \$80 million in lease financing for residential and commercial solar PV projects. Through the product, the Connecticut Green Bank lowered the barriers to Connecticut residential and commercial customers seeking to install solar PV with no up-front investment, thus increasing demand, while at the same time reducing the market’s reliance on subsidies through the RSIP or being more competitive in a reverse auction through the Zero Emission Renewable Energy Credit (ZREC) program. As a lease (or PPA for certain commercial customers), capital provided to consumers through the CT Solar Lease is now being returned to the Connecticut Green Bank, the tax equity investor and the lenders – it is not a subsidy. The financial structure of the CT Solar Lease product, both historically and on an ongoing basis through the CT Solar Lease 3 fund, includes origination by contractors, servicing of lease and PPA payments, insurance and “one call” system performance and insurance resolution,

<sup>98</sup> From repurposed American Recovery and Reinvestment Act funds

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and financing features in combination with the support of the Connecticut Green Bank, whereas under the partnership with Onyx Renewables, the Connecticut Green Bank originates projects together with local contractors, but Onyx Renewables then provides the long-term financing and holds the ongoing asset management responsibilities.

**Financial Performance**

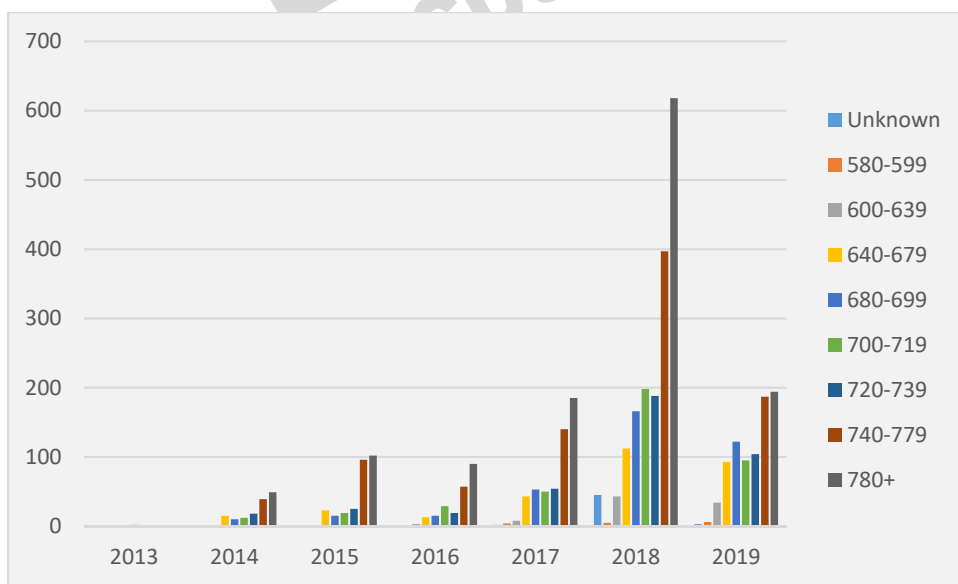
To date there are no defaults and as of June 30, 2018 there are 3 delinquencies totaling \$402,168 or 1% of the Commercial Solar Lease portfolio. To date there are 5 defaults with an original principal balance of \$138,056 or 0.34% of the Residential Solar Lease portfolio and as of June 30, 2018 there are 11 delinquencies.

The household customers that accessed the CT Solar Lease since its launch in 2014 had varying credit scores – see Table 75.

**Table 75. Credit Score Ranges of Household Customers Using the CT Solar Lease by FY Closed**

Fiscal Year	Unknown	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
2012	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	4	-	5	6	25	67	107
2015	2	-	-	26	23	39	38	134	348	610
2016	2	-	1	15	16	34	41	105	258	472
<b>Total</b>	<b>4</b>	<b>-</b>	<b>1</b>	<b>45</b>	<b>39</b>	<b>78</b>	<b>85</b>	<b>264</b>	<b>673</b>	<b>1,189</b>
	0%	-	0%	4%	3%	7%	7%	22%	57%	100%

**Figure 8. Credit Score Ranges of Household Customers Using the CT Solar Lease by FY Closed**



**CONNECTICUT GREEN BANK**  
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**Marketing**

To accelerate the deployment of residential solar PV through the RSIP and the uptake of the CT Solar Lease financing product, the Connecticut Green Bank implemented Solarize Connecticut. The Green Bank sponsored Solarize programs are designed to use a combination of group purchasing, time-limited offers, and grassroots outreach, while local clean energy advocates volunteer and coordinate with their towns to help speed the process – see Table 76. The Green Bank also implemented channel marketing through the solar installer channel to support residential and commercial installers and their ability to grow their businesses by providing the CT Solar Lease product to their customers.

**Table 76. Number of Residential Projects, Investment, and Installed Capacity through Green Bank Solarize Connecticut for the CT Solar Lease Financing Product**

<b>Solarize</b>	<b># of Projects</b>	<b>Total Investment</b>	<b>Installed Capacity (MW)</b>
Solarize	325	\$12,418,840	2.5
Not Solarize	864	\$33,903,647	7.0
<b>Total</b>	1,189	\$46,322,487	9.6
<b>% Solarize</b>	<b>27%</b>	<b>27%</b>	<b>27%</b>

The Green Bank Solarize Connecticut program provided a marketing channel and origination catalyst for the CT Solar Lease comprising 27 percent of the total projects, investment, and installed capacity.

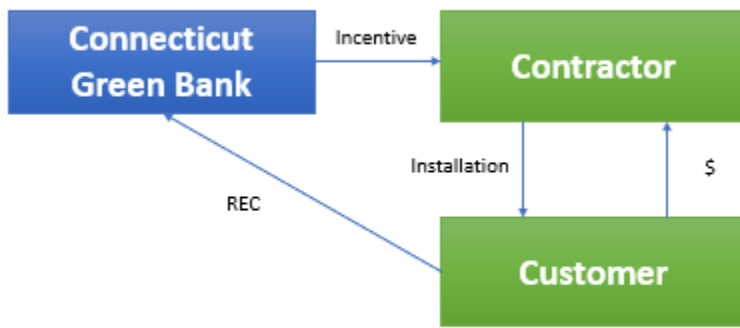
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### Case 3 – Residential Solar Investment Program

#### Description

The RSIP is a subsidy program that provides incentives to reduce the cost for homeowners to own solar photovoltaic (PV) systems or for third party owners (TPOs) to provide clean electricity from solar PV systems through leases or power purchase agreements (PPAs) with homeowners. Incentives are provided either upfront (i.e., through an expected performance-based buy-down or EPBB) for homeowner-owned systems or are paid out over time<sup>99</sup> based on system production (i.e., through a performance-based incentive or PBI and a low to moderate income performance-based incentive or LMI-PBI) for third-party owned projects. With either incentive type, the Renewable Energy Credits (RECs) are owned by the Connecticut Green Bank.

Figure 9. Legal Structure and Flows of Capital for the RSIP<sup>100</sup>



The subsidy under the RSIP has decreased over time – see Table 77, supporting the goal of reducing market reliance on incentives while moving it towards innovative low-cost financing and sustained orderly development.

<sup>99</sup> The PBI is paid out quarterly over a period of six years.

<sup>100</sup> The Green Bank incentive is issued to the Contractor on behalf of the Customer. In the case of Third-Party Owned systems, RECs flow from the Contractor to the Connecticut Green Bank.



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Table 77. RSIP Subsidy by Step and Incentive Type

RSIP Subsidy by Step	Start Date	EPBB (\$/W)			PBI (\$/kWh)		LMI (\$/kWh)	
		≤5 kW	5 to 10 kW	>10 kW, ≤ 20 kW	≤10 kW	>10 kW, ≤ 20 kW	≤10 kW	>10 kW, ≤ 20 kW
Step 1	3/2/2012	\$2.450	\$1.250	\$0.000	\$0.300	\$0.000	N/A	N/A
Step 2	5/8/2012	\$2.275	\$1.075	\$0.000	\$0.300	\$0.000	N/A	N/A
Step 3	1/4/2013 EPBB, 4/1/2013 PBI	\$1.750	\$0.550	\$0.000	\$0.225	\$0.000	N/A	N/A
Step 4	1/6/2014	\$1.250	\$0.750	\$0.000	\$0.180	\$0.000	N/A	N/A
Step 5	9/1/2014	\$0.800		\$0.400	\$0.125	\$0.060	N/A	N/A
Step 6	1/1/2015	\$0.675		\$0.400	\$0.080	\$0.060	N/A	N/A
Step 7	4/11/2015	\$0.540		\$0.400	\$0.064	\$0.060	N/A	N/A
Step 8	8/8/2015	\$0.540		\$0.400	\$0.054		\$0.110	\$0.055
Step 9	2/1/2016	\$0.513		\$0.400	\$0.046		\$0.110	\$0.055
Step 10	9/1/2016	\$0.487		\$0.400	\$0.039		\$0.110	\$0.055
Step 11	8/1/2017	\$0.487		\$0.400	\$0.039		\$0.110	\$0.055
Step 12	1/15/2018	\$0.463		\$0.400	\$0.035		\$0.110	\$0.055
Step 13	6/1/2018	\$0.463		\$0.400	\$0.035		\$0.090	\$0.045
Step 14	9/24/2018	\$0.463		\$0.400	\$0.035		\$0.090	\$0.045

**Key Performance Indicators**

The Key Performance Indicators for RSIP closed activity are reflected in Tables 78 through 83. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. They also present the volume of projects by energy efficiency, renewable generation, or both. It should be noted that for all RSIP requires that, as part of the requirements for receiving an RSIP incentive, an energy efficiency assessment be conducted through the utility-administered Home Energy Solutions (HES) program, the DOE Home Energy Score, or RSIP-approved alternatives such as audits performed by BPI-certified professionals.<sup>101</sup> Consequently, each RSIP project from solar PV (i.e. RE project) also includes EE. The benefits from the EE measures (e.g., investment, savings, etc.) have not been calculated, as approximately 87% of energy efficiency assessments are conducted through the HES program for which benefits are tracked by the Connecticut Energy Efficiency Fund.<sup>102</sup> The Key performance Indicators for RSIP only include the investment and impact of the renewable energy installation and not those stemmed from the energy audits.

<sup>101</sup> Non-HES audits were performed by Building Performance Institute (BPI) certified auditors, Home Energy Rating System (HERS) raters, other certified energy managers or were exempt due to being new construction or having a health and safety exemption.

<sup>102</sup> RSIP-wide, an estimated 87% of audits performed were either HES audits or DOE Home Energy Scores (HES). In FY19, 94% of audits were either HES or DOE HES.

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Table 78. RSIP Project Types and Investment by FY Closed

Fiscal Year Closed	# Projects	Total Investment	Green Bank Investment <sup>103</sup>	Private Investment	Leverage Ratio
2012	288	\$9,901,511	\$3,401,642	\$6,499,869	2.9
2013	1,109	\$35,426,043	\$11,915,874	\$23,510,169	3.0
2014	2,382	\$73,853,653	\$20,049,208	\$53,804,445	3.7
2015	6,397	\$214,705,219	\$33,201,830	\$181,503,389	6.5
2016	6,807	\$218,226,286	\$18,853,119	\$199,373,167	11.6
2017	4,469	\$120,904,517	\$11,604,142	\$109,300,375	10.4
2018	5,239	\$150,222,182	\$12,825,094	\$137,397,088	11.7
2019	7,657	\$229,643,988	\$17,460,024	\$212,183,964	13.2
<b>Total</b>	<b>34,348</b>	<b>\$1,052,883,398</b>	<b>\$129,310,933</b>	<b>\$923,572,465</b>	<b>8.1</b>

Table 79. RSIP Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	1,940.2	2,209,534	55,238	7,539	188,473	\$345,254	\$8,631,360
2013	7,889.9	8,984,961	224,624	30,657	766,417	\$1,329,469	\$33,236,730
2014	17,125.1	19,502,075	487,552	66,541	1,663,527	\$2,855,542	\$71,388,540
2015	48,747.1	55,513,197	1,387,830	189,411	4,735,276	\$7,668,724	\$191,718,090
2016	53,363.9	60,770,855	1,519,271	207,350	5,183,754	\$8,160,232	\$204,005,790
2017	34,783.2	39,611,108	990,278	135,153	3,378,828	\$5,357,437	\$133,935,930
2018	42,666.4	48,588,451	1,214,711	165,784	4,144,595	\$6,280,513	\$157,012,830
2019	65,128.9	74,168,791	1,854,220	253,064	6,326,598	\$9,179,212	\$229,480,290
<b>Total</b>	<b>271,644.7</b>	<b>309,348,973</b>	<b>7,733,724</b>	<b>1,055,499</b>	<b>26,387,467</b>	<b>\$41,176,382</b>	<b>\$1,029,409,560</b>

Table 80. RSIP Project Averages by FY Closed

Fiscal Year Closed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Incentive Amount	Total Average Investment	Average Incentive (\$/W)	Average Installed Cost (\$/W) <sup>104</sup>	Incentive % of Cost	Net Cost to Customer after RSIP Incentive
2012	6.7	26	\$11,811	\$34,304	\$1.75	\$5.12	34%	\$22,493
2013	7.1	28	\$10,745	\$30,885	\$1.51	\$4.35	35%	\$20,140
2014	7.2	28	\$8,417	\$29,664	\$1.17	\$4.12	28%	\$21,247
2015	7.6	30	\$5,190	\$30,020	\$0.68	\$3.95	17%	\$24,830
2016	7.8	30	\$2,770	\$26,754	\$0.35	\$3.43	10%	\$23,984
2017	7.8	30	\$2,597	\$26,130	\$0.33	\$3.35	10%	\$23,533
2018	8.1	32	\$2,448	\$27,945	\$0.30	\$3.45	9%	\$25,497
2019	8.5	33	\$2,280	\$29,750	\$0.27	\$3.50	8%	\$27,470
<b>Total</b>	<b>7.9</b>	<b>31</b>	<b>\$3,765</b>	<b>\$28,598</b>	<b>\$0.48</b>	<b>\$3.62</b>	<b>13%</b>	<b>\$24,833</b>

<sup>103</sup> Includes incentives, interest rate buydowns and loan loss reserves.

<sup>104</sup> Average Installed Cost per Watt figures include reported installed costs without including those projects where financing costs for some third-party ownership installers are included as part of the installed cost. Total Average Investment, Incentive % of Cost and Net Cost to Customer are calculated based on Average Installed Cost.

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Table 81. RSIP Project Application Yield<sup>105</sup> by FY Received

Fiscal Year Received	Applications Received	Applications in Review	Applications Approved	Applications Withdrawn	Applications Denied	Applications Cancelled	Approved Rate	Denied Rate
2012	382		291		39	52	76%	10%
2013	1,279		1,137		17	125	89%	1.3%
2014	2,797		2,516		15	266	90%	0.5%
2015	7,872		6,420		20	1,432	82%	0.3%
2016	8,711		6,744		30	1,937	77%	0.3%
2017	5,309		4,429		35	845	83%	0.7%
2018	6,613		5,166	51	38	1,358	78%	0.6%
2019	9,015	2	7,743	92	12	1,166	86%	0.1%
<b>Total</b>	<b>41,978</b>	<b>2</b>	<b>34,446</b>	<b>143</b>	<b>206</b>	<b>7,181</b>	<b>82%</b>	<b>0.5%</b>

Table 82. RSIP Systems Closed through the Subsidy by Step

RSIP Subsidy by Step	Installed Capacity (kW)	Incentive Amount	Total Investment	Average Incentive (\$/W)	Average Installed Cost (\$/W) <sup>106</sup>	Incentive % of Cost	Net Cost to Customer	Average ZREC
Step 1	1,380.8	\$2,470,307	\$7,222,670	\$1.79	\$5.23	34%	\$4,752,363	\$0.0872
Step 2	5,992.5	\$9,762,682	\$26,992,954	\$1.63	\$4.37	37%	\$17,230,272	\$0.0815
Step 3	13,101.2	\$16,097,888	\$55,880,576	\$1.23	\$4.16	30%	\$39,782,688	\$0.0549
Step 4	19,283.7	\$19,915,987	\$84,856,444	\$1.03	\$4.11	25%	\$64,940,457	\$0.0480
Step 5	13,384.4	\$9,975,006	\$59,708,009	\$0.75	\$4.00	19%	\$49,733,003	\$0.0347
Step 6	12,230.6	\$6,269,850	\$54,160,946	\$0.51	\$3.97	13%	\$47,891,096	\$0.0255
Step 7	19,078.8	\$7,626,380	\$83,043,466	\$0.40	\$3.68	11%	\$75,417,086	\$0.0203
Step 8	27,140.8	\$9,667,962	\$112,003,650	\$0.36	\$3.43	10%	\$102,335,688	\$0.0349
Step 9	26,142.3	\$8,681,888	\$99,169,879	\$0.33	\$3.38	10%	\$90,487,991	\$0.0336
Step 10	30,042.7	\$9,766,729	\$103,561,120	\$0.33	\$3.31	10%	\$93,794,391	\$0.0319
Step 11	18,187.0	\$5,888,619	\$63,861,841	\$0.32	\$3.45	9%	\$57,973,222	\$0.0325
Step 12	16,355.7	\$4,582,033	\$58,108,051	\$0.28	\$3.49	8%	\$53,526,018	\$0.0296
Step 13	19,339.4	\$5,176,484	\$67,394,945	\$0.27	\$3.46	8%	\$62,218,461	\$0.0276
Step 14	49,984.9	\$13,429,119	\$176,918,847	\$0.27	\$3.51	8%	\$163,489,728	\$0.0276
<b>Total</b>	<b>271,644.7</b>	<b>\$129,310,933</b>	<b>\$1,052,883,398</b>	<b>\$0.48</b>	<b>\$3.62</b>	<b>13%</b>	<b>\$923,572,465</b>	<b>\$0.0400</b>

<sup>105</sup> Applications Received are applications for incentives submitted to RSIP for review. Applications in Review are submitted applications yet to be reviewed, approved or rejected. Applications Withdrawn are those that have been withdrawn by the submitter due to the need for corrections. Applications Denied are those that are not approved for an incentive because the project does not meet RSIP requirements. Applications Cancelled include projects that: (1) were rejected due to need for corrections and not resubmitted and successfully approved, (2) expired before the project was installed, or (3) did not move forward (e.g., customer cancellation) and the contractor cancelled the project. The Approved Rate reflects the number of Applications Approved relative to the number of Applications Received.

<sup>106</sup> Average Installed Cost per Watt figures include reported installed costs without including those projects where financing costs for some third-party ownership installers are included as part of the installed cost. Incentive % of Cost is calculated based on Average Installed Cost.

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Table 83. RSIP Third Party Owned (PBI) vs Homeowner-owned Systems (EPBB)

Fiscal Year Closed	# of PBI Projects	% PBI Projects	# of EPBB Projects	% EPBB Projects	Total
2012	58	20%	230	80%	288
2013	346	31%	763	69%	1,109
2014	1,168	49%	1,214	51%	2,382
2015	4,624	72%	1,773	28%	6,397
2016	5,842	86%	965	14%	6,807
2017	3,385	76%	1,084	24%	4,469
2018	3,897	74%	1,342	26%	5,239
2019	6,073	79%	1,584	21%	7,657
<b>Total</b>	<b>25,393</b>	<b>74%</b>	<b>8,955</b>	<b>26%</b>	<b>34,348</b>

There are 25,393 PBI systems (owned by a third party) representing 74% of closed RSIP projects, and 8,955 EPBB or homeowner-owned projects, representing 26% of closed RSIP volume. In FY19, PBI systems were 79% and EPBB projects were 21% of closed RSIP volume.

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**Area Median Income Band Penetration**

For a breakdown of RSIP project volume and investment by census tracts categorized by Area Median Income (AMI) bands – see Table 80. It should be noted that RSIP is not an income targeted program. However, following the UCONN study<sup>107</sup> in December of 2014, the Green Bank Board of Directors approved the Income-Targeted incentive to better penetrate these tracts and to create inclusive prosperity. This special incentive is one of the methods through which the Green Bank has expanded its reach of previously underserved communities.

Table 84 shows that starting in fiscal year 2016, the percent distribution of solar PV projects in the low to moderate income bands, i.e., < 60%, 60-80%, and 80-100% AMI, exceeded the percent distribution of those income bands among owner-occupied 1-4 unit households, and this holds for RSIP overall as illustrated by the totals in Table 84.

**Table 84. RSIP Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>108</sup>**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	6	2%	0.0	2%	\$211,372	2%	61,168	7%	0.1	\$3.46	0.6
2012	60%-80%	7	2%	0.0	2%	\$246,769	2%	101,640	12%	0.1	\$2.43	0.4
2012	80%-100%	31	11%	0.2	10%	\$1,264,888	10%	151,346	17%	0.2	\$8.36	1.3
2012	100%-120%	84	29%	0.5	28%	\$3,812,022	29%	216,988	25%	0.4	\$17.57	2.5
2012	>120%	160	56%	1.1	58%	\$7,768,100	58%	350,196	40%	0.5	\$22.18	3.2
2012	Total	288	100%	1.9	100%	\$13,303,152	100%	881,338	100%	0.3	\$15.09	2.2
2013	<60%	20	2%	0.1	1%	\$569,790	1%	59,494	7%	0.3	\$9.58	1.5
2013	60%-80%	56	5%	0.4	5%	\$2,274,163	5%	109,189	12%	0.5	\$20.83	3.4
2013	80%-100%	124	11%	0.8	10%	\$4,998,846	11%	150,603	17%	0.8	\$33.19	5.3
2013	100%-120%	220	20%	1.5	19%	\$9,004,676	19%	203,157	23%	1.1	\$44.32	7.2
2013	>120%	689	62%	5.2	65%	\$30,494,441	64%	351,633	40%	2.0	\$86.72	14.7
2013	Total	1,109	100%	7.9	100%	\$47,341,916	100%	874,076	100%	1.3	\$54.16	9.0

<sup>107</sup>The memo, titled 7cii\_Role of a Green Bank\_Market Analysis\_Low Income Solar and Housing\_Memo\_121214, can be found amongst board meeting materials here: [https://www.ctgreenbank.com/wp-content/uploads/2017/07/CGB\\_BOD\\_Online-Meeting-Materials\\_121914\\_redacted.pdf](https://www.ctgreenbank.com/wp-content/uploads/2017/07/CGB_BOD_Online-Meeting-Materials_121914_redacted.pdf)

<sup>108</sup> Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2014	<60%	73	3%	0.4	2%	\$2,356,122	3%	57,673	7%	1.3	\$40.85	7.1
2014	60%-80%	159	7%	1.0	6%	\$5,598,447	6%	103,934	12%	1.5	\$53.87	9.5
2014	80%-100%	392	16%	2.6	15%	\$14,598,433	16%	149,038	17%	2.6	\$97.95	17.5
2014	100%-120%	608	26%	4.5	26%	\$24,641,714	26%	209,561	24%	2.9	\$117.59	21.2
2014	>120%	1,150	48%	8.7	51%	\$46,708,145	50%	348,270	40%	3.3	\$134.11	24.9
2014	Total	2,382	100%	17.1	100%	\$93,902,861	100%	868,476	100%	2.7	\$108.12	19.7
2015	<60%	259	4%	1.5	3%	\$7,615,759	3%	64,361	7%	4.0	\$118.33	23.6
2015	60%-80%	592	9%	3.9	8%	\$19,905,324	8%	96,305	11%	6.1	\$206.69	40.9
2015	80%-100%	1,104	17%	8.0	16%	\$41,602,570	17%	164,873	19%	6.7	\$252.33	48.7
2015	100%-120%	1,669	26%	12.7	26%	\$65,723,218	27%	184,613	21%	9.0	\$356.01	68.9
2015	>120%	2,773	43%	22.5	46%	\$113,060,178	46%	352,621	41%	7.9	\$320.63	63.9
2015	Total	6,397	100%	48.7	100%	\$247,907,049	100%	862,773	100%	7.4	\$287.34	56.5
2016	<60%	571	8%	3.6	7%	\$16,030,719	7%	60,769	7%	9.4	\$263.80	59.1
2016	60%-80%	890	13%	6.3	12%	\$27,052,883	11%	99,220	12%	9.0	\$272.66	63.5
2016	80%-100%	1,328	20%	10.2	19%	\$45,571,249	19%	165,331	19%	8.0	\$275.64	61.8
2016	100%-120%	1,646	24%	12.8	24%	\$56,940,615	24%	187,463	22%	8.8	\$303.74	68.1
2016	>120%	2,372	35%	20.5	38%	\$91,483,938	39%	345,311	40%	6.9	\$264.93	59.3
2016	Total	6,807	100%	53.4	100%	\$237,079,405	100%	858,094	100%	7.9	\$276.29	62.2
2017	<60%	569	13%	3.7	11%	\$15,662,488	12%	62,815	7%	9.1	\$249.34	58.5
2017	60%-80%	749	17%	5.2	15%	\$19,890,030	15%	97,136	11%	7.7	\$204.76	53.6
2017	80%-100%	878	20%	6.8	19%	\$25,857,065	20%	155,105	18%	5.7	\$166.71	43.6
2017	100%-120%	922	21%	7.4	21%	\$27,500,463	21%	209,914	24%	4.4	\$131.01	35.3
2017	>120%	1,351	30%	11.7	34%	\$43,598,613	33%	340,374	39%	4.0	\$128.09	34.4
2017	Total	4,469	100%	34.8	100%	\$132,508,659	100%	865,344	100%	5.2	\$153.13	40.2

