

845 Brook Street, Rocky Hill, CT 06067  
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January 13, 2017

Dear Connecticut Green Bank Board of Directors:

We have a regular meeting of the Board of Directors scheduled on Friday, January 20, 2017 from 9:00 to 11:00 a.m. in the Colonel Albert Pope Board Room of the Connecticut Green Bank at 845 Brook Street, Rocky Hill, CT 06067.

On the agenda we have the following items:

- **Consent Agenda** – approval of the meeting minutes for the December 16, 2016 and January 5, 2017 regular and special board meetings, position description for VP of residential sector programs, financial statements through November of 2016, the final FY 2016 Comprehensive Annual Financial report that was submitted to Government Finance Officers Association on December 28, 2016 for those of you that are interested, and an update memo on the Hannover Pond run-of-the-river hydro project.
- **Strategic Retreat Overview** – as a follow-up to the strategic retreat we held on January 5<sup>th</sup> at Yale University, I will provide an update on next step action items.
- **Committee Recommendations** – given the progress to date through the first two quarters, the Budget & Operations Committee will propose revisions to the FY 2017 targets and budget. The memo providing detail on the revisions to the budget will be provided by the close of business on Wednesday, January 18<sup>th</sup>.
- **Staff Transaction Recommendations** – we will have several transactions that we are recommending for your review and approval, including:
  - a. **Commercial and Industrial Sector** – a continuation of our solar PV partnership with US Bank to complement our new C&I offering with Onyx, a program related investment with the Kresge Foundation to address resiliency by combining battery storage with solar PV in coastal communities, and an update on the progress we are making with the utilities and the EEB on the Small Business Energy Advantage program.
  - b. **Residential Sector** – minor revisions to the Smart-E Loan program allowing access to more lenders for credit-challenged households, and a follow-up pilot proposal to remove health and safety barriers that are preventing clean energy improvements on affordable multifamily projects.
  - c. **Investment Division** – a first-of-its-kind public-private partnership between the Bank of America and the Connecticut Green Bank.

- **Other Business** – if we have any time left, and there are other business issues that the staff or members of the Board of Directors wants to raise, we will have time for that. We have included a report out on the progress we are making with respect to the USDA RUS EECLP.

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

We look forward to seeing you next week.

Sincerely,

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

Bryan Garcia  
President and CEO



## **AGENDA**

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

Friday, January 20, 2017  
9:00-11:00 a.m.

Staff Invited: George Bellas, Craig Connolly, Mackey Dykes, Brian Farnen, Bryan Garcia, Ben Healey, Dale Hedman, Bert Hunter, Kerry O'Neill, and Eric Shrago

1. Call to order
2. Public Comments – 5 minutes
3. Consent Agenda\* – 10 minutes
  - a. Approval of Meeting Minutes for December 16, 2016\* and January 5, 2017\*
  - b. Position Description\*
  - c. Financial Statement for November 2016
  - d. Comprehensive Annual Financial Report for FY 2016
  - e. Hannover Pond Update
  - f. Acknowledgement and Recognition
  - g. EECLP Business Plan
4. Strategic Retreat Overview – 15 minutes
5. Committee Recommendations and Updates\* – 20 minutes
  - a. Budget and Operations Committee – 20 minutes
    - i. Progress to Targets – Proposed Revisions\* – 15 minutes
    - ii. Budget Investments, Revenues, and Expenses – Proposed Revisions\* – 5 minutes
6. Staff Transaction Recommendations and Updates\* – 65 minutes
  - a. Commercial