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2018	<60%	616	12%	4.1	10%	\$16,913,491	10%	62,815	7%	9.8	\$269.26	64.9
2018	60%-80%	792	15%	5.6	13%	\$21,784,757	13%	97,136	11%	8.2	\$224.27	57.8
2018	80%-100%	1,070	20%	8.3	19%	\$31,473,950	19%	155,105	18%	6.9	\$202.92	53.6
2018	100%-120%	1,200	23%	10.4	24%	\$38,750,438	24%	209,914	24%	5.7	\$184.60	49.4
2018	>120%	1,561	30%	14.3	33%	\$54,124,640	33%	340,374	39%	4.6	\$159.02	42.0
2018	Total	5,239	100%	42.7	100%	\$163,047,276	100%	865,344	100%	6.1	\$188.42	49.3
2019	<60%	879	11%	6.0	9%	\$23,726,821	10%	62,815	7%	14.0	\$377.73	95.7
2019	60%-80%	1,201	16%	8.7	13%	\$33,624,523	14%	97,136	11%	12.4	\$346.16	89.5
2019	80%-100%	1,440	19%	11.6	18%	\$43,467,820	18%	155,105	18%	9.3	\$280.25	75.0
2019	100%-120%	1,883	25%	17.1	26%	\$64,425,560	26%	209,914	24%	9.0	\$306.91	81.6
2019	>120%	2,254	29%	21.7	33%	\$81,859,288	33%	340,374	39%	6.6	\$240.50	63.6
2019	Total	7,657	100%	65.1	100%	\$247,104,011	100%	865,344	100%	8.8	\$285.56	75.3
Total	<60%	2,993	9%	19.4	7%	\$83,086,561	7%	62,815	7%	47.6	\$1,322.72	308.9
Total	60%-80%	4,446	13%	31.2	11%	\$130,376,897	11%	97,136	11%	45.8	\$1,342.21	320.7
Total	80%-100%	6,367	19%	48.6	18%	\$208,834,821	18%	155,105	18%	41.0	\$1,346.41	313.1
Total	100%-120%	8,232	24%	66.9	25%	\$290,798,707	25%	209,914	24%	39.2	\$1,385.32	318.6
Total	>120%	12,310	36%	105.6	39%	\$469,097,344	40%	340,374	39%	36.2	\$1,378.18	310.4
Total	Total	34,348	100%	271.6	100%	\$1,182,194,331	100%	865,344	100%	39.7	\$1,366.16	313.9

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Table 85. RSIP Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>109</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	288	244	44	15%	288	244	44	15%	1.9	1.7	0.3	14%
2013	1,109	909	200	18%	1,109	909	200	18%	7.9	6.6	1.3	16%
2014	2,382	1,758	624	26%	2,382	1,758	624	26%	17.1	13.1	4.0	23%
2015	6,397	4,442	1,955	31%	6,397	4,442	1,955	31%	48.7	35.3	13.5	28%
2016	6,807	4,018	2,789	41%	6,807	4,018	2,789	41%	53.4	33.3	20.1	38%
2017	4,469	2,273	2,196	49%	4,469	2,273	2,196	49%	34.8	19.1	15.7	45%
2018	5,239	2,761	2,478	47%	5,239	2,761	2,478	47%	42.7	24.7	18.0	42%
2019	7,657	4,137	3,520	46%	7,657	4,137	3,520	46%	65.1	38.8	26.3	40%
<b>Total</b>	<b>34,348</b>	<b>20,542</b>	<b>13,806</b>	<b>40%</b>	<b>34,348</b>	<b>20,542</b>	<b>13,806</b>	<b>40%</b>	<b>271.6</b>	<b>172.5</b>	<b>99.1</b>	<b>36%</b>

**Distressed Community Penetration**

For a breakdown of RSIP project volume and investment by census tracts categorized by Distressed Communities – see Table 86. It should be noted that RSIP is not an income targeted program.

Table 86. RSIP Activity in Distressed Communities by FY Closed

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	35	12%	0.2	10%	\$1,364,466	10%	447,962	33%	0.1	\$3.05	0.4
2012	No	253	88%	1.7	90%	\$11,938,686	90%	912,222	67%	0.3	\$13.09	1.9
2012	Total	288	100%	1.9	100%	\$13,303,152	100%	1,360,184	100%	0.2	\$9.78	1.4
2013	Yes	116	10%	0.7	9%	\$4,435,276	9%	426,564	31%	0.3	\$10.40	1.7
2013	No	993	90%	7.2	91%	\$42,906,640	91%	929,285	69%	1.1	\$46.17	7.7
2013	Total	1,109	100%	7.9	100%	\$47,341,916	100%	1,355,849	100%	0.8	\$34.92	5.8

<sup>109</sup> Excludes projects in unknown bands.



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Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2014	Yes	379	16%	2.5	15%	\$14,157,852	15%	416,415	31%	0.9	\$34.00	6.0
2014	No	2,003	84%	14.6	85%	\$79,745,010	85%	939,791	69%	2.1	\$84.85	15.6
2014	Total	2,382	100%	17.1	100%	\$93,902,861	100%	1,356,206	100%	1.8	\$69.24	12.6
2015	Yes	1,366	21%	9.3	19%	\$47,701,593	19%	423,559	31%	3.2	\$112.62	22.0
2015	No	5,031	79%	39.4	81%	\$200,205,456	81%	929,024	69%	5.4	\$215.50	42.4
2015	Total	6,397	100%	48.7	100%	\$247,907,049	100%	1,352,583	100%	4.7	\$183.28	36.0
2016	Yes	2,025	30%	14.5	27%	\$64,061,683	27%	438,710	32%	4.6	\$146.02	33.0
2016	No	4,782	70%	38.9	73%	\$173,017,722	73%	916,003	68%	5.2	\$188.88	42.5
2016	Total	6,807	100%	53.4	100%	\$237,079,405	100%	1,354,713	100%	5.0	\$175.00	39.4
2017	Yes	1,627	36%	11.4	33%	\$43,866,327	33%	435,595	32%	3.7	\$100.70	26.1
2017	No	2,842	64%	23.4	67%	\$88,642,332	67%	926,160	68%	3.1	\$95.71	25.3
2017	Total	4,469	100%	34.8	100%	\$132,508,659	100%	1,361,755	100%	3.3	\$97.31	25.5
2018	Yes	1,916	37%	13.9	33%	\$54,347,320	33%	435,595	32%	4.4	\$124.77	31.9
2018	No	3,323	63%	28.8	67%	\$108,699,956	67%	926,160	68%	3.6	\$117.37	31.1
2018	Total	5,239	100%	42.7	100%	\$163,047,276	100%	1,361,755	100%	3.8	\$119.73	31.3
2019	Yes	2,759	36%	20.7	32%	\$80,000,443	32%	435,595	32%	6.3	\$183.66	47.6
2019	No	4,898	64%	44.4	68%	\$167,103,569	68%	926,160	68%	5.3	\$180.43	47.9
2019	Total	7,657	100%	65.1	100%	\$247,104,011	100%	1,361,755	100%	5.6	\$181.46	47.8
Total	Yes	10,223	30%	73.2	27%	\$309,934,960	26%	435,595	32%	23.5	\$711.52	168.1
Total	No	24,125	70%	198.4	73%	\$872,259,370	74%	926,160	68%	26.0	\$941.80	214.2
Total	Total	34,348	100%	271.6	100%	\$1,182,194,331	100%	1,361,755	100%	25.2	\$868.14	199.5

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**Societal Impacts**

RSIP is a driver of job creation and cleaner air in the state of Connecticut. Over the course of its existence, the program has supported the creation of 11,241 job years and \$34,060,313 in tax revenue and avoided the lifetime emission of 4,278,883 tons of carbon dioxide, 4,361,483 pounds of nitrous oxide, 3,600,961 pounds of sulfur oxide, and 371,388 pounds of particulate matter as illustrated by Tables 87 and 89. The value of the lifetime public health impacts of the RSIP is estimated to be between \$129.9 and \$293.2 million as seen in Table 87. Since its inception, the RSIP has generated over \$34 million in tax revenue as shown below in Table 88.

**Table 87. RSIP Job Years Supported by FY Closed**

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	58	93	151
2013	208	331	538
2014	374	596	970
2015	1,073	1,710	2,783
2016	1,168	1,860	3,028
2017	377	493	869
2018	467	611	1,078
2019	790	1,033	1,823
<b>Total</b>	<b>4,515</b>	<b>6,726</b>	<b>11,241</b>

**Table 88. RSIP Tax Revenues Generated by FY Closed**

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	\$400,180	\$119,528	\$0	\$519,708
2013	\$957,938	\$286,122	\$0	\$1,244,060
2014	\$1,997,040	\$596,486	\$0	\$2,593,526
2015	\$5,805,736	\$1,734,088	\$0	\$7,539,825
2016	\$5,900,948	\$1,762,526	\$0	\$7,663,474
2017	\$2,524,270	\$976,497	\$0	\$3,500,767
2018	\$3,136,370	\$1,213,284	\$0	\$4,349,655
2019	\$4,794,555	\$1,854,743	\$0	\$6,649,298
<b>Total</b>	<b>\$25,517,037</b>	<b>\$8,543,275</b>	<b>\$0</b>	<b>\$34,060,313</b>

**Table 89. RSIP Avoided Emissions by FY Closed**

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	1,242	31,046	1,640	40,997	2,119	52,975	111	2,772
2013	5,107	127,680	7,475	186,881	9,469	236,722	451	11,272
2014	10,960	273,998	14,459	361,479	16,059	401,468	978	24,446
2015	31,781	794,532	37,776	944,403	36,658	916,442	2,780	69,488
2016	34,333	858,324	36,764	919,093	29,414	735,354	3,010	75,245
2017	21,594	539,850	19,549	488,715	13,166	329,147	1,863	46,567
2018	26,179	654,467	22,483	562,087	14,709	367,717	2,242	56,048
2019	39,959	998,986	34,313	857,828	22,445	561,136	3,422	85,550
<b>Total</b>	<b>171,155</b>	<b>4,278,883</b>	<b>174,459</b>	<b>4,361,483</b>	<b>144,038</b>	<b>3,600,961</b>	<b>14,856</b>	<b>371,388</b>

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Table 90. RSIP Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	\$42,865	\$96,778	\$1,071,624	\$2,419,440
2013	\$173,086	\$390,781	\$4,327,146	\$9,769,537
2014	\$319,098	\$720,437	\$7,977,444	\$18,010,930
2015	\$892,797	\$2,015,696	\$22,319,922	\$50,392,400
2016	\$1,067,925	\$2,411,088	\$26,698,119	\$60,277,196
2017	\$639,878	\$1,444,672	\$15,996,941	\$36,116,805
2018	\$769,536	\$1,737,407	\$19,238,407	\$43,435,166
2019	\$1,289,223	\$2,910,719	\$32,230,567	\$72,767,980
<b>Total</b>	<b>\$5,194,407</b>	<b>\$11,727,578</b>	<b>\$129,860,169</b>	<b>\$293,189,453</b>

**Marketing**

To provide perspective on program growth, cost and incentive trends, Table 91 illustrates the increase in RSIP project volume, which grew nearly 34-fold from fiscal year 2012 to 2019, while installed costs and incentives decreased during this same time period. The RSIP incentive decreased in fiscal year 2019 to 8% of installed project cost, having decreased 85% from fiscal year 2012 to fiscal year 2019. Installed costs decreased almost 35% from \$5.12/W in fiscal year 2012 to \$3.35/W in fiscal year 2017 then increased by 3% to \$3.45/W in fiscal year 2018, and another 1.4% to \$3.50/W in fiscal year 2019.<sup>110</sup> Despite slight increases in installed costs in the past two fiscal years, project volume and capacity in FY19 were the highest since inception of RSIP in FY12. RSIP volume in FY19 increased nearly 53% compared to FY18. Project approvals for all incentive types – EPBB, PBI and LMI-PBI were strong in FY19, with an especially high volume of PBI projects including contributions from new installers, as well as increased volume across the program. Several factors contributed to high activity in the market including:

- A push to get projects approved before RSIP reached its target of 300 MW - it was not until the end of legislative session that PA 19-35<sup>111</sup> passed (and was later signed by Governor Lamont on June 28, 2019) extending RSIP to 350 MW.
- RSIP incentive levels have been maintained at Step 14 since September 2018, providing market continuity.
- The anticipated end of net metering, which had been scheduled to take place at the end of RSIP, but which was delayed until December 31, 2021 by PA 19-35.
- General policy uncertainty around the structure, incentive levels, timing and implementation aspects for the tariff-based compensation structure put forth in Section 7 of PA 18-50 that was to replace net metering.
- The scheduled step-down in the Federal Investment Tax Credit (ITC) from 30% to 26% starting in 2020, which will be followed by a step down to 22% in 2021, and a final step down to 0% for homeowner-owned projects and 10% for third-party owned projects in 2022.

<sup>110</sup> Contractors indicated that the cost of doing business went up over the past two fiscal years due to increased customer acquisition costs, privatizing of Solarize, increased financing costs, rising commodity prices due to trade tariffs, uncertainty in availability of equipment, increased competition, increased labor and insurance costs, and increased municipal permitting and interconnection costs including more frequent, costly utility requests for infrastructure (e.g., transformer) upgrades. Solar companies had been absorbing costs and reducing margins to keep prices stable, but these costs began adding up and necessitating price increases.

<sup>111</sup> PA 19-35: <https://www.cga.ct.gov/2019/ACT/pa/pdf/2019PA-00035-R00HB-05002-PA.pdf>, “An Act Concerning a Green Economy and Environmental Protection.”

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

Third party owned (TPO) companies deployed 79% of RSIP projects by volume in FY19, led by Sunnova with approximately one-third of RSIP market share, followed by Sunrun (13%), PosiGen (12%), Vivint (11%), and SunPower (10%). The highest volume installers of homeowner-owned projects collectively deployed approximately 21% of RSIP volume in FY19 and included Vivint, SolarCity, Trinity Solar, SunPower, Ross Solar (a ConEd Solutions Company), C-TEC Solar, EcoSmart, Aegis, and Sunlight Solar. Trinity Solar was RSIP's highest volume participant in FY19, having installed nearly 36% of RSIP projects in FY19, 95% using third party financing and 5% homeowner owned.

RSIP is estimated to reach 350 MW in the summer or fall of 2020, after which time only net metering (and the federal ITC) would be available to support the solar PV market through December 31, 2021. Beginning January 1, 2022, production based (per kWh) tariff compensation is anticipated to be offered to solar PV customers, based on the requirements stipulated by Section 7 in PA 18-50, amended by PA 19-35, and as developed and determined by PURA and stakeholders through future docket processes<sup>112</sup>. The strategy for supporting the residential solar PV market going forward will include:

- Implementation of RSIP Step 15 to continue the reduction and eventual phase-out of RSIP incentives
- Sustained orderly development of a stable, resilient market not dependent on incentives
- Supporting a stable installer base including strong local company presence
- Continuing to support access to affordable financing through loans and third-party providers
- Training the market for the long term by supporting consumer education and protection, as well as installation technology diversity (e.g., energy efficiency)
- Continuing to reduce barriers to PV adoption
- Supporting state policies and strategies that enable adoption of solar PV in combination with complementary technologies such as energy storage, electric vehicles, renewable thermal technologies, energy efficiency, demand response, and home energy management systems to increase the value of solar to the grid and to customers.
- Supporting the FY19 DEEP/PURA study of the value of distributed energy resources.

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<sup>112</sup> Green Bank participated in multiple dockets in FY19 to provide input into the development of the Section 7 tariff compensation structure put forth in PA 18-50.

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Table 91. RSIP Volume, Capacity and Cost Data by FY Closed and Solarize Participation<sup>113</sup>

Fiscal Year Closed	CGB Solarize Type	# Projects	Installed Capacity (kW)	Green Bank Incentive Amount	Total Investment	Average Incentive (\$/W) <sup>114</sup>	Average Installed Cost (\$/W) <sup>115</sup>	Incentive % of Cost	Net Cost to Customer
2012	No	1,940	288	\$3,401,642	\$9,901,511	\$1.75	\$5.12	34%	\$6,499,869
2012 Total		1,940	288	\$3,401,642	\$9,901,511	\$1.75	\$5.12	34%	\$6,499,869
2013	No	5,466	785	\$8,399,366	\$26,127,846	\$1.51	\$4.35	35%	\$17,728,480
	Yes	2,424	324	\$3,516,508	\$9,298,197	\$1.51	\$4.35	35%	\$5,781,689
2013 Total		7,890	1,109	\$11,915,874	\$35,426,043	\$1.51	\$4.35	35%	\$23,510,169
2014	No	12,103	1,674	\$14,257,364	\$54,757,574	\$1.17	\$4.12	28%	\$40,500,209
	Yes	5,022	708	\$5,791,844	\$19,096,079	\$1.17	\$4.12	28%	\$13,304,235
2014 Total		17,125	2,382	\$20,049,208	\$73,853,653	\$1.17	\$4.12	28%	\$53,804,445
2015	No	41,231	5,497	\$27,611,553	\$185,448,437	\$0.68	\$3.95	17%	\$157,836,884
	Yes	7,516	900	\$5,590,278	\$29,256,782	\$0.68	\$3.95	17%	\$23,666,505
2015 Total		48,747	6,397	\$33,201,830	\$214,705,219	\$0.68	\$3.95	17%	\$181,503,389
2016	No	52,529	6,712	\$18,501,605	\$215,024,602	\$0.35	\$3.43	10%	\$196,522,997
	Yes	834	95	\$351,514	\$3,201,684	\$0.35	\$3.43	10%	\$2,850,170
2016 Total		53,364	6,807	\$18,853,119	\$218,226,286	\$0.35	\$3.43	10%	\$199,373,167
2017	No	34,415	4,426	\$11,454,746	\$119,618,416	\$0.33	\$3.35	10%	\$108,163,670
	Yes	368	43	\$149,396	\$1,286,101	\$0.33	\$3.35	10%	\$1,136,705
2017 Total		34,783	4,469	\$11,604,142	\$120,904,517	\$0.33	\$3.35	10%	\$109,300,375
2018	No	42,616	5,232	\$12,805,322	\$150,043,282	\$0.30	\$3.45	9%	\$137,237,960
	Yes	51	7	\$19,773	\$178,900	\$0.30	\$3.45	9%	\$159,127
2018 Total		42,666	5,239	\$12,825,094	\$150,222,182	\$0.30	\$3.45	9%	\$137,397,088
2019	No	65,129	7,657	\$17,460,024	\$229,643,988	\$0.27	\$3.50	8%	\$212,183,964
2019 Total		65,129	7,657	\$17,460,024	\$229,643,988	\$0.27	\$3.50	8%	\$212,183,964
<b>Total</b>	<b>No</b>	<b>255,428</b>	<b>32,271</b>	<b>\$113,891,621</b>	<b>\$990,565,655</b>	<b>\$0.48</b>	<b>\$3.62</b>	<b>13%</b>	<b>\$876,674,034</b>
<b>Total</b>	<b>Yes</b>	<b>16,216</b>	<b>2,077</b>	<b>\$15,419,312</b>	<b>\$62,317,743</b>	<b>\$0.48</b>	<b>\$3.62</b>	<b>13%</b>	<b>\$46,898,431</b>
<b>Grand Total</b>		<b>271,645</b>	<b>34,348</b>	<b>\$129,310,933</b>	<b>\$1,052,883,398</b>	<b>\$0.48</b>	<b>\$3.62</b>	<b>13%</b>	<b>\$923,572,465</b>

**SHREC Program**

Legislation enacted by the General Assembly enables the Connecticut Green Bank to recover the costs of the RSIP by aggregating and monetizing the Solar Home Renewable Energy Credits (SHRECs) earned for solar energy generated by systems whose owners received RSIP incentives.<sup>116</sup> The SHRECs are sold through long-term contracts to the state’s two investor-owned utilities, as mandated by the law. Through the SHREC Master Purchase Agreement, the Green Bank has thus far sold its Tranche 1, Tranche 2, and Tranche 3 SHRECs to the utilities – for a total of over 146 MW of residential

<sup>113</sup> Public supported Solarize ended in 2015. Projects are attributed to years based on the year their application was approved. Solarize projects assigned to years later than 2017 are the result of solarize efforts supported by the green bank in 2015 or before. We will have private supported Solarize in FY 2019 CAFR looking back at 2016-2019.

<sup>114</sup> Average Incentive, Average Installed Cost, and Incentive % of Cost represent the averages by fiscal year and are not differentiated for Solarize versus non-Solarize.

<sup>115</sup> Average Installed Cost per Watt figures include reported installed costs without including those projects where financing costs for some third-party ownership installers are included as part of the installed cost. Incentive % of Cost is calculated based on Average Installed Cost.

<sup>116</sup> RSIP projects with an incentive approved on or after January 1, 2015 can provide SHRECs. Approximately 56 MW of RSIP projects approved prior to 2015 can provide non-SHREC RECs.

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solar PV projects supported through the RSIP. Tranches 1 and 2, totaling over 107 MW, were included in the Green Bank's first securitization of SHREC revenues, closing in March 2019, for \$38.6 million.

#### Market Transformation

The Connecticut Green Bank contracted with Cadmus Group, Inc., to conduct a cost-effectiveness analysis of its Residential Solar Investment Program (RSIP), completed in March 2016. The findings of the study were: (1) RSIP is cost-effective from the perspective of program participants, the Connecticut Green Bank, from a total resource perspective, and for society as a whole. (2) RSIP has increasingly made efficient use of program funds by reducing incentives while supporting market growth through financing, marketing, outreach and education. (3) RSIP benefits sufficiently outweigh costs to allow for bundling of residential solar PV with emerging technologies such as energy storage, while maintaining cost-effectiveness. The study included data from RSIP steps 1 through 7, for which cost-effectiveness was found to increase with progressive steps as incentives were reduced. Cadmus noted that incentives represented the large majority of program costs. Therefore, the general pattern of increasing cost-effectiveness would be expected to continue as incentives were reduced further through steps 7-14.

In FY19, the Green Bank contracted with Navigant Consulting, Inc., to conduct cost-effectiveness analysis for Green Bank's application submission to PURA's Electric Efficiency Partners Program (EEPP)<sup>117</sup> in December 2018, proposing an incentive program for residential battery storage installed with solar PV. The program was originally designed so that a customer would be required to charge the battery with solar PV during the day and discharge the battery to meet on-site load during ISO New England summer peak hours using a "Set it and Forget it" strategy.<sup>118</sup> The Navigant analysis showed that battery storage utilized in this way provides peak reduction benefits to the grid as well as being available to the customer for backup power during outage events. The total benefit/cost ratios<sup>119</sup> calculated for battery storage within the proposed program are shown in Table 92 to be over 2:1 assuming a total program capacity of 30 MW deployed over 5 years. While the application was not approved (and is on indefinite hold) as policy priorities are further examined by stakeholders involved in the PURA docket process, the results show that residential battery storage provides peak demand reduction value to the grid, in addition to being attractive to customers with resiliency concerns.

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<sup>117</sup> <https://www.ct.gov/pura/cwp/view.asp?a=3355&q=417158>

<sup>118</sup> The summer peak demand period used for peak reduction values is the ISO-NE peak, which is June through August, weekdays from 1pm to 5pm. In the "Set it and Forget it" strategy, the battery is programmed in advance to charge from solar PV during the day and discharge to meet on-site load during the ISO New England peak hours. This differs from an active dispatch strategy which typically produces greater benefit (see the next table for further insight into the difference).

<sup>119</sup> The analysis relied primarily on the benefits outlined in the *Avoided Energy Supply Components in New England: 2018 Report*. Oct. 24, 2018, prepared by Synapse Energy Economics, et al., available at: <http://www.synapse-energy.com/project/avoided-energy-supply-costs-new-england>. During the PURA docket process, the Green Bank learned that some regional benefit categories and benefit levels are still being reviewed by DEEP and the CT utilities to determine whether they will be fully adopted by CT for application to the Conservation and Load Management Plan; these include Pooled Transmission Facilities (PTF) and Rest of Pool DRIPE.

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Table 92. Benefit/Cost Ratios for Battery Storage as calculated for the EEPP<sup>120</sup>

ES Capacity Block	Utility Cost Test (UCT) Ratio (5.5% Discount Rate)	Utility Cost Test (UCT) Ratio (3.0% Discount Rate)
5 MW	1.96	2.42
10 MW	2.32	2.85
15 MW	2.70	3.32
20 MW	3.06	3.74
25 MW	3.40	4.12
30 MW	3.77	4.55
<b>Program Total</b>	<b>2.75</b>	<b>3.38</b>

Through FY19 there were an estimated 175 battery storage systems deployed with solar PV for which the solar PV was incentivized through RSIP, but no incentive was provided for the battery storage. The projects were purchased by customers primarily for the purpose of backup power. The Green Bank team also proposed deploying a battery storage incentive within RSIP in addition to the incentive for solar PV. While the Green Bank was not able to implement a state-wide battery storage incentive in FY19 and there is only a short runway left in RSIP (approximately one year left in the program), further analysis by Navigant illustrates the benefit/cost ratios of deploying solar PV plus battery storage should a future incentive program support this technology combination.

Table 93 shows the anticipated benefit/cost ratios of deploying solar PV plus battery storage, including the benefits and costs for both technologies (Table 92 results represented battery storage benefits and costs only). Table BS2 assumes an incentive for battery storage similar to what had been proposed for the EEPP, an anticipated RSIP Step 15<sup>121</sup> incentive for solar PV about 20% lower than the current RSIP Step 14 incentive level, 4 MW of battery storage deployment in one year, and shows scenarios for “Set it and Forget it” vs “Utility Dispatch”<sup>122</sup>, as well as scenarios assuming the same C&LM benefit categories as in Table 92 versus benefits that exclude regional benefits.<sup>123</sup>

<sup>120</sup> The UCT ratios were calculated by installed energy storage capacity block, proposed with incentives that decreased over each block (similar to the RSIP structure), modeled using discount rates of 5.5% and 3.0%, the latter based on the CT 2019-2021 C&LM Plan discount rate scheduled to go into effect March 1, 2019.

<sup>121</sup> Anticipated to begin January 1, 2020.

<sup>122</sup> The “Utility Dispatch” scenario assumes that the utility will anticipate peak hours or events (e.g., one day ahead) and will dispatch the battery to meet on-site load. For example, this scenario could apply if a customer agrees to participate in a utility demand response program for battery storage in exchange for a performance-based incentive.

<sup>123</sup> The regional benefits include Pooled Transmission Facilities (PTF) and Rest of Pool DRIPE.

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Table 93. Benefit/Cost Ratios for Solar PV plus Battery Storage deployed within RSIP<sup>124</sup>

	Solar PV			Battery Storage			Solar PV + Battery Storage		
	UCT	PCT	RIM	UCT	PCT	RIM	UCT	PCT	RIM
<b>Set it and Forget it</b>									
C&LM benefits	19.61	4.55	0.96	1.84	0.61	2.01	7.41	1.97	1.00
C&LM benefits less PTF, ROP DRIPE	11.02	4.55	0.54	0.61	0.61	0.66	3.87	1.97	0.52
<b>Utility Dispatch</b>									
C&LM benefits	n/a	n/a	n/a	2.83	0.61	3.10	7.59	1.97	1.03
C&LM benefits less PTF, ROP DRIPE	n/a	n/a	n/a	0.94	0.61	1.03	3.90	1.97	0.53

Take-aways from Table 93 include:

- The UCT for solar PV is higher than for battery storage alone, so it makes sense to combine battery storage with solar PV. Even with a “set it and forget it” strategy and exclusion of regional benefits, the UCT ratio for PV plus storage is 3.87.
- Battery storage helps to socialize the benefit of PV among non-participants as evidenced by high or increased RIM scores with battery storage alone or with PV plus battery storage combined.
- Utility dispatch provides higher benefit/cost ratios than a “set it and forget it” strategy.

In summary, cost-effectiveness analyses show that deploying solar PV or solar PV plus battery storage provides benefits to the grid. Battery storage also provides resiliency benefits to customers and supports higher levels of solar PV deployment by better integrating solar PV with the grid.

<sup>124</sup> The UCT ratios were calculated by installed energy storage capacity block, proposed with incentives that decreased over each block (similar to the RSIP structure), modeled using discount rates of 5.5% and 3.0%, the latter based on the CT 2019-2021 C&LM Plan discount rate scheduled to go into effect March 1, 2019.



## Case 4 – Smart-E Loan

### Description

The Smart-E residential loan program is a financing program developed in partnership with Energize CT and local lenders that uses a credit enhancement (i.e., \$2,600,000 loan loss reserve).<sup>125</sup> to stimulate the market for residential energy efficiency and solar loans in Connecticut. Through the product, the Connecticut Green Bank lowers the cost of capital for Connecticut residential customers seeking to install solar PV, high efficiency heating and cooling equipment, insulation or other home energy upgrades and reduces the loan performance risks to lenders. The \$2.6 million loan loss reserve is used to encourage lenders to offer below market interest rates and longer terms for unsecured loans, mitigates their losses, and encourages customers to undertake measures that would prove uneconomical at higher interest rates. In Fiscal year 2019, Inclusive Prosperity Capital (IPC) began managing the day to day operations of the Smart-E Loan program. With support from the Hewlett Foundation, and in partnership with Michigan Saves, IPC developed a new online platform for contractors and lenders. In doing so, IPC plans to solicit other Green Banks and similar organizations around the country, to use the new platform to bring overall costs down for all programs.

The Smart-E Loan was designed to make it easy and affordable for homeowners to make energy efficiency and clean energy improvements to their homes with no out-of-pocket cash and at interest rates low enough and repayment terms long enough to make the improvements “cash flow positive.” At the same time, the Green Bank was intentional in opening conversations with local lenders to demonstrate the value of loans that would help their existing customers with burdensome energy costs and serve as an effective marketing tool to attract new relationships. In return for a “second loss” reserve which would be available beyond an agreed “normal” level of loan losses, lenders agreed to lengthen their terms and lower their rates. The end result is a successful loan product that has enabled thousands of homeowners throughout the state to lower energy costs and make their homes more comfortable in the summer heat or the depths of winter.

The financial structure of the Smart-E Loan product includes origination,<sup>126</sup> servicing,<sup>127</sup> and financing features in combination with the support of the Connecticut Green Bank.

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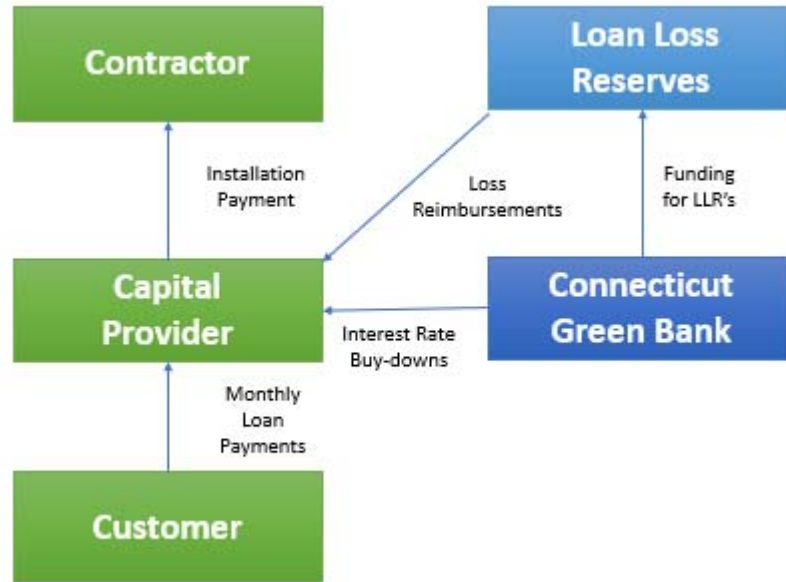
<sup>125</sup> During FY2017, the Green Bank, in an effort to optimize its resources, now holds the Loan Loss Reserve on its balance sheet.

<sup>126</sup> Network of participating community banks and credit unions with local contractors.

<sup>127</sup> Network of participating community banks and credit unions.

**CONNECTICUT GREEN BANK  
5. PROGRAMS – SMART-E LOAN**

Figure 10. Legal Structure and Flows of Capital for the Smart-E Loan



**Key Performance Indicators**

The Key Performance Indicators for Smart-E closed activity are reflected in Tables 94 through 97. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

Table 94. Smart-E Loan Project Types and Investment by FY Closed

Fiscal Year Closed	EE	RE	RE/E E	Other	# Projects	Amount Financed	Total Investment	Green Bank Investment <sup>128</sup>	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-	-	-
2013	1	2		1	4	\$77,400	\$93,924	\$1,584	\$92,340	59.3
2014	91	39	6	7	143	\$1,781,207	\$2,502,863	\$45,524	\$2,457,338	55.0
2015	121	80	69	12	282	\$5,379,409	\$8,407,065	\$446,300	\$7,960,764	18.8
2016	105	49	66	6	226	\$4,607,678	\$6,196,398	\$374,392	\$5,822,005	16.6
2017	376	72	79	12	539	\$8,859,337	\$11,100,364	\$1,088,383	\$10,011,981	10.2
2018	1,336	261	146	29	1,772	\$27,815,431	\$34,575,866	\$4,269,446	\$30,306,421	8.1
2019	712	95	8	23	838	\$10,824,555	\$11,408,338	\$0 <sup>129</sup>	\$11,408,338	100
<b>Total</b>	<b>2,742</b>	<b>598</b>	<b>374</b>	<b>90</b>	<b>3,804</b>	<b>\$59,345,016</b>	<b>\$74,284,817</b>	<b>\$6,225,629</b>	<b>\$68,059,188</b>	<b>11.9</b>

<sup>128</sup> Includes incentives and interest rate buydowns. It does not include the loan loss reserves for Smart-E of \$1,313,714

<sup>129</sup> As there were no IRB's in FY2019, there was no Green Bank capital investment in this program outside operating and administrative expenses

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

Table 95. Smart-E Loan Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	--		-	-	-	-	-
2013	16.8	24,460	541	73	1,728	\$2,835	\$68,685
2014	350.4	897,678	16,127	2,871	63,841	\$94,043	\$2,143,693
2015	1,333.5	2,487,678	53,689	7,333	172,270	\$281,535	\$6,601,652
2016	942.7	1,996,771	41,238	5,980	140,076	\$217,558	\$5,055,446
2017	1,340.1	4,051,633	72,773	12,537	283,375	\$419,506	\$9,384,450
2018	3,877.2	11,584,325	203,270	35,320	780,275	\$1,257,404	\$27,629,405
2019	896.0	3,839,884	59,268	12,153	258,769	\$401,004	\$8,503,435
<b>Total</b>	<b>8,756.7</b>	<b>24,882,429</b>	<b>446,906</b>	<b>76,267</b>	<b>1,700,334</b>	<b>\$2,673,884</b>	<b>\$59,386,766</b>

Table 96. Smart-E Loan Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Number of Measures	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate	Average DTI	Average FICO Score
2012	-	-	-	-	-	-	-	-	-
2013	\$23,481	\$19,350	4.2	1	18	105	5.62	54	733
2014	\$17,503	\$12,456	2.5	1	20	90	5.21	32	751
2015	\$29,812	\$19,076	4.7	2	26	100	4.18	30	754
2016	\$27,418	\$20,388	4.2	2	26	100	4.11	32	756
2017	\$20,594	\$16,437	2.5	2	23	102	2.72	98	747
2018	\$19,512	\$15,697	2.2	2	20	102	2.01	16	731
2019	\$13,614	\$12,917	1.1	1	15	89	4.79	16	730
<b>Total</b>	<b>\$19,528</b>	<b>\$15,601</b>	<b>2.3</b>	<b>2</b>	<b>20</b>	<b>99</b>	<b>3.13</b>	<b>30</b>	<b>737</b>

**CONNECTICUT GREEN BANK**  
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Table 97. Smart-E Loan Project Application Yield<sup>130</sup> by FY Received

Fiscal Year Received	Applications Received	Applications in Review	Applications Approved	Applications Withdrawn	Applications Denied	Approved Rate	Denied Rate
2012	1	0	1	0	0	100%	0%
2013	23	0	17	1	5	78%	22%
2014	303	0	176	45	82	73%	27%
2015	553	0	308	100	145	74%	26%
2016	414	0	219	64	131	68%	32%
2017	1,128	0	680	200	248	78%	22%
2018	2,909	2	1,701	545	661	77%	23%
2019	1,759	47	962	215	535	69%	31%
<b>Total</b>	<b>7,090</b>	<b>49</b>	<b>4,064</b>	<b>1,170</b>	<b>1,807</b>	<b>74%</b>	<b>26%</b>

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<sup>130</sup> Applications received are applications submitted by the homeowner to a participating lending institution for credit approval. Applications in review are submitted applications yet to be reviewed, approved or rejected. Applications withdrawn are applications that have been cancelled by the submitter due to the project not moving forward. Applications denied are applications that are not approved because the customer does not meet underwriting requirements.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

**Area Median Income Band Penetration**

For a breakdown of Smart-E loan volume and investment by census tracts categorized by Area Median Income (AMI) bands – see Table 98. It should be noted that Smart-E is not an income targeted program and only in the second half of FY17 began offering the expanded credit-challenged version of the program, opening new opportunities to partner with mission-oriented lenders focused on reaching consumers in underserved lower income markets.

**Table 98. Smart-E Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>131</sup>**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	\$0	0%	61,168	7%	0.0	\$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	\$0	0%	101,640	12%	0.0	\$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	\$0	0%	151,346	17%	0.0	\$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	\$0	0%	216,988	25%	0.0	\$0.00	0.0
2012	>120%	0	0%	0.0	0%	\$0	0%	350,196	40%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	881,338	100%	0.0	\$0.00	0.0
2013	<60%	0	0%	0.0	0%	\$0	0%	59,494	7%	0.0	\$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	\$0	0%	109,189	12%	0.0	\$0.00	0.0
2013	80%-100%	1	25%	0.0	0%	\$8,598	9%	150,603	17%	0.0	\$0.06	0.0
2013	100%-120%	2	50%	0.0	36%	\$56,389	60%	203,157	23%	0.0	\$0.28	0.0
2013	>120%	1	25%	0.0	64%	\$28,937	31%	351,633	40%	0.0	\$0.08	0.0
2013	Total	4	100%	0.0	100%	\$93,924	100%	874,076	100%	0.0	\$0.11	0.0
2014	<60%	13	9%	0.0	5%	\$161,627	6%	57,673	7%	0.2	\$2.80	0.3
2014	60%-80%	16	11%	0.0	6%	\$215,540	9%	103,934	12%	0.2	\$2.07	0.2
2014	80%-100%	32	22%	0.1	25%	\$583,540	23%	149,038	17%	0.2	\$3.92	0.6
2014	100%-120%	26	18%	0.1	16%	\$500,557	20%	209,561	24%	0.1	\$2.39	0.3
2014	>120%	56	39%	0.2	48%	\$1,041,598	42%	348,270	40%	0.2	\$2.99	0.5
2014	Total	143	100%	0.4	100%	\$2,502,863	100%	868,476	100%	0.2	\$2.88	0.4

<sup>131</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2015	<60%	12	4%	0.0	0%	\$128,175	2%	64,361	7%	0.2	\$1.99	0.0
2015	60%-80%	24	9%	0.0	3%	\$366,239	4%	96,305	11%	0.2	\$3.80	0.4
2015	80%-100%	56	20%	0.2	13%	\$1,942,737	23%	164,873	19%	0.3	\$11.78	1.0
2015	100%-120%	58	21%	0.4	26%	\$1,798,663	21%	184,613	21%	0.3	\$9.74	1.9
2015	>120%	132	47%	0.8	58%	\$4,171,250	50%	352,621	41%	0.4	\$11.83	2.2
2015	Total	282	100%	1.3	100%	\$8,407,065	100%	862,773	100%	0.3	\$9.74	1.5
2016	<60%	14	6%	0.0	1%	\$187,938	3%	60,769	7%	0.2	\$3.09	0.1
2016	60%-80%	22	10%	0.0	1%	\$306,482	5%	99,220	12%	0.2	\$3.09	0.1
2016	80%-100%	39	17%	0.1	15%	\$1,011,089	16%	165,331	19%	0.2	\$6.12	0.8
2016	100%-120%	49	22%	0.2	23%	\$1,370,954	22%	187,463	22%	0.3	\$7.31	1.2
2016	>120%	102	45%	0.6	60%	\$3,319,934	54%	345,311	40%	0.3	\$9.61	1.6
2016	Total	226	100%	0.9	100%	\$6,196,398	100%	858,094	100%	0.3	\$7.22	1.1
2017	<60%	35	6%	0.1	6%	\$652,231	6%	62,815	7%	0.6	\$10.38	1.3
2017	60%-80%	59	11%	0.1	5%	\$900,534	8%	97,136	11%	0.6	\$9.27	0.8
2017	80%-100%	86	16%	0.2	18%	\$1,678,069	15%	155,105	18%	0.6	\$10.82	1.5
2017	100%-120%	133	25%	0.3	25%	\$2,762,731	25%	209,914	24%	0.6	\$13.16	1.6
2017	>120%	226	42%	0.6	46%	\$5,106,798	46%	340,374	39%	0.7	\$15.00	1.8
2017	Total	539	100%	1.3	100%	\$11,100,364	100%	865,344	100%	0.6	\$12.83	1.5
2018	<60%	119	7%	0.1	2%	\$1,746,857	5%	62,815	7%	1.9	\$27.81	1.2
2018	60%-80%	188	11%	0.2	6%	\$2,904,428	8%	97,136	11%	1.9	\$29.90	2.4
2018	80%-100%	294	17%	0.5	12%	\$5,191,695	15%	155,105	18%	1.9	\$33.47	3.0
2018	100%-120%	431	24%	1.1	27%	\$8,361,682	24%	209,914	24%	2.1	\$39.83	5.0
2018	>120%	737	42%	2.0	53%	\$16,209,283	47%	340,374	39%	2.2	\$47.62	5.9
2018	Total	1,769	100%	3.8	100%	\$34,413,945	100%	865,344	100%	2.0	\$39.77	4.4

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**5. PROGRAMS – SMART-E LOAN**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2019	<60%	61	7%	0.0	3%	\$818,634	7%	62,815	7%	1.0	\$13.03	0.5
2019	60%-80%	97	12%	0.0	4%	\$1,052,459	9%	97,136	11%	1.0	\$10.83	0.3
2019	80%-100%	153	18%	0.1	10%	\$1,815,229	16%	155,105	18%	1.0	\$11.70	0.6
2019	100%-120%	207	25%	0.2	25%	\$2,740,605	24%	209,914	24%	1.0	\$13.06	1.1
2019	>120%	319	38%	0.5	59%	\$4,959,438	44%	340,374	39%	0.9	\$14.57	1.5
2019	Total	837	100%	0.9	100%	\$11,386,366	100%	865,344	100%	1.0	\$13.16	1.0

Total	<60%	254	7%	0.2	2%	\$3,695,463	5%	62,815	7%	4.0	\$58.83	3.3
Total	60%-80%	406	11%	0.4	5%	\$5,745,683	8%	97,136	11%	4.2	\$59.15	4.1
Total	80%-100%	661	17%	1.2	14%	\$12,230,957	17%	155,105	18%	4.3	\$78.86	7.6
Total	100%-120%	906	24%	2.2	26%	\$17,591,582	24%	209,914	24%	4.3	\$83.80	10.7
Total	>120%	1,573	41%	4.7	54%	\$34,837,239	47%	340,374	39%	4.6	\$102.35	13.8
Total	Total	3,800	100%	8.7	100%	\$74,100,923	100%	865,344	100%	4.4	\$85.63	10.1

Table 99. Smart-E Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>132</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2013	4	3	1	25%	0.0	0.0	0.0	0%	\$93,924	\$85,326	\$8,598	9%
2014	143	82	61	43%	0.4	0.2	0.1	36%	\$2,502,863	\$1,542,156	\$960,707	38%
2015	282	190	92	33%	1.3	1.1	0.2	16%	\$8,407,065	\$5,969,912	\$2,437,152	29%
2016	226	151	75	33%	0.9	0.8	0.2	16%	\$6,196,398	\$4,690,888	\$1,505,510	24%
2017	539	359	180	33%	1.3	0.9	0.4	29%	\$11,100,364	\$7,869,530	\$3,230,834	29%
2018	1,769	1,168	601	34%	3.8	3.1	0.8	20%	\$34,413,945	\$24,570,965	\$9,842,980	29%
2019	837	526	311	37%	0.9	0.7	0.1	16%	\$11,386,366	\$7,700,044	\$3,686,322	32%
<b>Total</b>	<b>3,800</b>	<b>2,479</b>	<b>1,321</b>	<b>35%</b>	<b>8.7</b>	<b>6.9</b>	<b>1.8</b>	<b>21%</b>	<b>\$74,100,923</b>	<b>\$52,428,821</b>	<b>\$21,672,103</b>	<b>29%</b>

<sup>132</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

**Distressed Community Penetration**

For a breakdown of Smart-E project volume and investment by census tracts categorized by Distressed Communities – see Table 100. It should be noted that Smart-E is not an income targeted program.

**Table 100. Smart-E Loan Activity in Distressed Communities by FY Closed**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	\$0	0%	447,962	33%	0.0	\$0.00	0.0
2012	No	0	0%	0.0	0%	\$0	0%	912,222	67%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	1,360,184	100%	0.0	\$0.00	0.0
2013	Yes	2	50%	0.0	36%	\$56,389	60%	426,564	31%	0.0	\$0.13	0.0
2013	No	2	50%	0.0	64%	\$37,535	40%	929,285	69%	0.0	\$0.04	0.0
2013	Total	4	100%	0.0	100%	\$93,924	100%	1,355,849	100%	0.0	\$0.07	0.0
2014	Yes	22	15%	0.1	22%	\$457,902	18%	416,415	31%	0.1	\$1.10	0.2
2014	No	121	85%	0.3	78%	\$2,044,960	82%	939,791	69%	0.1	\$2.18	0.3
2014	Total	143	100%	0.4	100%	\$2,502,863	100%	1,356,206	100%	0.1	\$1.85	0.3
2015	Yes	35	12%	0.1	7%	\$681,149	8%	423,559	31%	0.1	\$1.61	0.2
2015	No	247	88%	1.2	93%	\$7,725,915	92%	929,024	69%	0.3	\$8.32	1.3
2015	Total	282	100%	1.3	100%	\$8,407,065	100%	1,352,583	100%	0.2	\$6.22	1.0
2016	Yes	67	30%	0.1	13%	\$1,372,345	22%	438,710	32%	0.2	\$3.13	0.3
2016	No	159	70%	0.8	87%	\$4,824,053	78%	916,003	68%	0.2	\$5.27	0.9
2016	Total	226	100%	0.9	100%	\$6,196,398	100%	1,354,713	100%	0.2	\$4.57	0.7
2017	Yes	121	22%	0.3	19%	\$1,990,665	18%	435,595	32%	0.3	\$4.57	0.6
2017	No	418	78%	1.1	81%	\$9,109,699	82%	926,160	68%	0.5	\$9.84	1.2
2017	Total	539	100%	1.3	100%	\$11,100,364	100%	1,361,755	100%	0.4	\$8.15	1.0



**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2017	Yes	121	22%	0.3	19%	\$1,990,665	18%	435,595	32%	0.3	\$4.57	0.6
2017	No	418	78%	1.1	81%	\$9,109,699	82%	926,160	68%	0.5	\$9.84	1.2
2017	Total	539	100%	1.3	100%	\$11,100,364	100%	1,361,755	100%	0.4	\$8.15	1.0
2018	Yes	375	21%	0.4	12%	\$5,767,017	17%	435,595	32%	0.9	\$13.24	1.0
2018	No	1,395	79%	3.4	88%	\$28,732,664	83%	926,160	68%	1.5	\$31.02	3.7
2018	Total	1,770	100%	3.9	100%	\$34,499,680	100%	1,361,755	100%	1.3	\$25.33	2.8
2019	Yes	187	22%	0.1	11%	\$2,225,349	20%	435,595	32%	0.4	\$5.11	0.2
2019	No	651	78%	0.8	89%	\$9,182,990	80%	926,160	68%	0.7	\$9.92	0.9
2019	Total	838	100%	0.9	100%	\$11,408,338	100%	1,361,755	100%	0.6	\$8.38	0.7
Total	Yes	809	21%	1.1	13%	\$12,550,816	17%	435,595	32%	1.9	\$28.81	2.5
Total	No	2,993	79%	7.7	87%	\$61,657,815	83%	926,160	68%	3.2	\$66.57	8.3
Total	Total	3,802	100%	8.7	100%	\$74,208,631	100%	1,361,755	100%	2.8	\$54.49	6.4

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

**Societal Impacts**

Ratepayers in Connecticut enjoy the societal benefits of the Smart-E Loan. Over the course of its existence, the program has supported the creation of 944 job years, avoided the lifetime emission of 242,617 tons of carbon dioxide, 219,921 pounds of nitrous oxide, 164,747 pounds of sulfur oxide, and 20,281 pounds of particulate matter as illustrated by Tables 101 and 103. The value of the public health impacts of the Smart-E programs estimated to be between \$8.1 and \$18.5 million as seen in table 104. Since Inception, Smart-E has generated over \$4 million in tax revenues as shown in Table 102.

**Table 101. Smart-E Loan Job Years Supported by FY Closed**

<b>Fiscal Year</b>	<b>Direct Jobs</b>	<b>Indirect and Induced Jobs</b>	<b>Total Jobs</b>
2012	-	-	-
2013	1	1	2
2014	22	35	58
2015	63	100	162
2016	48	76	124
2017	51	68	119
2018	150	195	345
2019	58	76	134
<b>Total</b>	<b>392</b>	<b>552</b>	<b>944</b>

**Table 102. Smart-E Loan Tax Revenues Generated by FY Closed**

<b>Fiscal Year</b>	<b>Individual Income Tax Revenue Generated</b>	<b>Corporate Tax Revenue Generated</b>	<b>Sales Tax Revenue Generated</b>	<b>Total Tax Revenue Generated</b>
2012	\$0	\$0	\$0	\$0
2013	\$2,242	\$518	\$258	\$3,018
2014	\$105,077	\$30,978	\$30,604	\$166,659
2015	\$289,329	\$76,474	\$60,731	\$426,534
2016	\$217,486	\$63,568	\$46,876	\$327,931
2017	\$249,392	\$146,983	\$155,099	\$551,473
2018	\$768,088	\$473,220	\$539,842	\$1,781,150
2019	\$303,125	\$212,433	\$257,520	\$773,078
<b>Total</b>	<b>\$1,934,740</b>	<b>\$1,004,173</b>	<b>\$1,090,931</b>	<b>\$4,029,844</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

Table 103. Smart-E Loan Avoided Emissions by FY Closed

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	14	306	17	371	18	376	1	27
2014	493	8,955	589	10,675	617	10,869	42	767
2015	1,408	30,565	1,671	36,179	1,662	35,406	121	2,644
2016	1,098	23,228	1,163	25,004	978	21,059	93	1,991
2017	2,166	39,190	1,800	33,356	1,200	22,258	177	3,259
2018	6,172	108,764	4,938	89,050	3,229	58,241	504	9,015
2019	2,042	31,609	1,599	25,286	1,046	16,537	164	2,579
<b>Total</b>	<b>13,392</b>	<b>242,617</b>	<b>11,777</b>	<b>219,921</b>	<b>8,749</b>	<b>164,747</b>	<b>1,102</b>	<b>20,281</b>

Table 104. Smart-E Loan Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	\$459	\$1,036	\$10,318	\$23,297
2014	\$15,848	\$35,804	\$295,305	\$666,988
2015	\$46,232	\$104,411	\$1,018,797	\$2,300,534
2016	\$36,058	\$81,436	\$775,382	\$1,750,944
2017	\$71,837	\$162,292	\$1,331,838	\$3,008,168
2018	\$205,189	\$463,576	\$3,711,131	\$8,382,505
2019	\$66,257	\$149,725	\$1,050,405	\$2,373,142
<b>Total</b>	<b>\$441,882</b>	<b>\$998,282</b>	<b>\$8,193,175</b>	<b>\$18,505,579</b>

**Financial Performance**

As of 6/30/19, there have been 25 defaults, 11 of which have been charged off by the lenders, with original principal balances totaling \$ 399,989 or 0.67% of the portfolio, and 53 delinquencies with original principle balances totaling \$744,115.71 or 1.25% of the portfolio. To date the secondary loan loss reserve has been used to reimburse one participating lender for one defaulted loan totaling \$20,277 or 0.03% of the portfolio.

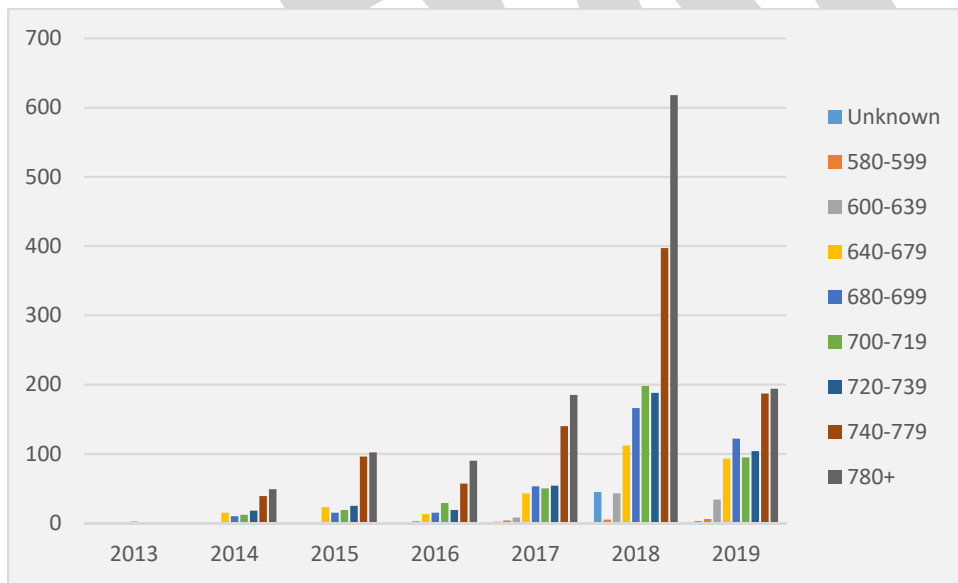
The household customers that accessed the Smart-E Loan since its launch in 2013 had varying credit scores – see Table 105.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

Table 105. Credit Score Ranges of Household Customers Using the Smart-E Loan by FY Closed

Fiscal Year	Unknown	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
2012										
2013					2			1	1	4
2014				15	10	12	18	39	49	143
2015	1		1	23	15	19	25	96	102	282
2016			3	13	15	29	19	57	90	226
2017	2	4	8	43	53	50	54	140	185	539
2018	45	5	43	112	166	198	188	397	618	1,772
2019	3	6	34	93	122	95	104	187	194	838
<b>Total</b>	<b>51</b>	<b>15</b>	<b>89</b>	<b>299</b>	<b>383</b>	<b>403</b>	<b>408</b>	<b>917</b>	<b>1,239</b>	<b>3,804</b>
	1%	0%	2%	8%	10%	11%	11%	24%	33%	100%

Figure 11. Credit Score Ranges of Household Customers Using the Smart-E Loan by FY Closed



**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

Of the Smart-E Loans approved and closed with household customers, Table 106 presents the lenders offering the financing products in this program with accompanying data.

**Table 106. Smart-E Loan Lenders**

Lender	# of Loans	Total Amount Financed	% of Loans	Min Loan Amount	Max Loan Amount	Average Loan Amount	Average Interest Rate	Average Term (months)	Decline Rate
Capital for Change	1,677	\$22,185,306	36.17%	\$1,200	\$45,000	\$13,229	3.10	97	33%
CorePlus Federal Credit Union	346	\$4,659,334	7.60%	\$1,993	\$45,107	\$13,466	4.10	86	11%
Eastern Savings Bank	335	\$7,840,619	12.78%	\$1,800	\$50,000	\$23,405	3.19	110	40%
First National Bank of Suffield	71	\$1,341,987	2.19%	\$3,778	\$45,000	\$18,901	2.48	109	8%
Ion Bank	111	\$1,296,127	2.11%	\$2,720	\$25,000	\$11,677	4.02	95	30%
Liberty Bank	23	\$307,434	0.50%	\$4,550	\$25,000	\$13,367	5.10	85	28%
Mutual Security Credit Union	402	\$8,275,421	13.49%	\$0	\$45,000	\$20,586	2.43	109	12%
Nutmeg State Financial Credit Union	638	\$10,551,233	17.20%	\$1,802	\$40,000	\$16,538	2.80	99	35%
Patriot Bank	71	\$1,006,547	1.64%	\$5,000	\$25,000	\$14,177	3.62	90	36%
Quinnipiac Bank & Trust	7	\$84,056	0.14%	\$8,550	\$16,556	\$12,008	4.85	98	65%
Thomaston Savings Bank	45	\$547,070	0.89%	\$2,500	\$25,000	\$12,157	3.58	95	28%
Union Savings Bank	61	\$930,423	1.52%	\$4,100	\$25,000	\$15,253	3.52	97	53%
Workers Federal Credit Union	17	\$319,459	0.52%	\$7,000	\$40,000	\$18,792	3.08	88	0%
<b>Total</b>	<b>3,804</b>	<b>\$59,345,016</b>	<b>100.00%</b>	<b>\$0</b>	<b>\$50,000</b>	<b>\$15,601</b>	<b>3.13</b>	<b>99</b>	<b>31%</b>

**Marketing**

To accelerate the deployment of natural gas conversions in the state, the Smart-E program was launched in 2014 with an Energize Norwich campaign in partnership with Norwich Public Utilities and 2 local lenders. Building on that success, and to accelerate the deployment of residential solar PV through the RSIP and the uptake of the Smart-E Loan financing product, the Connecticut Green Bank implemented “Solarize Connecticut” through the end of 2015. Green Bank Solarize Connecticut programs were town based and designed to use a combination of group purchasing, time-limited offers, and grassroots outreach. The Green Bank’s own digital marketing and earned media initiatives constitute a key driver of volume in FY19 along with ongoing, in person and webinar trainings and support, for contractors.

**Table 107. Smart-E Loan Project Channels**

Channel	# of Projects	Total Investment	Installed Capacity (MW)
EV	3	\$9,719	0.0
Home Performance	435	\$6,857,770	0.0
HVAC	2,346	\$33,234,563	0.0
Solar	935	\$32,713,577	8.7
Unknown	85	\$1,469,188	0.0
<b>Total</b>	<b>3,804</b>	<b>\$74,284,817</b>	<b>8.8</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – SMART-E LOAN**

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Table 108. Smart-E Loan Measures

# of Measures	# of Projects
Unknown	87
1	2,123
2	1,028
3	357
4	105
5	64
6	25
7	9
8	3
9	2
10	1
<b>Total</b>	<b>3,804</b>

**DRAFT**  
**FOR DISCUSSION PURPOSES ONLY**

## Case 5 – Low Income Solar Lease and Energy-Efficiency Energy Savings Agreement (ESA)

### Description

Through the solar developer PosiGen, a respondent to the Connecticut Green Bank's 2015 RFP soliciting solar financing solutions to address underserved markets, the Green Bank supports solar and energy efficiency deployment targeted at the state's low- to moderate-income (LMI) population. In Connecticut, PosiGen develops and originates these solar projects as project sponsor, utilizing tax equity from multiple investors, senior debt capital from private lenders, and subordinated debt from the Green Bank. Initially the Green Bank supplied a debt advance of \$5,000,000 (followed by another \$3.5 million), which was subordinated to an additional \$8,500,000 advanced by private lenders Enhanced Capital and Stonehenge Capital to leverage over \$46 million in value for solar projects targeting LMI homeowners. The RSIP program's tiered LMI performance-based incentive (PBI) provides PosiGen a higher incentive for customers demonstrating these income requirements. In FY2019, The Green Bank partnered with Inclusive Prosperity Capital to help manage the Green Bank's investment and engagement with Posigen.

To continue to expand the program, in FY'19 the Green Bank and LibreMax closed on a \$90 million credit facility designed to allow PosiGen to continue to provide affordable solar system and energy efficiency leases to residential customers nationally, including low-to-moderate income homeowners in Connecticut. Of the \$20 million portion of the credit facility available to the Posigen, the Green Bank allocated up to \$15 million for its own funding. This was coupled with up to \$5 million from Inclusive Prosperity Capital.

Through the partnership with PosiGen, the Connecticut Green Bank lowers the financial barriers to Connecticut LMI residential customers seeking to install solar PV with no up-front investment and energy efficiency measures. PosiGen's model also includes an alternative underwriting approach that does not rely on credit scores and a community-based marketing approach – two key ingredients for targeting this underserved market segment. Capital provided to PosiGen to be able to offer consumers a solar PV lease and energy efficiency "Energy Savings Agreement" is repaid to the Connecticut Green Bank, the tax equity investor and the lenders through consumer lease repayments. This contrasts with traditional energy program subsidies targeted to LMI homeowners, which are typically in the form of grants only.

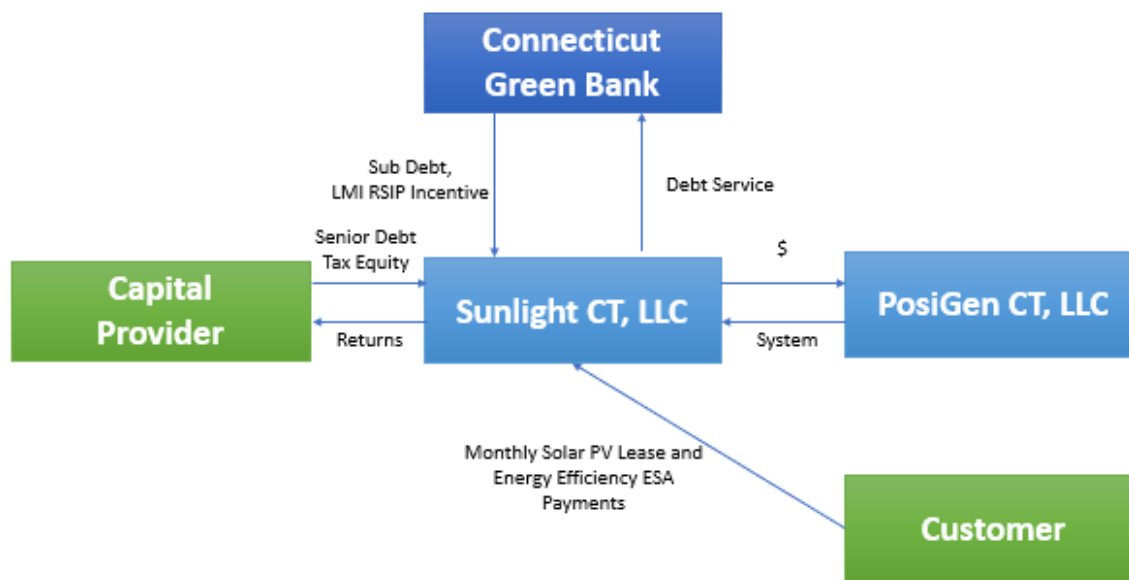
The financial structure of the Low-Income Solar Lease product includes origination, servicing, and financing features<sup>133</sup> in combination with the support of the Connecticut Green Bank.

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<sup>133</sup> Origination, servicing and financing managed by PosiGen.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – LOW INCOME SOLAR LEASE**

Figure 12. Legal Structure and Flows of Capital for the Low Income Solar Lease



Connecticut represented the first expansion for PosiGen outside of its initial market in Louisiana, where starting in 2011, it paired solar leasing and energy efficiency services to maximize savings for LMI customers. Given the strategic emphasis the Green Bank has placed on driving investment for lower income homeowners, the organization developed a flexible funding structure to rapidly bring PosiGen to market. The concept started with the Green Bank providing “anchor capital” for PosiGen in the form of low-cost debt, together with PosiGen’s own resources and tax equity from U.S. Bank (U.S. Bank was already an investor in the Connecticut market through the Green Bank’s CT Solar Lease). Documentation was structured to facilitate funding by a senior lender, providing for the subordination of the Green Bank’s loans once this senior lender could be secured. With initial capital requirements underwritten by the Green Bank, PosiGen had the financial backing and capital flexibility it needed to confidently secure its base of operation in Bridgeport, hire management and local staff, pursue local partnerships with existing energy efficiency and solar PV contractors, and resolve supply chain issues. By using its balance sheet as an initial source of low-cost debt capital, the Green Bank made it possible for a developer that had proven its business model in another market to bring its innovative approach to Connecticut to build investment in solar and energy efficiency for homeowners of more modest means. The investment had the intended impact: PosiGen could establish operations and get a market started, and its rapid success in Connecticut enabled the Green Bank and PosiGen to secure senior lenders and new sources of tax equity to enable operations to expand to several cities throughout Connecticut.



**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – LOW INCOME SOLAR LEASE**

**Key Performance Indicators**

The Key Performance Indicators for the Low-Income Solar Lease’s closed projects are reflected in Tables 109 through 111. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced.

**Table 109. Low Income Solar Lease Project Types and Investment by FY Closed<sup>134</sup>**

<b>Fiscal Year Closed</b>	<b>EE<sup>135</sup></b>	<b>RE</b>	<b>RE/EE</b>	<b># Projects</b>	<b>Total Investment</b>	<b>Green Bank Investment<sup>136</sup></b>	<b>Private Investment</b>	<b>Leverage Ratio</b>
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	4		4	4	\$109,380	\$36,000	\$73,380	3.0
2016	177	163	340	340	\$9,776,138	\$3,060,000	\$6,716,138	3.2
2017	241	425	666	666	\$18,257,090	\$5,994,000	\$12,263,090	3.0
2018	269	378	647	647	\$18,039,049	\$5,823,000	\$12,216,049	3.1
2019	104	743	847	847	\$24,705,401	\$7,623,000	\$17,082,401	3.2
<b>Total</b>	<b>795</b>	<b>1,709</b>	<b>2,504</b>	<b>2,504</b>	<b>\$70,887,057</b>	<b>\$22,536,000</b>	<b>\$48,351,057</b>	<b>3.1</b>

**Table 110. Low Income Solar Lease Project Capacity, Generation and Savings by FY Closed**

<b>Fiscal Year Closed</b>	<b>Installed Capacity (kW)</b>	<b>Expected Annual Generation (kWh)</b>	<b>Expected Lifetime Savings or Generation (MWh)</b>	<b>Annual Saved / Produced (MMBtu)<sup>137</sup></b>	<b>Lifetime Saved / Produced (MMBtu)</b>	<b>Annual Cost Savings</b>	<b>Lifetime Cost Savings</b>
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	25.0	44,093	1,102	162	2,720	\$4,795	\$119,880
2016	2,226.7	3,863,643	96,591	13,780	231,200	\$407,592	\$10,189,800
2017	4,231.2	7,419,690	185,492	26,993	452,880	\$798,401	\$19,960,020
2018	4,310.3	7,752,131	193,803	27,303	439,960	\$775,624	\$19,390,590
2019	5,950.7	10,496,273	262,407	35,743	575,960	\$1,015,384	\$25,384,590
<b>Total</b>	<b>16,743.9</b>	<b>29,575,829</b>	<b>739,396</b>	<b>103,982</b>	<b>1,702,720</b>	<b>\$3,001,795</b>	<b>\$75,044,880</b>

<sup>134</sup> Note that this investment is exclusive of Green Bank investments in to Posigen’s lease funds and represents just the incentives paid for the systems participating in the lease.

<sup>135</sup> All projects that receive an RSIP incentive are required to do an energy audit/assessment.

<sup>136</sup> Includes incentives, interest rate buydowns and loan loss reserves.

<sup>137</sup> Includes only the MMBtus for the HES audit. MMTBtus for other ECMs are not included.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – LOW INCOME SOLAR LEASE**

Table 111. Low Income Solar Lease Project Averages by FY Closed

<b>FY Closed</b>	<b>Average Total Investment</b>	<b>Average Amount Financed</b>	<b>Average Installed Capacity (kW)</b>	<b>Average Annual Saved / Produced (MMBtu)</b>	<b>Average Finance Term (months)</b>	<b>Average Lease Price per Month</b>	<b>Average ESA Price per month<sup>138</sup></b>
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	\$27,345	\$27,345	6.3	41	240	\$79	\$10
2016	\$28,753	\$28,753	6.5	41	240	\$80	\$10
2017	\$27,413	\$27,413	6.4	41	240	\$80	\$10
2018	\$27,881	\$27,881	6.7	42	240	\$88	\$10
2019	\$29,168	\$29,168	7.0	42	240	\$91	\$0
<b>Total</b>	<b>\$28,310</b>	<b>\$28,310</b>	<b>6.7</b>	<b>42</b>	<b>240</b>	<b>\$84</b>	<b>\$10</b>

In fiscal year 2019 PosiGen changed their lease structure so that all customers now receive in depth energy efficiency services that were previously part of an optional, \$10 a month energy savings agreement. This change helps ensure PosiGen customers are maximizing the benefits of their PV system to reduce total energy burden.

<sup>138</sup> Posigen's ESA provides energy efficiency measures valued at over \$2000 to lessees for between \$10-\$15 a month.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – LOW INCOME SOLAR LEASE**

**Area Median Income Band Penetration**

For a breakdown of PosiGen Solar for All volume and investment by census tracts categorized by Area Median Income bands – see Table 112. As an income-targeted program, this table illustrates the degree to which the goal of serving consumers in lower income communities is being met.

**Table 112. Low Income Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>139</sup>**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	\$0	0%	61,168	7%	0.0	\$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	\$0	0%	101,640	12%	0.0	\$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	\$0	0%	151,346	17%	0.0	\$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	\$0	0%	216,988	25%	0.0	\$0.00	0.0
2012	>120%	0	0%	0.0	0%	\$0	0%	350,196	40%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	881,338	100%	0.0	\$0.00	0.0
2013	<60%	0	0%	0.0	0%	\$0	0%	59,494	7%	0.0	\$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	\$0	0%	109,189	12%	0.0	\$0.00	0.0
2013	80%-100%	0	0%	0.0	0%	\$0	0%	150,603	17%	0.0	\$0.00	0.0
2013	100%-120%	0	0%	0.0	0%	\$0	0%	203,157	23%	0.0	\$0.00	0.0
2013	>120%	0	0%	0.0	0%	\$0	0%	351,633	40%	0.0	\$0.00	0.0
2013	Total	0	0%	0.0	0%	\$0	0%	874,076	100%	0.0	\$0.00	0.0
2014	<60%	0	0%	0.0	0%	\$0	0%	57,673	7%	0.0	\$0.00	0.0
2014	60%-80%	0	0%	0.0	0%	\$0	0%	103,934	12%	0.0	\$0.00	0.0
2014	80%-100%	0	0%	0.0	0%	\$0	0%	149,038	17%	0.0	\$0.00	0.0
2014	100%-120%	0	0%	0.0	0%	\$0	0%	209,561	24%	0.0	\$0.00	0.0
2014	>120%	0	0%	0.0	0%	\$0	0%	348,270	40%	0.0	\$0.00	0.0

<sup>139</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – LOW INCOME SOLAR LEASE**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2014	Total	0	0%	0.0	0%	\$0	0%	868,476	100%	0.0	\$0.00	0.0
2015	<60%	3	75%	0.0	76%	\$82,380	75%	64,361	7%	0.0	\$1.28	0.3
2015	60%-80%	0	0%	0.0	0%	\$0	0%	96,305	11%	0.0	\$0.00	0.0
2015	80%-100%	0	0%	0.0	0%	\$0	0%	164,873	19%	0.0	\$0.00	0.0
2015	100%-120%	0	0%	0.0	0%	\$0	0%	184,613	21%	0.0	\$0.00	0.0
2015	>120%	1	25%	0.0	24%	\$27,000	25%	352,621	41%	0.0	\$0.08	0.0
2015	Total	4	100%	0.0	100%	\$109,380	100%	862,773	100%	0.0	\$0.13	0.0
2016	<60%	132	39%	0.8	38%	\$3,706,911	38%	60,769	7%	2.2	\$61.00	13.8
2016	60%-80%	72	21%	0.5	21%	\$2,085,839	21%	99,220	12%	0.7	\$21.02	4.8
2016	80%-100%	58	17%	0.4	18%	\$1,737,224	18%	165,331	19%	0.4	\$10.51	2.4
2016	100%-120%	36	11%	0.2	10%	\$1,003,228	10%	187,463	22%	0.2	\$5.35	1.2
2016	>120%	42	12%	0.3	13%	\$1,242,936	13%	345,311	40%	0.1	\$3.60	0.8
2016	Total	340	100%	2.2	100%	\$9,776,138	100%	858,094	100%	0.4	\$11.39	2.6
2017	<60%	246	37%	1.5	35%	\$6,470,198	35%	62,815	7%	3.9	\$103.00	23.5
2017	60%-80%	145	22%	0.9	21%	\$3,924,782	21%	97,136	11%	1.5	\$40.41	9.4
2017	80%-100%	123	18%	0.8	19%	\$3,434,704	19%	155,105	18%	0.8	\$22.14	5.1
2017	100%-120%	68	10%	0.5	11%	\$1,976,773	11%	209,914	24%	0.3	\$9.42	2.2
2017	>120%	84	13%	0.6	14%	\$2,450,633	13%	340,374	39%	0.2	\$7.20	1.7
2017	Total	666	100%	4.2	100%	\$18,257,090	100%	865,344	100%	0.8	\$21.10	4.9
2018	<60%	218	34%	1.4	32%	\$5,848,527	32%	62,815	7%	3.5	\$93.11	22.0
2018	60%-80%	152	23%	1.0	23%	\$4,102,226	23%	97,136	11%	1.6	\$42.23	10.1
2018	80%-100%	128	20%	0.9	20%	\$3,647,705	20%	155,105	18%	0.8	\$23.52	5.7
2018	100%-120%	71	11%	0.5	12%	\$2,074,633	12%	209,914	24%	0.3	\$9.88	2.4
2018	>120%	78	12%	0.6	13%	\$2,365,959	13%	340,374	39%	0.2	\$6.95	1.7

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2018	Total	647	100%	4.3	100%	\$18,039,049	100%	865,344	100%	0.7	\$20.85	5.0
2019	<60%	226	27%	1.5	25%	\$6,112,528	25%	62,815	7%	3.6	\$97.31	23.5
2019	60%-80%	215	25%	1.4	24%	\$5,943,069	24%	97,136	11%	2.2	\$61.18	14.7
2019	80%-100%	127	15%	0.9	15%	\$3,762,372	15%	155,105	18%	0.8	\$24.26	5.8
2019	100%-120%	145	17%	1.1	18%	\$4,487,478	18%	209,914	24%	0.7	\$21.38	5.2
2019	>120%	134	16%	1.1	18%	\$4,399,953	18%	340,374	39%	0.4	\$12.93	3.1
2019	Total	847	100%	6.0	100%	\$24,705,401	100%	865,344	100%	1.0	\$28.55	6.9
Total	<60%	825	33%	5.2	31%	\$22,220,544	31%	62,815	7%	13.1	\$353.75	82.7
Total	60%-80%	584	23%	3.8	23%	\$16,055,916	23%	97,136	11%	6.0	\$165.29	39.0
Total	80%-100%	436	17%	3.0	18%	\$12,582,005	18%	155,105	18%	2.8	\$81.12	19.2
Total	100%-120%	320	13%	2.3	14%	\$9,542,112	13%	209,914	24%	1.5	\$45.46	10.9
Total	>120%	339	14%	2.5	15%	\$10,486,481	15%	340,374	39%	1.0	\$30.81	7.3
Total	Total	2,504	100%	16.7	100%	\$70,887,057	100%	865,344	100%	2.9	\$81.92	19.3

Table 113. Low Income Solar Lease Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>140</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2013	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2014	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%

<sup>140</sup> Excludes projects in unknown bands.

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Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2015	4	1	3	75%	0.0	0.0	0.0	76%	\$109,380	\$27,000	\$82,380	75%
2016	340	78	262	77%	2.2	0.5	1.7	77%	\$9,776,138	\$2,246,164	\$7,529,973	77%
2017	666	152	514	77%	4.2	1.0	3.2	75%	\$18,257,090	\$4,427,406	\$13,829,684	76%
2018	647	149	498	77%	4.3	1.1	3.2	75%	\$18,039,049	\$4,440,591	\$13,598,458	75%
2019	847	279	568	67%	6.0	2.1	3.8	64%	\$24,705,401	\$8,887,431	\$15,817,969	64%
<b>Total</b>	<b>2,504</b>	<b>659</b>	<b>1,845</b>	<b>74%</b>	<b>16.7</b>	<b>4.8</b>	<b>12.0</b>	<b>71%</b>	<b>\$70,887,057</b>	<b>\$20,028,593</b>	<b>\$50,858,465</b>	<b>72%</b>

The Green Bank has made great progress in its penetration of underserved markets and the low-income lease and ESA through Posigen has been key to reaching these markets.

**Distressed Community Penetration**

For a breakdown of Low-Income Solar Lease project volume and investment by census tracts categorized by Distressed Communities – see Table 114. As an income-targeted program, this table illustrates the degree to which the goal of serving consumers in lower income communities is being met.

**Table 114. Low Income Solar Lease Activity in Distressed Communities by FY Closed**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	\$0	0%	447,962	33%	0.0	\$0.00	0.0
2012	No	0	0%	0.0	0%	\$0	0%	912,222	67%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	1,360,184	100%	0.0	\$0.00	0.0
2013	Yes	0	0%	0.0	0%	\$0	0%	426,564	31%	0.0	\$0.00	0.0
2013	No	0	0%	0.0	0%	\$0	0%	929,285	69%	0.0	\$0.00	0.0
2013	Total	0	0%	0.0	0%	\$0	0%	1,355,849	100%	0.0	\$0.00	0.0
2014	Yes	0	0%	0.0	0%	\$0	0%	416,415	31%	0.0	\$0.00	0.0

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Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2014	No	0	0%	0.0	0%	\$0	0%	939,791	69%	0.0	\$0.00	0.0
2014	Total	0	0%	0.0	0%	\$0	0%	1,356,206	100%	0.0	\$0.00	0.0
2015	Yes	2	50%	0.0	44%	\$49,500	45%	423,559	31%	0.0	\$0.12	0.0
2015	No	2	50%	0.0	56%	\$59,880	55%	929,024	69%	0.0	\$0.06	0.0
2015	Total	4	100%	0.0	100%	\$109,380	100%	1,352,583	100%	0.0	\$0.08	0.0
2016	Yes	198	58%	1.3	58%	\$5,644,283	58%	438,710	32%	0.5	\$12.87	2.9
2016	No	142	42%	0.9	42%	\$4,131,855	42%	916,003	68%	0.2	\$4.51	1.0
2016	Total	340	100%	2.2	100%	\$9,776,138	100%	1,354,713	100%	0.3	\$7.22	1.6
2017	Yes	409	61%	2.5	60%	\$10,965,548	60%	435,595	32%	0.9	\$25.17	5.8
2017	No	257	39%	1.7	40%	\$7,291,542	40%	926,160	68%	0.3	\$7.87	1.8
2017	Total	666	100%	4.2	100%	\$18,257,090	100%	1,361,755	100%	0.5	\$13.41	3.1
2018	Yes	407	63%	2.7	62%	\$11,180,729	62%	435,595	32%	0.9	\$25.67	6.1
2018	No	240	37%	1.6	38%	\$6,858,321	38%	926,160	68%	0.3	\$7.41	1.8
2018	Total	647	100%	4.3	100%	\$18,039,049	100%	1,361,755	100%	0.5	\$13.25	3.2
2019	Yes	471	56%	3.2	54%	\$13,257,630	54%	435,595	32%	1.1	\$30.44	7.3
2019	No	376	44%	2.8	46%	\$11,447,770	46%	926,160	68%	0.4	\$12.36	3.0
2019	Total	847	100%	6.0	100%	\$24,705,401	100%	1,361,755	100%	0.6	\$18.14	4.4
Total	Yes	1,487	59%	9.7	58%	\$41,097,690	58%	435,595	32%	3.4	\$94.35	22.3
Total	No	1,017	41%	7.1	42%	\$29,789,368	42%	926,160	68%	1.1	\$32.16	7.6
Total	Total	2,504	100%	16.7	100%	\$70,887,057	100%	1,361,755	100%	1.8	\$52.06	12.3

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**Societal Impacts**

Over the course of its existence, the program has supported the creation of 458 job years, avoided the lifetime emission of 400,356 tons of carbon dioxide, 351,739 pounds of nitrous oxide, 233,124 pounds of sulfur oxide, and 34,391 pounds of particulate matter as illustrated by Tables 115 and 117. The cleaner air stemming from the Green Bank’s partnership with Posigen can be estimated between \$14.3 and \$32.4 million over the life of the projects as seen in Table 118. The Low-Income Solar Lease has generated \$1.78 million in tax revenues for the state since its inception as shown in Table 116.

**Table 115. Low Income Solar Lease Job Years Supported by FY Closed**

<b>Fiscal Year</b>	<b>Direct Jobs</b>	<b>Indirect and Induced Jobs</b>	<b>Total Jobs</b>
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	0	1	1
2016	37	58	95
2017	46	60	106
2018	47	61	108
2019	65	84	149
<b>Total</b>	<b>194</b>	<b>264</b>	<b>458</b>

**Table 116. Low Income Solar Lease Tax Revenues Generated by FY Closed**

<b>Fiscal Year</b>	<b>Individual Income Tax Revenue Generated</b>	<b>Corporate Tax Revenue Generated</b>	<b>Sales Tax Revenue Generated</b>	<b>Total Tax Revenue Generated</b>
2012	\$0	\$0	\$0	\$0
2013	\$0	\$0	\$0	\$0
2014	\$0	\$0	\$0	\$0
2015	\$2,958	\$369	\$0	\$3,327
2016	\$264,352	\$32,982	\$0	\$297,334
2017	\$381,175	\$61,594	\$0	\$442,770
2018	\$376,623	\$60,859	\$0	\$437,482
2019	\$515,805	\$83,349	\$0	\$599,154
<b>Total</b>	<b>\$1,540,912</b>	<b>\$239,154</b>	<b>\$0</b>	<b>\$1,780,066</b>

\$0



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Table 117. Low Income Solar Lease Avoided Emissions by FY Closed

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	25	620	25	634	18	453	2	54
2016	2,143	53,584	2,086	52,152	1,457	36,434	187	4,671
2017	4,011	100,284	3,500	87,494	2,310	57,744	344	8,607
2018	4,179	104,465	3,597	89,922	2,358	58,949	358	8,948
2019	5,656	141,404	4,861	121,537	3,182	79,544	484	12,111
<b>Total</b>	<b>16,014</b>	<b>400,356</b>	<b>14,070</b>	<b>351,739</b>	<b>9,325</b>	<b>233,124</b>	<b>1,376</b>	<b>34,391</b>

Table 118. Low Income Solar Lease Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	-	-	-	-
2014	-	-	-	-
2015	\$855	\$1,931	\$21,385	\$48,281
2016	\$74,955	\$169,228	\$1,873,867	\$4,230,689
2017	\$143,942	\$324,982	\$3,598,550	\$8,124,560
2018	\$150,391	\$339,543	\$3,759,784	\$8,488,583
2019	\$203,628	\$459,737	\$5,090,693	\$11,493,419
<b>Total</b>	<b>\$573,771</b>	<b>\$1,295,421</b>	<b>\$14,344,277</b>	<b>\$32,385,533</b>

**Financial Performance**

To date there have been two defaults with an original principal balance of \$35,060 or 0.104% of the portfolio and as of 6/30/2019<sup>141</sup> there are 95 delinquencies totaling \$1,956,468 of original principal balance<sup>142</sup> or 4.93% of the portfolio. This performance is consistent with expectations for a low-to-moderate income targeted product using an alternative underwriting approach.

**Marketing**

To build the pipeline of projects for the lease, Connecticut Green Bank supports PosiGen's community-based marketing campaigns, leveraging the institution's market analysis and local experience and connections. The Green Bank also co-brands the program so partnering community organizations and consumers know there is governmental involvement, especially critical given the targeting of underserved communities and homeowners. This includes assisting with PosiGen's outreach efforts through its Solar for All campaigns which are modeled after Green Bank Solarize campaigns.

<sup>141</sup> June 30, 2019 loan servicing report

<sup>142</sup> Based on average lease price in PosiGen Pipeline Reporting July 2019

## Case 6 – Multifamily Programs

### Description

Defined as buildings with 5 or more units, the Green Bank provides a suite of financing options that support property owners to assess, design, fund, and monitor high impact green energy upgrades for multifamily properties. The Green Bank contracted with Inclusive Prosperity Capital (IPC), to manage and administer these programs on behalf of CGB.

The Green Bank encourages owners to take a holistic approach to their buildings by implementing energy upgrades that will deliver a high return on investment over the long term through energy and operating cost savings, increased property values, and improvement of resident health, safety and living environment. The organization partners with building owners to finance a project design approach that is both technology and fuel agnostic – whereby owners identify the combination of renewable energy and energy efficiency measures/technology approaches that will deliver the most benefits and highest impact. This holistic approach and focus on deeper efficiency measures is particularly important in Connecticut due to the need of the state’s old and aging housing stock need for significant capital improvements and health and safety remediation. We are catalyzing holistic projects that reap the benefits of significant energy and operating cost savings, which can be used to finance other capital improvements like full roof replacements and remediation of mold, asbestos, lead, etc.

The Green Bank Multifamily programs primarily target the low- and moderate-income market in Connecticut, for all ownership types, including private and non-profit owned apartments, condominiums, cooperatives, and state and federally funded affordable housing developments, including senior and assisted living facilities.

### Pre-development resources

In a traditionally difficult sector to address, multifamily projects have a significant need for pre-development financing, trusted technical support, and streamlined access to funding programs. In 2015, the Green Bank developed pre-development energy loan programs to support property owners in identifying high-quality technical assistance providers, and fund the work needed to scope and secure financing for deeper, cost effective energy upgrades. Eligible assessment and design services funded under the pre-development Navigator loan include those for energy and water efficiency, efficient fuel conversion, renewable energy systems, energy storage and EV fueling stations, qualified health and safety measures, and performance benchmarking.

The Green Bank is working to change the model of pre-development and technical assistance from one that is primarily grant-funded in the low- and moderate-income housing space to one that is loan driven and financially sustainable.

This program is supported by a revolving loan fund for loans of 1.99% to 3.99% and up to two-year terms. The affordable multifamily version of this program is housed at the Housing Development Fund, a local CDFI, and part of a \$5 million program-related investment from the MacArthur Foundation is used to support the program.

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- **Navigator Pre-Development Energy Loan**<sup>143</sup> funds pre-development costs for building owners to select and manage the energy professionals needed to scope and design their project.

#### Term Financing Solutions

- The Green Bank offers the following term financing options for project implementation<sup>144</sup>.  
**Low Income Multifamily Energy (LIME) Loan**<sup>145</sup> funds energy improvement projects for low- and moderate-income properties (where at least 60% of units serve renters at 80% or lower of Area Median Income) and is geared towards mid-cycle energy improvements. The LIME Loan program is delivered through a partnership with Capital for Change, a local CDFI (formerly known as Connecticut Housing Investment Fund) and provides unsecured loans (not secured by mortgages) that cover 100% of project costs, require no money down, and are repaid from energy cost savings for terms up to 20 years. Projected energy savings are used to cover the debt service of the loan. The Green Bank supports LIME with a \$325,000 loan loss reserve and provided \$3.5 million to capitalize the initial \$5 million loan fund. When it is necessary to lower the overall cost of capital to close a loan, funds from the \$5 million program-related investment from the MacArthur Foundation, housed at HDF, may be used to support the program.

**Solar-only**<sup>146</sup> financing allows owners to go solar and lock in lower long-term electricity rates with no upfront cost and without the risk or hassle of purchasing and maintaining a system. Solar financing is available for multifamily properties through the Green Bank's solar power purchase agreement facilities. See the Case 2 – Solar Lease for more information.

- **Commercial Property Assessed Clean Energy**<sup>147</sup> (C-PACE) funds 100% of project costs with no money down. C-PACE loans are for a term of up to 20 years and are secured by using a benefit assessment on the borrower's property tax bill. The program serves market rate as well as affordable multifamily properties; however, to-date, given difficulties acquiring lender consent, multifamily C-PACE financing continues to be limited. See Case 1 – C-PACE for more information.

**EnergizeCT Health & Safety Revolving Loan Fund**<sup>148</sup> funds health and safety improvements necessary to allow subsequent energy improvements in existing properties. The program is funded by \$1.5 million from DEEP and provides low-interest, 2.99% fixed rate loans made available on a rolling application basis.

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<sup>143</sup> Navigator Pre-Development Energy Loan: <https://www.ctgreenbank.com/programs/multifamily/navigator/>

<sup>144</sup> Owners are also encouraged to seek other sources of capital if they can be secured under more favorable terms than those offered by the Green Bank.

<sup>145</sup> Low Income Multifamily Energy (LIME) Loan: <https://ctgreenbank.com/programs/multifamily/lime/>

<sup>146</sup> Solar Power Purchase Agreement: <https://ctgreenbank.com/programs/multifamily/solarppa/>

<sup>147</sup> Commercial Property Assessed Clean Energy: <http://www.CPACE.com/>

<sup>148</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/06/RFP-EnergizeCT-Health-and-Safety-Revolving-Loan-Fund-6-8-18.pdf>

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**Key Performance Indicators**

The Key Performance Indicators for Multifamily programs closed activity are reflected in Tables 119 through 121. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

**Table 119. Multifamily Project Types and Investment by FY Closed**

Fiscal Year Closed	EE	RE	RE/EE	Other	# Projects	# Project Units	Amount Financed	Total Investment <sup>149</sup>	Green Bank Investment <sup>150</sup>	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	1	-	-	-	1	120	\$250,000	\$428,739	\$8,739	\$420,000	49.1
2015	3	3	-	-	6	408	\$5,111,454	\$5,843,311	\$3,607,557	\$2,235,755	1.6
2016	14	15	1	1	31	1,767	\$33,066,083	\$33,782,328	\$1,547,816	\$32,234,512	21.8
2017	8	8	1	2	19	1,535	\$24,021,482	\$25,501,271	\$2,181,258	\$23,320,014	11.7
2018	6	2	1	10	19	1,792	\$26,704,713	\$26,868,739	\$158,914	\$26,709,825	169.1
2019	2	4	-	13	19	2,225	\$32,241,782	\$35,719,734	\$1,025,261	\$34,694,473	34.8
<b>Total</b>	<b>34</b>	<b>32</b>	<b>3</b>	<b>26</b>	<b>95</b>	<b>7,847</b>	<b>\$121,395,514</b>	<b>\$128,144,124</b>	<b>\$8,529,545</b>	<b>\$119,614,578</b>	<b>15.0</b>

**Table 120. Multifamily Project Capacity, Generation and Savings by FY Closed**

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	17,873	214	61	733	\$69,534
2015	914.0	4,015,054	98,609	5,132	122,386	\$243,673
2016	1,286.7	2,209,496	45,563	222,015	5,517,354	\$531,098
2017	2,146.6	2,611,895	63,122	1,491,311	37,275,333	\$370,090
2018	135.2	1,475,091	19,703	112,794	2,761,239	\$262,666
2019	343.7	391,349	9,784	299,001	7,475,016	\$100,680
<b>Total</b>	<b>4,826.2</b>	<b>10,720,757</b>	<b>236,995</b>	<b>2,130,313</b>	<b>53,152,061</b>	<b>\$1,577,741</b>

<sup>149</sup> This number includes financing and investment for the entire project supported including clean energy, health and safety remediation, and project design.

<sup>150</sup> Includes incentives, interest rate buydowns and loan loss reserves.

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Table 121. Multifamily Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Amount Financed per Unit	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	\$428,739	\$250,000	\$2,083	-	61	9	6.00
2015	\$973,885	\$851,909	\$12,528	304.7	855	25	5.64
2016	\$1,089,753	\$1,066,648	\$18,713	75.7	7,162	12	4.24
2017	\$1,342,172	\$1,264,289	\$15,649	268.3	78,490	11	4.16
2018	\$1,414,144	\$1,405,511	\$14,902	45.1	5,937	11	2.64
2019	\$1,879,986	\$1,696,936	\$14,491	85.9	15,737	13	3.54
<b>Total</b>	<b>\$1,348,886</b>	<b>\$1,277,848</b>	<b>\$15,470</b>	<b>137.9</b>	<b>22,424</b>	<b>13</b>	<b>3.84</b>

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**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

As the Green Bank’s Multifamily programs are partially income-targeted, Table 122 shows a breakdown of projects completed in a year by property type and reflects the number of units impacted.

**Table 122. Multifamily Projects by Low to Moderate Income (LMI) or Market Rate Property by FY Closed**

<b>Fiscal Year Closed</b>	<b>Class</b>	<b>Product</b>	<b># of Projects</b>	<b># Units</b>
2014	Affordable	Term	1	120
2014 Total			1	120
2015	Affordable	Term	5	326
	Market Rate	Term	1	82
2015 Total			6	408
2016	Affordable	Term	26	1,442
		Pre-Dev	4	134
	Market Rate	Term	1	191
2016 Total			31	1,767
2017	Affordable	Term	15	1,300
		Pre-Dev	3	135
	Market Rate	Pre-Dev	1	100
2017 Total			19	1,535
2018	Affordable	Term	12	533
		Pre-Dev	7	1,259
2018 Total			19	1,792
2019	Affordable	Term	14	1,587
		Pre-Dev	5	638
2019 Total			19	2,225
<b>Total</b>	<b>Affordable</b>	<b>Term</b>	<b>73</b>	<b>5,308</b>
<b>Total</b>		<b>Pre-Dev</b>	<b>19</b>	<b>2,166</b>
<b>Total</b>	<b>Market Rate</b>	<b>Term</b>	<b>2</b>	<b>273</b>
<b>Total</b>		<b>Pre-Dev</b>	<b>1</b>	<b>100</b>
<b>Grand Total</b>			<b>95</b>	<b>7,847</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

**Area Median Income Band Penetration**

For a breakdown of Multifamily volume and investment by census tracts categorized by Area Median Income bands – see Table 123. As a program predominantly focused on properties that serve low-to-moderate income residents, this table doesn't reflect the degree to which the goal of serving lower income residents is being met. The program is equally focused on affordable housing properties located in more affluent communities and census tracts that are housing families of lower incomes as it is on affordable housing properties in lower income census tracts.

**Table 123. Multifamily Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>151</sup>**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution	Project Units / 1,000 Owner/Rental Occupied 5+ Unit Households	Total Investment / Owner/Rental Occupied 5+ Unit Household	Watts / Owner/Rental Occupied 5+ Unit Household
2012	<60%	0	0%	0.0	0%	\$0	0%	70,561	35%	0.0	\$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	\$0	0%	43,788	22%	0.0	\$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	\$0	0%	39,234	20%	0.0	\$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	\$0	0%	27,834	14%	0.0	\$0.00	0.0
2012	>120%	0	0%	0.0	0%	\$0	0%	19,133	10%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	200,550	100%	0.0	\$0.00	0.0
2013	<60%	0	0%	0.0	0%	\$0	0%	68,381	35%	0.0	\$0.00	0.0
2013	60%-80%	0	0%	0.0	0%	\$0	0%	45,202	23%	0.0	\$0.00	0.0
2013	80%-100%	0	0%	0.0	0%	\$0	0%	39,451	20%	0.0	\$0.00	0.0
2013	100%-120%	0	0%	0.0	0%	\$0	0%	25,294	13%	0.0	\$0.00	0.0
2013	>120%	0	0%	0.0	0%	\$0	0%	19,303	10%	0.0	\$0.00	0.0
2013	Total	0	0%	0.0	0%	\$0	0%	197,631	100%	0.0	\$0.00	0.0
2014	<60%	0	0%	0.0	0%	\$0	0%	68,722	35%	0.0	\$0.00	0.0
2014	60%-80%	0	0%	0.0	0%	\$0	0%	44,830	23%	0.0	\$0.00	0.0
2014	80%-100%	120	100%	0.0	0%	\$428,739	100%	36,752	18%	3.3	\$11.67	0.0
2014	100%-120%	0	0%	0.0	0%	\$0	0%	28,263	14%	0.0	\$0.00	0.0

<sup>151</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution	Project Units / 1,000 Owner/Rental Occupied 5+ Unit Households	Total Investment / Owner/Rental Occupied 5+ Unit Household	Watts / Owner/Rental Occupied 5+ Unit Household
2014	>120%	0	0%	0.0	0%	\$0	0%	20,384	10%	0.0	\$0.00	0.0
2014	Total	120	100%	0.0	0%	\$428,739	100%	198,951	100%	0.6	\$2.15	0.0
2015	<60%	16	4%	0.0	0%	\$33,234	1%	84,158	37%	0.2	\$0.39	0.0
2015	60%-80%	41	10%	0.0	0%	\$445,000	8%	44,668	19%	0.9	\$9.96	0.0
2015	80%-100%	113	28%	0.0	0%	\$540,000	9%	53,494	23%	2.1	\$10.09	0.0
2015	100%-120%	16	4%	0.0	2%	\$58,782	1%	24,388	11%	0.7	\$2.41	0.6
2015	>120%	222	54%	0.9	98%	\$4,766,296	82%	23,491	10%	9.5	\$202.90	38.3
2015	Total	408	100%	0.9	100%	\$5,843,311	100%	230,199	100%	1.8	\$25.38	4.0
2016	<60%	295	19%	0.1	8%	\$19,758,029	60%	86,225	37%	3.4	\$229.15	0.9
2016	60%-80%	258	16%	0.1	14%	\$1,868,113	6%	45,398	19%	5.7	\$41.15	3.2
2016	80%-100%	348	22%	0.3	31%	\$6,182,098	19%	49,125	21%	7.1	\$125.84	6.3
2016	100%-120%	590	37%	0.4	43%	\$4,928,280	15%	30,753	13%	19.2	\$160.25	14.2
2016	>120%	84	5%	0.0	4%	\$161,696	0%	22,618	10%	3.7	\$7.15	2.0
2016	Total	1,575	100%	1.0	100%	\$32,898,215	100%	234,119	100%	6.7	\$140.52	4.4
2017	<60%	636	42%	1.5	69%	\$14,826,099	59%	86,272	37%	7.4	\$171.85	17.1
2017	60%-80%	314	21%	0.2	9%	\$7,214,545	29%	43,920	19%	7.1	\$164.27	4.5
2017	80%-100%	455	30%	0.0	2%	\$1,740,572	7%	51,444	22%	8.8	\$33.83	0.8
2017	100%-120%	81	5%	0.3	12%	\$898,560	4%	32,673	14%	2.5	\$27.50	7.7
2017	>120%	32	2%	0.2	8%	\$622,183	2%	21,018	9%	1.5	\$29.60	8.3
2017	Total	1,518	100%	2.1	100%	\$25,301,958	100%	235,327	100%	6.5	\$107.52	9.1
2018	<60%	1,706	95%	0.0	27%	\$26,439,045	98%	86,272	37%	19.8	\$306.46	0.4
2018	60%-80%	32	2%	0.0	30%	\$170,000	1%	43,920	19%	0.7	\$3.87	0.9
2018	80%-100%	30	2%	0.0	0%	\$101,694	0%	51,444	22%	0.6	\$1.98	0.0
2018	100%-120%	0	0%	0.0	0%	\$0	0%	32,673	14%	0.0	\$0.00	0.0



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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner/Rental Occupied 5+ Unit Households	% Owner/Rental Occupied 5+ Unit Household Distribution	Project Units / 1,000 Owner/Rental Occupied 5+ Unit Households	Total Investment / Owner/Rental Occupied 5+ Unit Household	Watts / Owner/Rental Occupied 5+ Unit Household
2018	>120%	24	1%	0.1	43%	\$158,000	1%	21,018	9%	1.1	\$7.52	2.8
2018	Total	1,792	100%	0.1	100%	\$26,868,739	100%	235,327	100%	7.6	\$114.18	0.6
2019	<60%	1,396	65%	0.3	76%	\$28,947,481	81%	86,272	37%	16.2	\$335.54	3.0
2019	60%-80%	280	13%	0.0	0%	\$1,045,206	3%	43,920	19%	6.4	\$23.80	0.0
2019	80%-100%	390	18%	0.0	0%	\$2,650,294	7%	51,444	22%	7.6	\$51.52	0.0
2019	100%-120%	60	3%	0.1	24%	\$2,704,426	8%	32,673	14%	1.8	\$82.77	2.5
2019	>120%	31	1%	0.0	0%	\$359,828	1%	21,018	9%	1.5	\$17.12	0.0
2019	Total	2,157	100%	0.3	100%	\$35,707,234	100%	235,327	100%	9.2	\$151.73	1.5
Total	<60%	4,049	53%	1.9	41%	\$90,003,888	71%	86,272	37%	46.9	\$1,043.26	21.5
Total	60%-80%	925	12%	0.4	8%	\$10,742,863	8%	43,920	19%	21.1	\$244.60	8.8
Total	80%-100%	1,456	19%	0.4	8%	\$11,643,397	9%	51,444	22%	28.3	\$226.33	6.9
Total	100%-120%	747	10%	0.8	17%	\$8,590,047	7%	32,673	14%	22.9	\$262.91	24.0
Total	>120%	393	5%	1.2	26%	\$6,068,003	5%	21,018	9%	18.7	\$288.71	56.0
Total	Total	7,570	100%	4.6	100%	\$127,048,198	100%	235,327	100%	32.2	\$539.88	19.4

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

Table 124. Multifamily Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>152</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2013	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2014	120	0	120	100%	0.0	0.0	0.0	0%	\$428,739	\$0	\$428,739	100%
2015	408	238	170	42%	0.9	0.9	0.0	0%	\$5,843,311	\$4,825,077	\$1,018,234	17%
2016	1,575	674	901	57%	1.0	0.5	0.5	53%	\$32,898,215	\$5,089,976	\$27,808,239	85%
2017	1,518	113	1,405	93%	2.1	0.4	1.7	80%	\$25,301,958	\$1,520,743	\$23,781,215	94%
2018	1,792	24	1,768	99%	0.1	0.1	0.1	57%	\$26,868,739	\$158,000	\$26,710,739	99%
2019	2,157	91	2,066	96%	0.3	0.1	0.3	76%	\$35,707,234	\$3,064,254	\$32,642,981	91%
<b>Total</b>	<b>7,570</b>	<b>1,140</b>	<b>6,430</b>	<b>85%</b>	<b>4.6</b>	<b>2.0</b>	<b>2.6</b>	<b>57%</b>	<b>\$127,048,198</b>	<b>\$14,658,050</b>	<b>\$112,390,148</b>	<b>88%</b>

<sup>152</sup> Excludes projects in unknown bands.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

**Distressed Community Penetration**

For a breakdown of Multifamily project volume and investment by census tracts categorized by Distressed Communities – see Table 125. As a program predominantly focused on properties that serve low-to-moderate income residents, this table doesn't reflect the degree to which the goal of serving lower income residents is being met. The program is equally focused on affordable housing properties located in more affluent communities and census tracts that are housing families of lower incomes as it is on affordable housing properties in lower income census tracts.

**Table 125. Multifamily Activity in Distressed Communities by FY Closed**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	\$0	0%	447,962	33%	0.0	\$0.00	0.0
2012	No	0	0%	0.0	0%	\$0	0%	912,222	67%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	1,360,184	100%	0.0	\$0.00	0.0
2013	Yes	0	0%	0.0	0%	\$0	0%	426,564	31%	0.0	\$0.00	0.0
2013	No	0	0%	0.0	0%	\$0	0%	929,285	69%	0.0	\$0.00	0.0
2013	Total	0	0%	0.0	0%	\$0	0%	1,355,849	100%	0.0	\$0.00	0.0
2014	Yes	0	0%	0.0	0%	\$0	0%	416,415	31%	0.0	\$0.00	0.0
2014	No	120	100%	0.0	0%	\$428,739	100%	939,791	69%	0.1	\$0.46	0.0
2014	Total	120	100%	0.0	0%	\$428,739	100%	1,356,206	100%	0.1	\$0.32	0.0
2015	Yes	211	52%	0.9	98%	\$5,273,234	90%	423,559	31%	0.5	\$12.45	2.1
2015	No	197	48%	0.0	2%	\$570,077	10%	929,024	69%	0.2	\$0.61	0.0
2015	Total	408	100%	0.9	100%	\$5,843,311	100%	1,352,583	100%	0.3	\$4.32	0.7
2016	Yes	341	19%	0.3	26%	\$20,319,907	60%	438,710	32%	0.8	\$46.32	0.8
2016	No	1,426	81%	1.0	74%	\$13,462,421	40%	916,003	68%	1.6	\$14.70	1.0
2016	Total	1,767	100%	1.3	100%	\$33,782,328	100%	1,354,713	100%	1.3	\$24.94	0.9

**CONNECTICUT GREEN BANK**  
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Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2017	Yes	596	39%	1.4	66%	\$14,867,412	58%	435,595	32%	1.4	\$34.13	3.3
2017	No	939	61%	0.7	34%	\$10,633,860	42%	926,160	68%	1.0	\$11.48	0.8
2017	Total	1,535	100%	2.1	100%	\$25,501,271	100%	1,361,755	100%	1.1	\$18.73	1.6
2018	Yes	1,507	84%	0.0	27%	\$22,265,416	83%	435,595	32%	3.5	\$51.11	0.1
2018	No	285	16%	0.1	73%	\$4,603,323	17%	926,160	68%	0.3	\$4.97	0.1
2018	Total	1,792	100%	0.1	100%	\$26,868,739	100%	1,361,755	100%	1.3	\$19.73	0.1
2019	Yes	2,023	91%	0.3	76%	\$32,450,731	91%	435,595	32%	4.6	\$74.50	0.6
2019	No	202	9%	0.1	24%	\$3,269,004	9%	926,160	68%	0.2	\$3.53	0.1
2019	Total	2,225	100%	0.3	100%	\$35,719,734	100%	1,361,755	100%	1.6	\$26.23	0.3
Total	Yes	4,678	60%	3.0	61%	\$95,176,700	74%	435,595	32%	10.7	\$218.50	6.8
Total	No	3,169	40%	1.9	39%	\$32,967,424	26%	926,160	68%	3.4	\$35.60	2.0
Total	Total	7,847	100%	4.8	100%	\$128,144,124	100%	1,361,755	100%	5.8	\$94.10	3.5

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

**Societal Impacts**

Over the course of its existence, the Green Bank’s Multifamily Program has supported the creation of 2,172 job years, avoided the lifetime emission of 126,231 tons of carbon dioxide, 108,450 pounds of nitrous oxide, 83,531 pounds of sulfur oxide, and 6,438 pounds of particulate matter as illustrated by Tables 126 and 128. These programs have had between an estimate \$1.2 and \$2.7 million lifetime public health impact as demonstrated in Table 129. Table 27 shows that the Multifamily programs have generated more than \$12 million in tax revenues since inception.

**Table 126. Multifamily Job Years Supported by FY Closed**

<b>Fiscal Year</b>	<b>Direct Jobs</b>	<b>Indirect and Induced Jobs</b>	<b>Total Jobs</b>
2012	-	-	-
2013	-	-	-
2014	5	9	14
2015	8	13	22
2016	306	488	793
2017	197	301	498
2018	149	194	342
2019	213	289	502
<b>Total</b>	<b>879</b>	<b>1,293</b>	<b>2,172</b>

**Table 127. Multifamily Tax Revenues Generated by FY Closed**

<b>Fiscal Year</b>	<b>Individual Income Tax Revenue Generated</b>	<b>Corporate Tax Revenue Generated</b>	<b>Sales Tax Revenue Generated</b>	<b>Total Tax Revenue Generated</b>
2012	\$0	\$0	\$0	\$0
2013	\$0	\$0	\$0	\$0
2014	\$28,346	\$8,258	\$24,487	\$61,092
2015	\$180,673	\$202,437	\$277,195	\$660,306
2016	\$1,628,037	\$605,075	\$1,241,913	\$3,475,025
2017	\$665,717	\$435,251	\$1,125,753	\$2,226,720
2018	\$767,490	\$523,328	\$1,537,005	\$2,827,823
2019	\$1,013,479	\$696,145	\$2,015,844	\$3,725,468
<b>Total</b>	<b>\$4,283,742</b>	<b>\$2,470,494</b>	<b>\$6,222,197</b>	<b>\$12,976,433</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

Table 128. Multifamily Avoided Emissions by FY Closed

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	9	114	7	86	5	56	1	9
2015	2,089	51,275	1,755	42,821	1,608	39,074	7	91
2016	1,214	25,087	1,137	23,696	837	16,994	102	2,142
2017	1,407	34,015	1,203	29,199	788	19,137	120	2,907
2018	783	10,469	600	8,122	392	5,309	62	838
2019	211	5,271	181	4,526	118	2,961	18	451
<b>Total</b>	<b>5,713</b>	<b>126,231</b>	<b>4,883</b>	<b>108,450</b>	<b>3,748</b>	<b>83,531</b>	<b>310</b>	<b>6,438</b>

Table 129. Multifamily Economic Value of Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	-	-	-	-
2014	\$295	\$667	\$3,539	\$8,000
2015	\$928	\$2,098	\$11,139	\$25,180
2016	\$19,805	\$44,737	\$394,765	\$891,541
2017	\$21,334	\$48,174	\$497,459	\$1,123,225
2018	\$23,502	\$53,124	\$304,166	\$687,478
2019	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$65,864</b>	<b>\$148,800</b>	<b>\$1,211,069</b>	<b>\$2,735,424</b>

**Financial Performance**

To date there have been no defaults and as of 6/30/2019 there were 7 delinquencies representing \$1,264,227 of original principal, 4.43% of the portfolio. All delinquent projects were PPA's.

**Marketing**

The Green Bank's multifamily programs are built on partnerships with key housing organizations in Connecticut that support the Green Bank's multifamily programs in marketing, outreach, demonstration, and education programs to build awareness and customer demand by property owners. Our approach is to leverage and collaborate with these well-established organizations, building on their initiatives and programs, as we work to scale and "mainstream" holistic clean energy improvements in the multifamily sector. Key partners include the Affordable Housing Alliance, (formerly the Connecticut Housing Coalition), Department of Housing, Connecticut Housing Finance Authority and the HUD Connecticut Field Office, as well as the utility companies. These organizations partner with us at conferences as well as other outreach and education activities organized by the Green Bank.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – MULTIFAMILY PROGRAMS**

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We also conduct direct outreach to property owners through a sales consultant who has a strong network of relationships with multifamily property owners and managers.

In 2017 we established a Multifamily Peer-to-Peer network where advanced practitioners, including owners, developers, architects, professional service providers and funders, gather on a monthly basis to exchange information and discuss their projects – with the goal of building greater professional capacity in the sector and awareness of Green Bank programs.

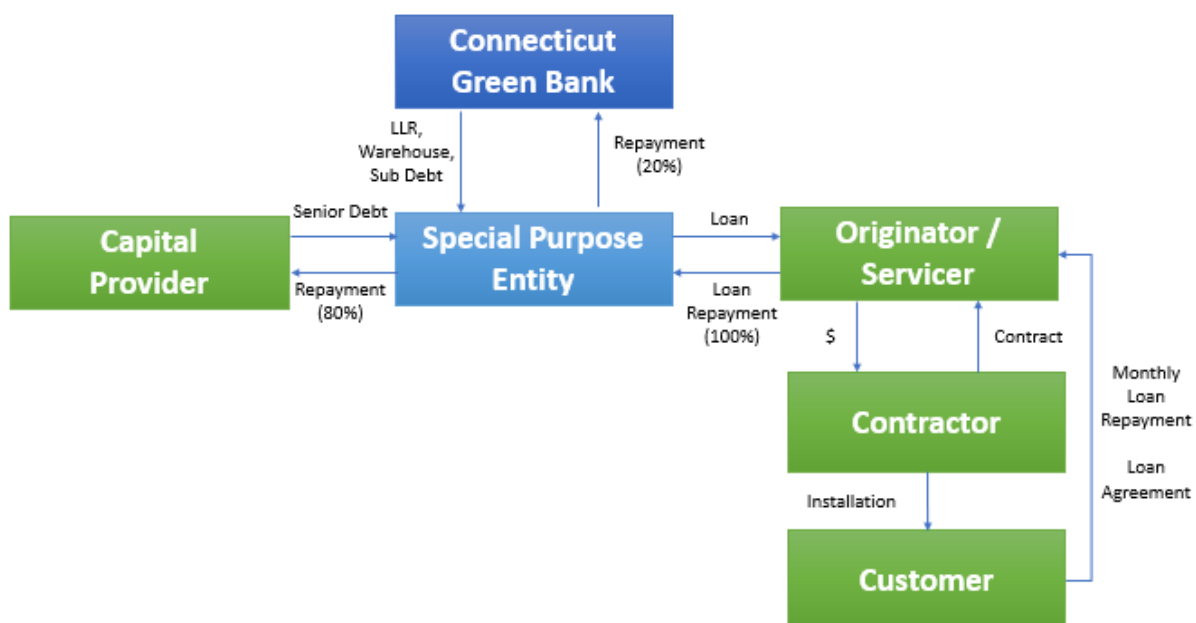
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## Case 7 – CT Solar Loan (Graduated)

### Description

The Connecticut Solar Loan was a \$5 million pilot public-private partnership between the Green Bank and Sungage Financial resulting in the first crowd-funded solar loan program in the country. It was the first of the Green Bank’s ventures to be retired and graduated from the Green Bank’s funding to a \$100 million pool of capital from the Digital Federal Credit Union to enable citizens to own solar PV systems installed on their homes.

Figure 13. Legal Structure and Flows of Capital for the CT Solar Loan



The CT Solar Loan yields an appropriate rate of return to the capital providers commensurate with the risks they are taking, provided 19 contractors with an important sales tool, and gave nearly 300 customers the ability to own solar PV through low-interest and long-term financing along with access to the federal ITC and state incentives (i.e., the RSIP Expected Performance Based Buydown). Of the \$6.0 million invested by the Connecticut Green Bank into the CT Solar Loan, \$1.0 million has been sold to the crowd-funding platform Mosaic, \$2.6 million to a Community Development Financial Institution in The Reinvestment Fund, and the remaining is on the balance sheet of the Connecticut Green Bank.

In structuring the solar loan product, the Green Bank’s objective was to enable homeowners of varying financial means to own their own solar PV systems. Prior to the CT Solar Loan’s creation, a homeowner would need to use their own savings or their own home equity (most often though a home equity line of credit) to pay for the system, which, at that time, often required an investment exceeding \$25,000. The requirement for such a level of personal financial resources dramatically constrained the “ownership” market for solar PV. So, the Green Bank with its partner Sungage Financial, developed the CT Solar Loan which made 15-year financing available at affordable interest rates without the need to have a lien on the home or



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limit the purchase to certain manufacturers who offered financing solely for their panels. In developing the CT Solar Loan, the Green Bank had to overcome the risk of being unable to sell the loans to private investors which would have tied up capital resources of the Green Bank and limited its ability to deploy investment of additional clean energy. Ultimately, the Green Bank became confident that a sufficient rate of return could be offered to enable the investments to “clear” the market without a discount (or loss) to the Green Bank. The combination of crowdsourced funding and a structured private placement enabled the Green Bank to sell the investments with recourse limited to the underlying consumer loans as well as a limited loan loss reserve using American Recovery and Reinvestment Act funds from the US Department of Energy.

The CT Solar Loan was the Connecticut Green Bank’s first residential product graduation. It started off being the first crowd-funded residential solar PV transaction with Sungage Financial through Mosaic.<sup>153</sup> And then it graduated to a partnership between Sungage Financial and Digital Federal Credit Union – with no resources from the Connecticut Green Bank.<sup>154</sup> The loan offering from Sungage Financial now includes 5, 10, and 20 year maturity terms at affordable interest rates and is being offered in California, Florida, Massachusetts, New Jersey, New York, and Texas – along with solar PV contractors in Connecticut.

**Key Performance Indicators**

The Key Performance Indicators for the CT Solar Loan closed activity are reflected in Tables 130 through 133. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

**Table 130. CT Solar Loan Project Types and Investment by FY Closed**

<b>Fiscal Year Closed</b>	<b>EE<sup>155</sup></b>	<b>RE</b>	<b>RE/EE</b>	<b># Projects</b>	<b>Total Investment</b>	<b>Green Bank Investment<sup>156</sup></b>	<b>Private Investment</b>	<b>Leverage Ratio</b>
2012	-	-	-	-	-	-	-	-
2013	-	3	-	3	\$91,924	\$5,025	\$86,899	18.3
2014	-	140	-	140	\$4,461,833	\$232,100	\$4,229,733	19.2
2015	-	136	-	136	\$4,505,386	\$222,549	\$4,282,838	20.2
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
<b>Total</b>		<b>279</b>		<b>279</b>	<b>\$9,059,143</b>	<b>\$459,674</b>	<b>\$8,599,469</b>	<b>19.7</b>

<sup>153</sup> <http://www.businesswire.com/news/home/20140206005031/en/Sungage-Financial-CEFIA-Mosaic-Announce-5-Million#.VgRTqVIXL4Y>

<sup>154</sup> <http://www.ctgreenbank.com/ct-solar-loan-partner-graduates-connecticut-green-bank/>

<sup>155</sup> All projects that receive an RSIP incentive are required to do an energy audit/assessment.

<sup>156</sup> Includes incentives, interest rate buydowns and loan loss reserves.

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Table 131. CT Solar Loan Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Cost Savings	Lifetime Cost Savings
2012	-	-	-	-	-	-	-
2013	17.0	19,407	485	66	1,655	\$3,596	\$89,910
2014	1,107.9	1,261,626	31,541	4,305	107,617	\$167,832	\$4,195,800
2015	1,067.2	1,215,364	30,384	4,147	103,671	\$163,037	\$4,075,920
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
<b>Total</b>	<b>2,192.1</b>	<b>2,496,398</b>	<b>62,410</b>	<b>8,518</b>	<b>212,943</b>	<b>\$334,465</b>	<b>\$8,361,630</b>

Table 132. CT Solar Loan Project Averages by FY Closed

Fiscal Year Closed	Total Average Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)	Average Finance Term (months)	Average Finance Rate	Average DTI	Average FICO Score
2012	-	-	-	-	-	-	-	-
2013	\$30,641	\$19,658	5.7	22	180	5.58	0	758
2014	\$31,870	\$19,819	7.9	31	180	5.57	0	771
2015	\$33,128	\$22,942	7.8	30	180	3.34	0	771
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
<b>Total</b>	<b>\$32,470</b>	<b>\$21,340</b>	<b>7.9</b>	<b>31</b>	<b>180</b>	<b>4.48</b>	<b>0</b>	<b>771</b>

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Table 133. CT Solar Loan Project Application Yield<sup>157</sup> by FY Received

<b>Fiscal Year Received</b>	<b>Applications Received</b>	<b>Applications Approved</b>	<b>Applications Withdrawn</b>	<b>Applications Denied</b>	<b>Approved Rate</b>	<b>Denied Rate</b>
2012	-	-	-	-	-	-
2013	14	7	5	2	86%	14%
2014	284	163	54	67	76%	24%
2015	164	109	37	18	89%	11%
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
<b>Total</b>	<b>462</b>	<b>279</b>	<b>96</b>	<b>87</b>	<b>81%</b>	<b>19%</b>

<sup>157</sup> Applications received are applications submitted to Sungage Financial (servicer of the CT Solar Loan) for credit approval. Applications approved are applications that have met the credit requirements for the program and can move to loan closing, pending formal technical approval of the solar equipment by the Residential Solar Investment Program. Applications withdrawn are applications that have been cancelled by the submitter due to the project not moving forward. Applications denied are applications that are not approved because the customer does not meet underwriting requirements.

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**Area Median Income Band Penetration**

For a breakdown of the CT Solar Loan volume and investment by census tracts categorized by Area Median Income bands – see Table 134. It should be noted that the CT Solar Loan is not an income-targeted program.

**Table 134. CT Solar Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands by FY Closed<sup>158</sup>**

Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2012	<60%	0	0%	0.0	0%	\$0	0%	61,168	7%	0.0	\$0.00	0.0
2012	60%-80%	0	0%	0.0	0%	\$0	0%	101,640	12%	0.0	\$0.00	0.0
2012	80%-100%	0	0%	0.0	0%	\$0	0%	151,346	17%	0.0	\$0.00	0.0
2012	100%-120%	0	0%	0.0	0%	\$0	0%	216,988	25%	0.0	\$0.00	0.0
2012	>120%	0	0%	0.0	0%	\$0	0%	350,196	40%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	881,338	100%	0.0	\$0.00	0.0
2013	<60%	0	0%	0.0	0%	\$0	0%	59,494	7%	0.0	\$0.00	0.0
2013	60%-80%	1	33%	0.0	31%	\$33,775	37%	109,189	12%	0.0	\$0.31	0.0
2013	80%-100%	0	0%	0.0	0%	\$0	0%	150,603	17%	0.0	\$0.00	0.0
2013	100%-120%	1	33%	0.0	47%	\$38,249	42%	203,157	23%	0.0	\$0.19	0.0
2013	>120%	1	33%	0.0	22%	\$19,900	22%	351,633	40%	0.0	\$0.06	0.0
2013	Total	3	100%	0.0	100%	\$91,924	100%	874,076	100%	0.0	\$0.11	0.0
2014	<60%	1	1%	0.0	0%	\$9,948	0%	57,673	7%	0.0	\$0.17	0.0
2014	60%-80%	3	2%	0.0	2%	\$89,796	2%	103,934	12%	0.0	\$0.86	0.2
2014	80%-100%	24	17%	0.2	14%	\$637,228	14%	149,038	17%	0.2	\$4.28	1.1
2014	100%-120%	49	35%	0.4	37%	\$1,624,516	36%	209,561	24%	0.2	\$7.75	2.0
2014	>120%	63	45%	0.5	47%	\$2,100,345	47%	348,270	40%	0.2	\$6.03	1.5
2014	Total	140	100%	1.1	100%	\$4,461,833	100%	868,476	100%	0.2	\$5.14	1.3

<sup>158</sup> Excludes projects in unknown bands.

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Fiscal Year Closed	MSA AMI Band	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Owner Occupied 1-4 Unit Households	% Owner Occupied 1-4 Unit Household Distribution	Project Units / 1,000 Owner Occupied 1-4 Unit Households	Total Investment / Owner Occupied 1-4 Unit Household	Watts / Owner Occupied 1-4 Unit Household
2015	<60%	1	1%	0.0	0%	\$22,510	0%	64,361	7%	0.0	\$0.35	0.1
2015	60%-80%	10	7%	0.1	6%	\$286,560	6%	96,305	11%	0.1	\$2.98	0.7
2015	80%-100%	18	13%	0.1	13%	\$603,685	13%	164,873	19%	0.1	\$3.66	0.8
2015	100%-120%	30	22%	0.2	23%	\$1,008,757	22%	184,613	21%	0.2	\$5.46	1.3
2015	>120%	77	57%	0.6	58%	\$2,583,874	57%	352,621	41%	0.2	\$7.33	1.7
2015	Total	136	100%	1.1	100%	\$4,505,386	100%	862,773	100%	0.2	\$5.22	1.2
Total	<60%	2	1%	0.0	0%	\$32,458	0%	60,769	7%	0.0	\$0.53	0.1
Total	60%-80%	14	5%	0.1	4%	\$410,131	5%	99,220	12%	0.1	\$4.13	0.9
Total	80%-100%	42	15%	0.3	14%	\$1,240,913	14%	165,331	19%	0.3	\$7.51	1.8
Total	100%-120%	80	29%	0.7	30%	\$2,671,522	29%	187,463	22%	0.4	\$14.25	3.5
Total	>120%	141	51%	1.1	52%	\$4,704,119	52%	345,311	40%	0.4	\$13.62	3.3
Total	Total	279	100%	2.2	100%	\$9,059,143	100%	858,094	100%	0.3	\$10.56	2.6

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Table 135. CT Solar Loan Activity in Metropolitan Statistical Area (MSA) Area Median Income (AMI) Bands Above or Below 100% by FY Closed<sup>159</sup>

Fiscal Year Closed	# Project Units				MW				Total Investment			
	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below	Total	Over 100% AMI	100% or Below AMI	% at 100% or Below
2012	0	0	0	0%	0.0	0.0	0.0	0%	\$0	\$0	\$0	0%
2013	3	2	1	33%	0.0	0.0	0.0	31%	\$91,924	\$58,149	\$33,775	37%
2014	140	112	28	20%	1.1	0.9	0.2	16%	\$4,461,833	\$3,724,861	\$736,971	17%
2015	136	107	29	21%	1.1	0.9	0.2	20%	\$4,505,386	\$3,592,631	\$912,755	20%
2016	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>279</b>	<b>221</b>	<b>58</b>	<b>21%</b>	<b>2.2</b>	<b>1.8</b>	<b>0.4</b>	<b>18%</b>	<b>\$9,059,143</b>	<b>\$7,375,641</b>	<b>\$1,683,502</b>	<b>19%</b>

<sup>159</sup> Excludes projects in unknown bands.

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**Distressed Community Penetration**

For a breakdown of the CT Solar Loan project volume and investment by census tracts categorized by Distressed Communities – see Table 136. It should be noted that the CT Solar Loan is not an income-targeted program.

**Table 136. CT Solar Loan Activity in Distressed Communities by FY Closed**

Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2012	Yes	0	0%	0.0	0%	\$0	0%	447,962	33%	0.0	\$0.00	0.0
2012	No	0	0%	0.0	0%	\$0	0%	912,222	67%	0.0	\$0.00	0.0
2012	Total	0	0%	0.0	0%	\$0	0%	1,360,184	100%	0.0	\$0.00	0.0
2013	Yes	2	67%	0.0	78%	\$72,024	78%	426,564	31%	0.0	\$0.17	0.0
2013	No	1	33%	0.0	22%	\$19,900	22%	929,285	69%	0.0	\$0.02	0.0
2013	Total	3	100%	0.0	100%	\$91,924	100%	1,355,849	100%	0.0	\$0.07	0.0
2014	Yes	26	19%	0.2	18%	\$757,309	17%	416,415	31%	0.1	\$1.82	0.5
2014	No	114	81%	0.9	82%	\$3,704,523	83%	939,791	69%	0.1	\$3.94	1.0
2014	Total	140	100%	1.1	100%	\$4,461,833	100%	1,356,206	100%	0.1	\$3.29	0.8
2015	Yes	18	13%	0.1	11%	\$483,091	11%	423,559	31%	0.0	\$1.14	0.3
2015	No	118	87%	1.0	89%	\$4,022,296	89%	929,024	69%	0.1	\$4.33	1.0
2015	Total	136	100%	1.1	100%	\$4,505,386	100%	1,352,583	100%	0.1	\$3.33	0.8
2016	Yes	0	0%	0.0	0%	\$0	0%	438,710	32%	0.0	\$0.00	0.0
2016	No	0	0%	0.0	0%	\$0	0%	916,003	68%	0.0	\$0.00	0.0
2016	Total	0	0%	0.0	0%	\$0	0%	1,354,713	100%	0.0	\$0.00	0.0
2017	Yes	0	0%	0.0	0%	\$0	0%	435,595	32%	0.0	\$0.00	0.0
2017	No	0	0%	0.0	0%	\$0	0%	926,160	68%	0.0	\$0.00	0.0
2017	Total	0	0%	0.0	0%	\$0	0%	1,361,755	100%	0.0	\$0.00	0.0

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Fiscal Year Closed	Distressed	# of Project Units	% Project Distribution	Installed Capacity (MW)	% MW Distribution	Total Investment	% Investment Distribution	Total Households	% Total Household Distribution	Project Units / 1,000 Total Households	Total Investment / Total Household	Watts / Total Household
2018	Yes	0	0%	0.0	0%	\$0	0%	435,595	32%	0.0	\$0.00	0.0
2018	No	0	0%	0.0	0%	\$0	0%	926,160	68%	0.0	\$0.00	0.0
2018	Total	0	0%	0.0	0%	\$0	0%	1,361,755	100%	0.0	\$0.00	0.0
2019	Yes	0	0%	0.0	0%	\$0	0%	435,595	32%	0.0	\$0.00	0.0
2019	No	0	0%	0.0	0%	\$0	0%	926,160	68%	0.0	\$0.00	0.0
2019	Total	0	0%	0.0	0%	\$0	0%	1,361,755	100%	0.0	\$0.00	0.0
Total	Yes	46	16%	0.3	15%	\$1,312,424	14%	435,595	32%	0.1	\$3.01	0.7
Total	No	233	84%	1.9	85%	\$7,746,719	86%	926,160	68%	0.3	\$8.36	2.0
Total	Total	279	100%	2.2	100%	\$9,059,143	100%	1,361,755	100%	0.2	\$6.65	1.6

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**Societal Impacts**

Ratepayers in Connecticut continue to enjoy the societal benefits of the CT Solar Loan Program despite its closure. Over the course of its existence, the program has led to the creation of 132 job years, avoided the lifetime emission of 35,015 tons of carbon dioxide, 46,896 pounds of nitrous oxide, 53,064 pounds of sulfur oxide, and 3,131 pounds of particulate matter as illustrated by Tables 137 and 139. The economic impact of this improved air quality is estimated between \$1.2 and 2.7 million of the projects' lifetimes as evidenced in Table 140. The Solar loan generated \$463,746 for the state in tax revenue as shown in Table 138.

**Table 137. CT Solar Loan Job Years Supported by FY Closed**

<b>Fiscal Year</b>	<b>Direct Jobs</b>	<b>Indirect and Induced Jobs</b>	<b>Total Jobs</b>
2012	-	-	-
2013	1	1	1
2014	25	40	65
2015	25	41	66
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
<b>Total</b>	<b>51</b>	<b>82</b>	<b>132</b>

**Table 138. CT Solar Loan Tax Revenues Generated by FY Closed**

<b>Fiscal Year</b>	<b>Individual Income Tax Revenue Generated</b>	<b>Corporate Tax Revenue Generated</b>	<b>Sales Tax Revenue Generated</b>	<b>Total Tax Revenue Generated</b>
2012	\$0	\$0	\$0	\$0
2013	\$2,350	\$2,336	\$0	\$4,686
2014	\$114,374	\$113,724	\$0	\$228,098
2015	\$115,810	\$115,152	\$0	\$230,962
2016	\$0	\$0	\$0	\$0
2017	\$0	\$0	\$0	\$0
2018	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$232,534</b>	<b>\$231,212</b>	<b>\$0</b>	<b>\$463,746</b>

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Table 139. CT Solar Loan Avoided Emissions by FY Closed

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	10	277	17	417	22	537	0	24
2014	706	17,541	980	24,519	1,163	29,008	51	1,583
2015	686	17,200	879	21,964	939	23,519	44	1,518
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1,402</b>	<b>35,018</b>	<b>1,876</b>	<b>46,900</b>	<b>2,124</b>	<b>53,064</b>	<b>95</b>	<b>3,125</b>

Table 140. CT Solar Loan Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	\$377	\$850	\$9,413	\$21,251
2014	\$24,476	\$55,259	\$611,889	\$1,381,481
2015	\$23,578	\$53,233	\$589,451	\$1,330,823
2016	-	-	-	-
2017	-	-	-	-
2018	-	-	-	-
2019	-	-	-	-
<b>Total</b>	<b>\$48,430</b>	<b>\$109,342</b>	<b>\$1,210,753</b>	<b>\$2,733,555</b>

**Financing Program**

Launched in March of 2013, the CT Solar Loan provided up to \$55,000 per loan, with 15-year maturity terms and affordable 6.49% interest rates (including 0.25% ACH payment benefit) to provide homeowners with the upfront capital they needed to finance residential solar PV projects. The program ended in FY2015.

The program involved a financing product developed in partnership with Sungage Financial<sup>160</sup> that used credit enhancements (i.e., \$300,000 loan loss reserve and \$168,000 interest rate buy-downs)<sup>161</sup> in combination with a \$5 million warehouse of funds and \$1 million of subordinated debt from the Connecticut Green Bank. Through this product, the Connecticut Green Bank lowered the barriers to Connecticut homeowners seeking to install solar PV installations thus increasing demand while at the same time reducing the market’s reliance on subsidies being offered through the RSIP. The CT Solar Loan was the first dedicated residential solar loan product not secured by a lien on the home or tied to a particular PV equipment OEM supplier.

<sup>160</sup> Sungage Financial (<http://www.sungagefinancial.com/>) won a competitive RFP through the Connecticut Green Bank’s Financial Innovation RFP to support a residential solar PV loan program

<sup>161</sup> From repurposed American Recovery and Reinvestment Act funds

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**5. PROGRAMS – CT SOLAR LOAN**

As a loan, capital provided to consumers for the CT Solar Loan is returned to the Connecticut Green Bank – it is not a subsidy. In fact, approximately 80% of the loan value was sold to retail investors through a “crowd funding” platform or to institutional investors without recourse to the Connecticut Green Bank. The financial structure of the CT Solar Loan product includes origination,<sup>162</sup> servicing,<sup>163</sup> and financing features in combination with the support of the Connecticut Green Bank.

**Financial Performance**

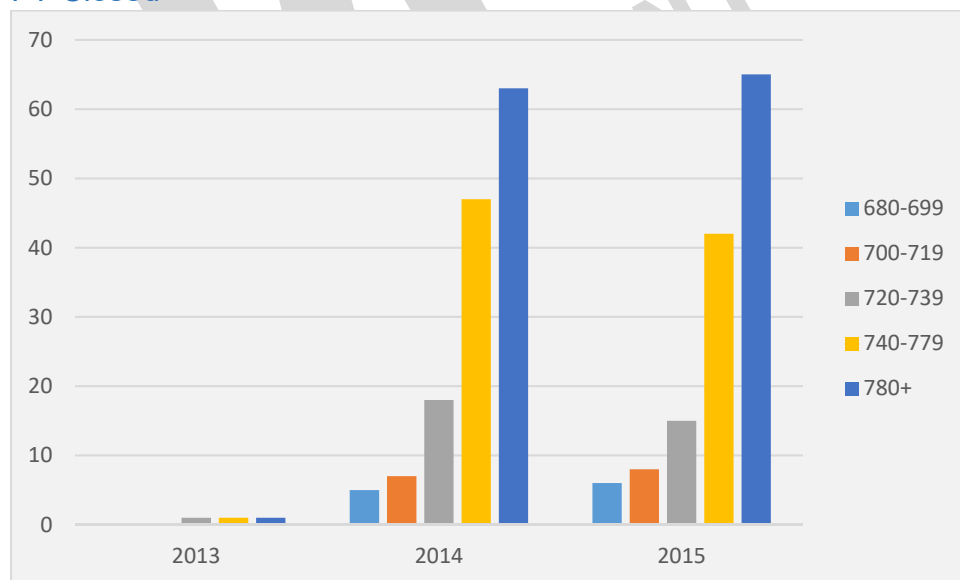
To date there have been no defaults and as of 6/30/2019 there are 4 delinquencies with original principle balances totaling \$66,203 or 1.4% of the portfolio.

The household customers that accessed the CT Solar Loan since its launch in 2013 had varying credit scores – see Table 141.

**Table 141. Credit Score Ranges of Household Customers Using the CT Solar Loan by FY Closed**

Fiscal Year	Unknown	580-599	600-639	640-679	680-699	700-719	720-739	740-779	780+	Grand Total
2012	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	1	1	1	3
2014	-	-	-	-	5	7	18	47	63	140
2015	-	-	-	-	6	8	15	42	65	136
<b>Total</b>	-	-	-	-	<b>11</b>	<b>15</b>	<b>34</b>	<b>90</b>	<b>129</b>	<b>279</b>
					4%	5%	12%	32%	46%	100%

**Figure 14. Credit Score Ranges of Household Customers Using the CT Solar Loan by FY Closed**



<sup>162</sup> Sungage Financial in partnership with local contractors

<sup>163</sup> Concord Servicing Corporation

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – CT SOLAR LOAN**

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**Marketing**

To accelerate the deployment of residential solar PV through the RSIP and the uptake of the CT Solar Loan financing product, the Connecticut Green Bank implemented Solarize Connecticut. Green Bank Solarize programs are designed to use a combination of group purchasing, time-limited offers, and grassroots outreach, while local clean energy advocates volunteer and coordinate with their towns to help speed the process – see Table 142.

**Table 142. Number of Projects, Investment, and Installed Capacity through Green Bank Solarize Connecticut for the CT Solar Loan Financing Product**

	<b># of Projects</b>	<b>Total Investment</b>	<b>Installed Capacity (MW)</b>
Solarize	168	\$5,209,925	1.3
Not Solarize	111	\$3,849,218	0.9
<b>Total</b>	279	\$9,059,143	2.2
<b>% Solarize</b>	60%	58%	59%

The Green Bank Solarize Connecticut program provided a significant marketing channel to catalyze origination for the CT Solar Loan comprising nearly 60 percent of the total projects, investment, and installed capacity.

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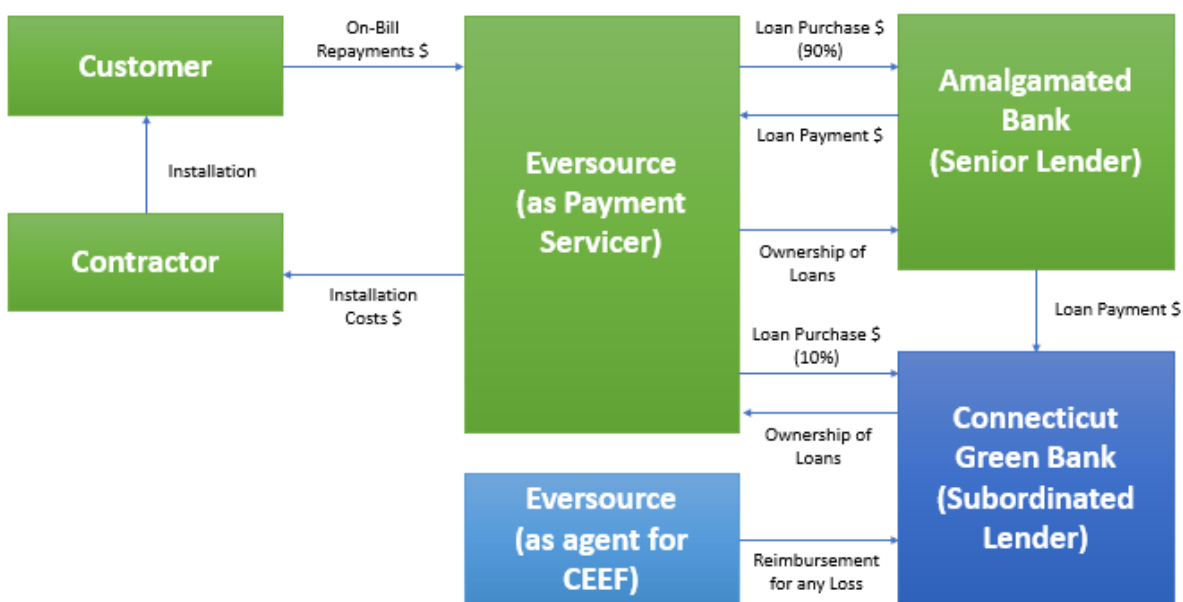
## Case 8 – SBEA

### Description

The Small Business Energy Advantage program was created in partnership by the United Illuminating and Eversource under the guidance of the Energy Efficiency Board. The program enables small businesses, who have an average 12-month peak demand between 10 and 200 kw to reduce their energy costs by addressing energy efficiency opportunities in their office, shops, restaurants, and factories. Participants can borrow up to \$100,000 to address these measures, at zero interest and repay their financing on their electric bills.

In 2019, the Green Bank closed on a financing structure that brought cheaper capital from the market to the program, thereby reducing the ratepayer's subsidy it, by lowering the cost of capital in the program through a public-private partnership between the Green Bank and Amalgamated Bank.

Figure 5. Legal Structure and Flows of Capital for SBEA



**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – CT SOLAR LOAN**

**Key Performance Indicators**

The Key Performance Indicators for SBEA closed activity are reflected in Tables 40 through 41. These illustrate the volume of projects by year, investment, and generation capacity installed. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

**Table 40. SBEA Project Types and Investment by FY Closed**

<b>Fiscal Year Closed</b>	<b>EE</b>	<b># Projects</b>	<b>Total Investment</b>	<b>Green Bank Investment</b>	<b>Private Investment</b>	<b>Leverage Ratio</b>
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	-	-	-	-	-	-
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	4,339	4,339	\$47,681,205	\$4,486,648	\$43,194,557	10.6-
<b>Total</b>	<b>4,339</b>	<b>4,339</b>	<b>\$47,681,205</b>	<b>\$4,486,648</b>	<b>\$43,194,557</b>	<b>10.6-</b>

**Table 41. SBEA Project Capacity, Generation and Savings by FY Closed<sup>164</sup>**

<b>Fiscal Year Closed</b>	<b>Installed Capacity (kW)</b>	<b>Expected Annual Generation (kWh)</b>	<b>Expected Lifetime Savings or Generation (MWh)</b>	<b>Annual Saved / Produced (MMBtu)</b>	<b>Lifetime Saved / Produced (MMBtu)</b>	<b>Annual Cost Savings</b>	<b>Lifetime Cost Savings</b>
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	397,343	-	-	-
<b>Total</b>				<b>397,343</b>			

<sup>164</sup> Energy Savings numbers for SBEA are provided by to the Green Bank by Eversource using their established methodology. These savings numbers are not included in overall Green Bank impact numbers.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – CT SOLAR LOAN**

**Societal Impacts**

Table 42. SBEA Job Years Supported by FY Closed<sup>165</sup>

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	253	324	577
<b>Total</b>	<b>253</b>	<b>324</b>	<b>577</b>

Table 43. SBEA Avoided Emissions by FY Closed<sup>166</sup>

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	39,784	-	-	-	-	-	-	-
<b>Total</b>	<b>39,784</b>	-	-	-	-	-	-	-

**Financing Program**

SBEA offer participants zero-interest, on-bill financing for up to 4 years. Business are eligible for up to \$100,000 per meter, with higher limits for municipalities and the state. The Connecticut Green Bank and Amalgamated Bank have partnered together to supply capital for Eversource’s SBEA financing. The loans are originally funded by Eversource. Connecticut Green Bank and Amalgamated Bank purchase these loans on a quarterly basis at a rate discounted to bring their customer-facing rate to 0%. Connecticut Green Bank contributes 10% of the capital for these purchases and the remaining 90% comes from Amalgamated Bank. Loan losses are backed by the Connecticut Energy Efficiency Fund.

<sup>165</sup> These jobs estimates were calculated using the established Green Bank methodology but are not included in overall Green Bank impact numbers.

<sup>166</sup> These avoided emissions are provided by Eversource and are excluded from the Green Bank’s total emissions avoided

### Financial Performance

As of June 30, 2019, there were 57 delinquent SBEA loans with a balance of \$455,304.31 or 1.28% of the outstanding balance. All delinquencies were from the first tranche of loans purchased by the Green Bank and Amalgamated and represent 1.55% of the outstanding balance of that tranche.

### Marketing

SBEA is marketed by the utilities through a network of authorized contractors. They offer a free energy assessment and incentives, in addition to the financing. At present, the Green Bank is not involved with efforts to market SBEA.

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**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – PILOT PROGRAMS**

**Anaerobic Digestion and Combined Heat and Power Pilot Programs**

These pilot programs were initiated in 2011 per Public Act 11-80 Section 103, the Green Bank is to develop a three-year pilot program for AD and CHP by setting aside \$2 million a year for each pilot for three years – for a total of \$12 million. Funds to support the pilot programs could be used as grants, power purchase agreements or loans. There were to be no more than five (5) AD projects, each no more than 3 MW in size, and no more than 50 MW of CHP projects each not to exceed 5 MW in size. Both pilot programs supported projects at no more than \$450 per kW on a grant basis; Seven projects were supported over the duration of these pilots (see Table 143 below). Due to the Connecticut General Assembly’s reallocation of monies from the Clean Energy Fund to the General Fund in 2017, the Green Bank cancelled existing commitments for these pilots the following year.

**Key Performance Indicators**

The Key Performance Indicators for the AD and CHP Pilot Programs closed activity are reflected in Tables 143 through 145. These illustrate the volume of projects by year, investment, generation capacity installed, and the amount of energy saved and/or produced. It also breaks down the volume of projects by energy efficiency, renewable generation, or both.

**Table 143. AD and CHP Pilot Project Types and Investment by FY Closed**

<b>Fiscal Year Closed</b>	<b>EE</b>	<b>RE</b>	<b>RE/EE</b>	<b># Projects</b>	<b>Total Investment</b>	<b>Green Bank Investment<sup>167</sup></b>	<b>Private Investment</b>	<b>Leverage Ratio</b>
2012	-	-	-	-	-	-	-	-
2013		2		2	\$3,189,000	\$304,500	\$2,884,500	10.5
2014		1		1	\$6,300,000	\$630,000	\$5,670,000	10.0
2015		2		2	\$642,578	\$60,750	\$581,828	10.6
2016		1		1	\$10,500,000	\$1,997,403	\$8,502,597	5.3
2017		1		1	\$3,401,392	\$502,860	\$2,898,532	6.8
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
<b>Total</b>		<b>7</b>		<b>7</b>	<b>\$24,032,970</b>	<b>\$3,495,513</b>	<b>\$20,537,457</b>	<b>6.9</b>

<sup>167</sup> Includes incentives, interest rate buydowns and loan loss reserves.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – PILOT PROGRAMS**

Table 144. AD and CHP Pilot Project Capacity, Generation and Savings by FY Closed

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)	Annual Food/Organic Waste (tons/year)
2012	-	-	-	-	-	
2013	685.0	5,400,540	81,008	32,533	488,002	
2014	3,000.0	23,652,000	354,780	142,482	2,137,234	
2015	135.0	1,064,340	15,965	4,000	60,001	
2016	1,010.0	7,078,080	106,171	44,949	674,240	40,000
2017	795.0	6,267,780	94,017	304,445	4,566,675	
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
<b>Total</b>	<b>5,625.0</b>	<b>43,462,740</b>	<b>651,941</b>	<b>528,410</b>	<b>7,926,152</b>	<b>40,000</b>

Table 145. AD and CHP Pilot Project Averages by FY Closed

Fiscal Year Closed	Total Average Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)
2012	-	-	-	-
2013	\$1,594,500	\$0	342.5	16,267
2014	\$6,300,000	\$0	3,000.0	142,482
2015	\$321,289	\$0	67.5	2,000
2016	\$10,500,000	\$1,997,403	1,010.0	44,949
2017	\$3,401,392	\$502,860	795.0	304,445
2018	-	-	-	-
2019	-	-	-	-
<b>Total</b>	<b>\$3,433,281</b>	<b>\$1,250,132</b>	<b>803.6</b>	<b>75,487</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – PILOT PROGRAMS**

**Societal Impacts**

Ratepayers in Connecticut continue to enjoy the societal benefits of the AD and CHP Programs despite its closure. Over the course of its existence, these programs have supported the creation of 188 job years as illustrated by Table 146. These projects have generated over \$2 million in tax revenues as shown in Table 147. We have not included environmental or public health impacts for these pilots as the Avert and CoBRA models do not consider the technologies of these pilots.

**Table 146. AD and CHP Pilot Job Years Supported by FY Closed**

<b>Fiscal Year</b>	<b>Direct Jobs</b>	<b>Indirect and Induced Jobs</b>	<b>Total Jobs</b>
2012	-	-	-
2013	12	20	32
2014	25	39	64
2015	3	4	6
2016	20	32	51
2017	13	21	34
2018	-	-	-
2019	-	-	-
<b>Total</b>	<b>73</b>	<b>115</b>	<b>188</b>

**Table 147. AD and CHP Tax Revenues Generated by FY Closed**

<b>Fiscal Year</b>	<b>Individual Income Tax Revenue Generated</b>	<b>Corporate Tax Revenue Generated</b>	<b>Sales Tax Revenue Generated</b>	<b>Total Tax Revenue Generated</b>
2012	\$0	\$0	\$0	\$0
2013	\$103,438	\$84,824	\$174,572	\$362,834
2014	\$204,347	\$167,574	\$344,873	\$716,794
2015	\$20,843	\$17,092	\$35,176	\$73,110
2016	\$101,777	\$0	\$600,933	\$702,709
2017	\$73,820	\$90,474	\$186,198	\$350,492
2018	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$504,225</b>	<b>\$359,963</b>	<b>\$1,341,752</b>	<b>\$2,205,940</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – STRATEGIC INVESTMENTS**

**Strategic Investments**

As opportunities present themselves, the Green Bank’s financial resources are considered for part of the capital stack of projects that are outside any of the organization’s existing programs. These projects are selected based on the opportunity to expand the organization’s experience with specific technologies, to advance economic development in a specific locale, or to drive adoption of clean energy that would otherwise not occur.

**Key Performance Indicators**

The Key Performance Indicators for the Strategic Program closed activity are reflected in Tables 148 through 150.

**Table 148. Strategic Project Types and Investment by FY Closed**

Fiscal Year Closed	EE	RE	RE/EE	Other	# Projects	Total Investment	Green Bank Investment <sup>168</sup>	Private Investment	Leverage Ratio
2012	-	-	-	-	-	-	-	-	-
2013		1			1	\$70,800,000	\$5,800,000	\$65,000,000	12.2
2014	-	-	-	-	-	-	-	-	-
2015		1		1	2	\$56,500,000	\$3,227,000	\$53,273,000	17.5
2016	-	-	-	-	-	-	-	-	-
2017		1			1	\$4,538,212	\$3,900,000	\$638,212	1.2
2018	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-
<b>Total</b>		<b>3</b>			<b>4</b>	<b>\$131,838,212</b>	<b>\$12,927,000</b>	<b>\$118,911,212</b>	<b>10.2</b>

**Table 149. Strategic Project Capacity, Generation and Savings by FY Closed**

Fiscal Year Closed	Installed Capacity (kW)	Expected Annual Generation (kWh)	Expected Lifetime Savings or Generation (MWh)	Annual Saved / Produced (MMBtu)	Lifetime Saved / Produced (MMBtu)
2012	-	-	-	-	-
2013	14,800.0	116,683,200	1,166,832	398,123	3,981,231
2014	-	-	-	-	-
2015	5,000.0	136,494,997	118,260	465,850	403,503
2016	-	-	-	-	-
2017	193.0	825,052	20,626	2,815	70,377
2018	-	-	-	-	-
2019	-	-	-	-	-
<b>Total</b>	<b>19,993.0</b>	<b>254,003,249</b>	<b>1,305,718</b>	<b>866,788</b>	<b>4,455,111</b>

<sup>168</sup> Includes incentives, interest rate buydowns and loan loss reserves.

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – STRATEGIC INVESTMENTS**

Table 150. Strategic Project Averages by FY Closed

Fiscal Year Closed	Average Total Investment	Average Amount Financed	Average Installed Capacity (kW)	Average Annual Saved / Produced (MMBtu)
2012	-	-	-	-
2013	\$70,800,000	\$5,800,000	14,800.0	398,123
2014	-	-	-	-
2015	\$28,250,000	\$1,613,500	2,500.0	232,925
2016	-	-	-	-
2017	\$4,538,212	\$3,900,000	193.0	2,827
2018	-	-	-	-
2019	-	-	-	-
<b>Total</b>	<b>\$32,959,553</b>	<b>\$3,231,750</b>	<b>6,664.3</b>	<b>216,700</b>

**Societal Impacts**

Ratepayers in Connecticut enjoy of the societal benefits of Strategic Investments. Over the course of its existence, the program has supported the creation of 1,554 job years, avoided the emission 151,948 tons of carbon dioxide, 682,313 pounds of nitrous oxide, 495,851 pounds of sulfur oxide, and 4,749 pounds of particulate matter as illustrated by Tables 151 and 153. The economic value of the public health impacts of this cleaner air, illustrated in table 154, is estimated to be between \$2.1 and \$23 million. These projects have generated more than \$13 million in tax revenues since inception as shown in Table 152.

Table 151. Strategic Job Years Supported by FY Closed

Fiscal Year	Direct Jobs	Indirect and Induced Jobs	Total Jobs
2012	-	-	-
2013	340	779	1,119
2014	-	-	-
2015	279	360	639
2016	-	-	-
2017	28	36	64
2018	-	-	-
2019	-	-	-
<b>Total</b>	<b>647</b>	<b>1,175</b>	<b>1,822</b>

**CONNECTICUT GREEN BANK**  
**5. PROGRAMS – STRATEGIC INVESTMENTS**

Table 152. Strategic Tax Revenues Generated by FY Closed

Fiscal Year	Individual Income Tax Revenue Generated	Corporate Tax Revenue Generated	Sales Tax Revenue Generated	Total Tax Revenue Generated
2012	\$0	\$0	\$0	\$0
2013	\$1,782,886	\$503,246	\$3,907,840	\$6,193,972
2014	\$0	\$0	\$0	\$0
2015	\$2,001,357	\$1,253,139	\$3,036,598	\$6,291,094
2016	\$0	\$0	\$0	\$0
2017	\$148,127	\$176,704	\$237,072	\$561,903
2018	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$3,932,370</b>	<b>\$1,933,089</b>	<b>\$7,181,510</b>	<b>\$13,046,969</b>

Table 153. Strategic Avoided Emissions by FY Closed

Fiscal Year	CO2 Emissions Avoided (tons)		NOx Emissions Avoided (pounds)		SOx Emissions Avoided (pounds)		PM 2.5 (pounds)	
	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime
2012	-	-	-	-	-	-	-	-
2013	7,876	78,761	63,009	630,089	45,623	456,231	0	0
2014	-	-	-	-	-	-	-	-
2015	4,165	62,471	2,890	43,354	2,105	31,575	317	4,749
2016	-	-	-	-	-	-	-	-
2017	430	10,759	356	8,906	323	8,077	0	0
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
<b>Total</b>	<b>12,471</b>	<b>151,992</b>	<b>66,255</b>	<b>682,349</b>	<b>48,051</b>	<b>495,884</b>	<b>317</b>	<b>4,749</b>

Table 154. Strategic Investments Public Health Impact by FY Closed

Fiscal Year	Annual		Lifetime	
	Low	High	Low	High
2012	-	-	-	-
2013	\$839,171	\$1,896,841	\$8,391,713	\$18,968,414
2014	-	-	-	-
2015	\$124,567	\$280,670	\$1,868,508	\$4,210,056
2016	-	-	-	-
2017	\$5,678	\$12,835	\$141,955	\$320,871
2018	-	-	-	-
2019	-	-	-	-
<b>Total</b>	<b>\$969,417</b>	<b>\$2,190,347</b>	<b>\$10,402,175</b>	<b>\$23,499,341</b>

## 6. Appendix

### Terms and Definitions

The following is meant to serve as guide to the reader of common terms used in this section and to illustrate how the Green Bank defines these terms:

**Applications Received** - This is the number of applications submitted to CGB seeking an incentive or financing during a specific period regardless of whether they were approved or rejected. The specific metric is calculated by subtracting the total number of applications received at the beginning of the time period from the total number of applications received at the end of the time period. This indicates interest in our program.

**Approved** - An approved project is one whose application has been reviewed by Green Bank staff and has been authorized to proceed to the funding stage, involving the project's requested CGB financing and/or incentives. The number of approvals in one period is an indicator of potential completed projects in subsequent periods.

**Closed** - A "Closed" project is one that has been approved by the CGB and for which CGB financing and/or incentives have been mobilized. For RSIP projects, once a project is approved, it is considered closed. This status also suggests that physical work is in progress or is imminent.

**Completed** – is a project that is generating or saving energy and has been deemed completed by the Green Bank and contractors based on program specific standards.

**Gross Investment** - This is the total system costs for all clean and renewable energy installations and/or the total costs of all energy efficiency projects during the specified time period, regardless of how much of the projects are being financed. Closing costs for CGB financing are not included in this total.

**Principal Amount Financed** - This is the total amount of money that is being borrowed regardless of whether it is wholly or partially from the CGB. For some programs, this amount will be greater than the gross investment, to include closing costs that are rolled into the loans. Principal Amount Financed equals Gross Investment plus closing costs that are financed, minus any part of the projects paid upfront by the borrowers:

$$\text{Principal Amount Financed} = \text{Gross Investment} + \text{Fees Financed} - \text{Owners' Contributions}$$

This should also equal CGB investment plus third party investment:

$$\text{Principal Amount Financed} = \text{CGB Investment} + \text{Third Party Financing}$$

**CGB Investment** - Green Bank investment activity is broken down into two categories, presented below as separate metrics.

$$\text{CGB Investment} = \text{CGB Incentives} + \text{CGB Financing}$$

**CGB Incentives** - CGB incentives are funds that are not intended to be repaid by the recipient and are used to reduce the cost of a specific product or technology. At present, RSIP is the only active incentive program administered by CGB.

## CONNECTICUT GREEN BANK

### 6. APPENDIX

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**CGB Financing** - CGB financing includes the total funds deployed by the Green Bank during the specified time period with the intention either that the funds will be repaid or to bolster the creditworthiness of borrowers. CGB Financing is the sum of the types of financing below, each of which is its own metric.

$$\text{CGB Financing} = \text{CGB Loans and Leases} + \text{CGB Credit Enhancements}$$

**CGB Loans and Leases** - Loans and leases are the types of CGB financing in which capital is directly lent to fund projects. It does not include third party lending.

**CGB Credit Enhancements** - Credit enhancements involve the deployment of CGB capital to bolster the credit of borrowers. This financing category is comprised of the three categories of funds below, each as its own metric.

$$\text{CGB Credit Enhancements} = \text{Loan Loss Reserves} + \text{Guarantees} + \text{Interest Rate Buy-Downs}$$

**Loan Loss Reserves** - Loan Loss Reserves are capital that the CGB has segregated as part of a program to ensure against losses incurred by participating lenders due to the failure of borrowers to repay loans.

**Guarantees** - Guarantees reflect a specified dollar commitment that CGB has made to external lenders for repayment of specific transactions in the event one or more borrowers fail to repay the lenders.

**Interest Rate Buy-Downs** - Interest rate buy-downs involve the deployment of CGB capital by paying a portion of the interest on borrowers' loans to decrease their cost of capital.

**Third Party Financing** - This metric captures the amount of project financing that is provided by parties other than the CGB and project owner. It is this type of financing that the CGB seeks to grow in relation to its own financing.

#### **Leverage Ratio**

This metric presents the relationship between private financing and CGB's direct financing.

$$\text{Leverage Ratio} = \text{Gross Investment} / \text{CGB Investment}$$

#### **Mobilization Ratio**

This metric presents the relationship between private financing and CGB's direct investment (both financing and incentives).

$$\text{Mobilization Ratio} = \text{Third-Party Financing Amount} / \text{CGB Investment}$$



## Community Activity Table

See the Municipality Tables in here.<sup>169</sup>

## Contractor Activity Table

See the Contractor Tables in here.<sup>170</sup>

## Trained Contractor Table

See the Trained Contractor table in here.<sup>171</sup>

## Calculations and Assumptions

Table 155. Capacity Factors and Expected Useful Life (EUL) By Technology

Technology	Capacity Factor	EUL
AD	0.80	15
CHP	0.90	15
EE	0.0	12
Fuel Cell	0.90	10
Geothermal	0.0	25
Hydro	0.49	25
PV	0.13	25
PV/Biomass	0.13	25
Solar Thermal	0.0	20
Wind	0.18	15

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<sup>169</sup> <http://www.ctgreenbank.com/fy17-cafr-nfs-appendix/>

<sup>170</sup> <http://www.ctgreenbank.com/fy17-cafr-nfs-appendix/>

<sup>171</sup> <http://www.ctgreenbank.com/fy17-cafr-nfs-appendix/>

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Table 156. Job Year Factors by Year Approved by Technology

	2009 Factors - Approved prior to 6/30/2016			2016 Factors - Approved after 7/1/2016			2018 Factors - Approved after 7/1/2018		
	Direct Job Years	Indirect and Induced Jobs	Total Job Years per \$1M Invested	Direct Job Years	Indirect and Induced Jobs	Total Job Years per \$1M Invested	Direct Job Years	Indirect and Induced Jobs	Total Job Years per \$1M Invested
	<b>Renewable Energy</b>								
Fuel Cell R&D/Engineering	2.9	4.6	7.5	2.9	3.8	6.7	2.8	3.7	6.5
Fuel Cell Manufacturing	4.8	11.0	15.8	4.9	6.4	11.3	3.9	5.8	9.7
Solar PV - Residential	5.9	9.4	15.3	3.9	5.1	9.0	3.9	5.1	9.0
Solar PV - Non-Residential	3.4	5.4	8.8	3.1	4.0	7.1	3.1	4.0	7.1
Ductless Split Heat Pump	6.7	10.7	17.4	6.7	8.7	15.4	6.5	8.5	15.0
Geothermal	8.3	13.3	21.6	6.7	8.7	15.4	6.7	8.7	15.4
Solar Thermal	7.6	12.2	19.8	5.6	7.3	12.9	5.6	7.3	12.9
Wind Installation	6.2	9.9	16.1	6.2	8.0	14.2	5.8	7.6	13.4
Hydro Installation	6.2	9.9	16.1	6.2	8.0	14.2	5.8	7.6	13.4
EV Charging Stations - Installation	3.1	5.0	8.1	3.1	4.0	7.1	2.9	3.8	6.7
Storage Installation	2.2	3.5	5.7	2.2	2.9	5.1	2.2	2.9	5.1
Utility Scale Storage	2.1	3.4	5.5	2.1	2.7	4.9	2.1	2.7	4.9
AD	1.9	3.0	4.9	1.9	2.5	4.4	1.9	2.5	4.4
CHP	3.9	6.2	10.1	3.9	5.0	8.9	3.9	5.0	8.9
	<b>Energy Efficiency</b>								
Residential	12.9	20.6	33.5	0.0	0.0	0.0	0.0	0.0	0.0
Residential Lighting <sup>1</sup>	0.0	0.0	0.0	7.7	10.0	17.7	7.5	9.7	17.2
Residential Home Energy Solutions (HES) - Audits <sup>1</sup>	7.7	12.3	20.0	7.8	10.2	18.0	7.7	10.0	17.7
Residential HES - Weatherization & HVAC	0.0	0.0	0.0	5.6	7.3	12.9	5.4	7.0	12.5
Residential Gas Conversion	0.0	0.0	0.0	5.6	7.3	12.9	5.4	7.0	12.5
Small Business Energy Advantage	9.1	14.6	23.7	6.2	8.0	14.2	5.8	7.5	13.3
Large Commercial and Industrial	7.6	12.2	19.8	5.6	7.3	12.9	5.3	6.8	12.1

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Table 157. Residential Single Family Annual and Lifetime MMBTUs and Cost Savings<sup>172</sup>

<b>Improvement Type</b>	<b>Average Annual Savings MMBTUs</b>	<b>Average Lifetime Savings MMBTUs</b>	<b>Average Annual \$ Savings</b>	<b>Average Lifetime \$ Savings</b>	<b>Average Expected Useful Life (EUL)</b>
Air Source Heat Pump	10	190	\$419	\$8,374	20
Boiler	18	370	\$372	\$7,441	20
Central AC	3	58	\$142	\$2,552	18
Ductless Heat Pump	10	176	\$443	\$7,975	18
Furnace	15	295	\$357	\$7,136	20
Geothermal Heat Pump	5	104	\$1,593	\$31,860	20
Heat Pump Water Heater	6	78	\$215	\$2,584	12
Insulation	19	471	\$413	\$10,328	25
Other	7	138	\$154	\$3,075	20
Solar Hot Water Heater	6	157	\$150	\$3,740	25
Solar PV <sup>1</sup>	27	680	\$1,199	\$29,970	25
Water Heater	5	102	\$78	\$1,564	20
Windows	8	197	\$134	\$3,362	25

1. Used for other residential market programs.

<sup>172</sup> This chart was developed in in conjunction with utility staff as a guide for the Residential Sector based on utility program savings documents from 2016-17.

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Table 158. Average Emission Rates by Year Completed by Technology

	Year Completed					
	2017 <sup>4</sup>	2016	2015	2014	2013	2012 <sup>5</sup>
	<b>CO2 tons</b>					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only <sup>1</sup>	0.530	0.543	0.570	0.549	0.555	0.536
Fuel Cell <sup>2</sup>	0.068	0.068	0.068	0.068	0.068	0.068
Geothermal <sup>2</sup>	0.400	0.400	0.400	0.400	0.400	0.400
Hydro <sup>2</sup>	0.520	0.520	0.520	0.520	0.520	0.520
Solar PV <sup>1</sup>	0.539	0.562	0.575	0.551	0.572	0.558
Solar Thermal <sup>2</sup>	0.547	0.547	0.547	0.547	0.547	0.547
Wind <sup>1</sup>	0.528	0.537	0.575	0.562	0.558	0.523
	<b>NOX pounds</b>					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only <sup>1</sup>	0.400	0.480	0.648	0.739	0.741	0.548
Fuel Cell <sup>2</sup>	0.540	0.540	0.540	0.540	0.540	0.540
Geothermal <sup>2</sup>	0.335	0.335	0.335	0.335	0.335	0.335
Hydro <sup>2</sup>	0.430	0.430	0.430	0.430	0.430	0.430
Solar PV <sup>1</sup>	0.463	0.575	0.697	0.790	0.859	0.689
Solar Thermal <sup>2</sup>	0.453	0.453	0.453	0.453	0.453	0.453
Wind <sup>1</sup>	0.367	0.428	0.642	0.760	0.737	0.469
	<b>SO2 pounds</b>					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only <sup>1</sup>	0.261	0.340	0.665	0.890	0.952	0.732
Fuel Cell <sup>2</sup>	0.391	0.391	0.391	0.391	0.391	0.391
Geothermal <sup>2</sup>	0.297	0.297	0.297	0.297	0.297	0.297
Hydro <sup>2</sup>	0.390	0.390	0.390	0.390	0.390	0.390
Solar PV <sup>1</sup>	0.303	0.411	0.698	0.956	1.107	0.911
Solar Thermal <sup>2</sup>	0.411	0.411	0.411	0.411	0.411	0.411
Wind <sup>1</sup>	0.267	0.333	0.723	1.012	1.000	0.643
	<b>PM2.5 pounds<sup>3</sup></b>					
AD	0.000	0.000	0.000	0.000	0.000	0.000
CHP	0.000	0.000	0.000	0.000	0.000	0.000
EE Only <sup>1</sup>	0.042	0.043	0.045	0.045	0.045	0.045
Fuel Cell <sup>2</sup>	0.000	0.000	0.000	0.000	0.000	0.000
Geothermal <sup>2</sup>	0.000	0.000	0.000	0.000	0.000	0.000
Hydro <sup>2</sup>	0.000	0.000	0.000	0.000	0.000	0.000
Solar PV <sup>1</sup>	0.046	0.049	0.050	0.050	0.050	0.050
Solar Thermal <sup>2</sup>	0.000	0.000	0.000	0.000	0.000	0.000
Wind <sup>1</sup>	0.040	0.039	0.044	0.044	0.044	0.044

1. Average Emission Rates from AVERT Model.
2. Average Emission Rates from 2007 New England Marginal Emission Rate Analysis.
3. PM 2.5 Rates for 2012 - 2014 are unavailable and use the 2015 rates.
4. 2017 rates are used for projects completed in 2018,2019 and those pending completion.
5. 2012 rates are used for projects completed prior to 2012.

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Table 159. Tax Generation Rates per \$1 Million Deployed by Technology and Product Structure

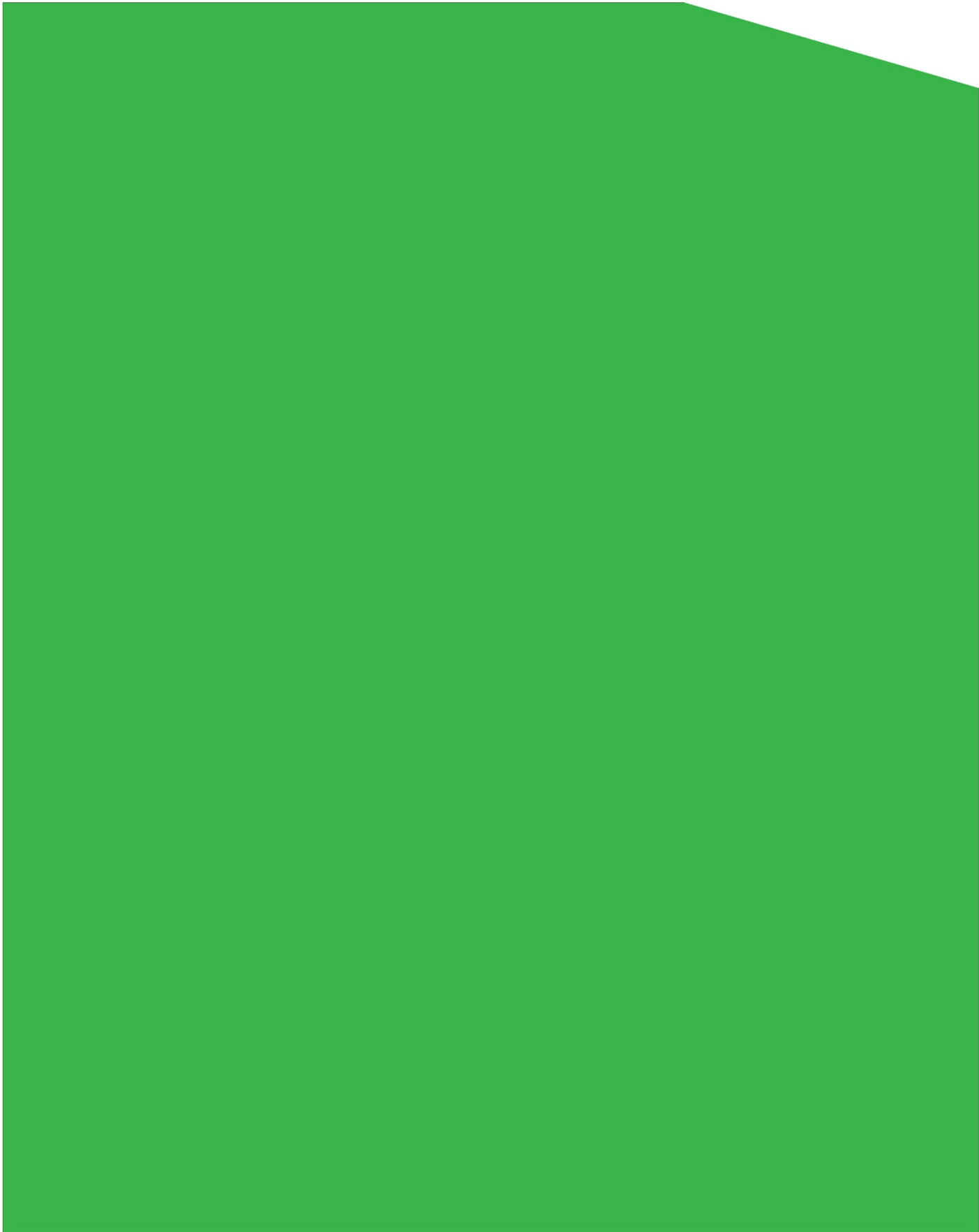
Technology and Program	2010-2016			2017 and later		
	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor
Anaerobic Digestion Pilot	\$9,693.00	-	\$57,231.69	\$10,823.00	-	\$57,231.69
Biomass - CPACE	\$9,693.00	-	\$57,231.69	\$10,823.00	-	\$57,231.69
CHP - Pilot/Strategic Investments	\$32,436.00	\$26,599.00	\$54,741.79	\$21,703.00	\$26,599.00	\$54,741.79
Energy Efficiency - CPACE	\$39,888.00	\$19,662.00	\$58,303.00	\$28,807.00	\$19,662.00	\$58,303.00
Energy Efficiency - Home Energy Solutions Audits (HES)	\$96,903.00	\$5,152.00	\$18,694.00	\$40,976.00	\$5,152.00	\$18,694.00
Energy Efficiency - Multifamily (non-CPACE)	\$67,491.00	\$19,662.00	\$58,303.00	\$28,807.00	\$19,662.00	\$58,303.00
Energy Efficiency (non HES) - Smart-E	\$67,491.00	\$22,910.00	\$30,773.00	\$28,908.00	\$22,910.00	\$30,773.00
Fuel Cell - Strategic Investments	\$25,182.00	\$7,108.00	\$55,195.48	\$23,489.00	\$7,108.00	\$55,195.48
Geothermal - CPACE	\$43,515.00	\$26,887.00	-	\$35,791.22	\$26,887.00	-
Geothermal - Smart-E	\$43,515.00	\$26,887.00	-	\$35,791.00	\$26,887.00	-
Hydro - CPACE	\$28,674.00	\$38,937.00	\$52,239.00	\$32,640.00	\$38,937.00	\$52,239.00
Other - CPACE	\$28,674.00	\$19,662.00	\$58,303.00	\$28,807.00	\$19,662.00	\$58,303.00
Solar PV - CEBS	\$15,435.00	\$41,893.01	-	\$15,641.23	\$41,893.01	-
Solar PV - Clean Energy Communities	\$15,435.00	\$41,893.01	-	\$15,641.23	\$41,893.01	-
Solar PV - CPACE	\$15,435.00	\$41,893.01	-	\$15,641.23	\$41,893.01	-
Solar PV - CPACE Onyx	\$15,435.00	\$16,916.65	-	\$15,641.23	\$16,916.65	-
Solar PV - CPACE SL2	\$15,435.00	\$16,916.65	-	\$15,641.23	\$16,916.65	-
Solar PV - CPACE SL3	\$27,040.50	\$3,373.73	-	\$20,878.21	\$3,373.73	-
Solar PV - Low Income - PosiGen	\$27,040.50	\$3,373.73	-	\$20,878.21	\$3,373.73	-

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Technology and Program	2010-2016			2017 and later		
	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor	Personal Income Tax Factor	Corporate Tax Factor	Sales Tax Factor
Solar PV - Multi-Family (blank)	\$15,435.00	\$14,617.00	-	\$15,641.00	\$14,617.00	-
Solar PV - OSDG	\$15,435.00	\$41,893.01	-	\$15,641.23	\$41,893.01	-
Solar PV - RSIP	\$27,040.50	\$8,076.60	-	\$20,878.21	\$8,076.60	-
Solar PV - Smart-E	\$27,040.50	\$5,250.00	-	\$20,878.21	\$ 5,250.00	-
Solar PV - Solar Lease SL2	\$27,040.50	\$26,886.74	-	\$20,878.21	\$26,886.74	-
Solar PV - Solar Loan	\$27,040.50	\$26,886.74	-	\$20,878.21	\$26,886.74	-
Solar PV - Solar PV - Lease Onyx	\$15,435.00	\$16,916.65	-	\$15,641.23	\$16,916.65	-
Solar PV - Solar PV - Lease SL2	\$15,435.00	\$16,916.65	-	\$15,641.23	\$16,916.65	-
Solar PV - Solar PV - Lease SL3	\$27,040.50	\$ 3,373.73	-	\$20,878.21	\$ 3,373.73	-
Solar Thermal - CPACE	\$39,888.00	\$26,887.00	-	\$29,826.00	\$26,887.00	-
Solar Thermal - Smart-E and Pilots	\$39,888.00	\$26,887.00	-	\$29,826.00	\$26,887.00	-
Waste Heat Recovery - CPACE	\$39,888.00	\$26,599.00	\$54,741.79	\$21,703.00	\$26,599.00	\$54,741.79
Wind - Strategic	\$28,674.00	\$15,501.00	\$52,239.00	\$32,640.00	\$15,501.00	\$52,239.00

Table 160. Public Health Savings Rates per ton of pollutant avoided

Ton avoided	PM <sub>2.5</sub> - Low	PM <sub>2.5</sub> - High	SO <sub>x</sub> - Low	SO <sub>x</sub> - High	NO <sub>x</sub> - Low	NO <sub>x</sub> - High
1	\$120,799	\$273,010	\$28,665	\$64,794	\$5,881	\$13,293



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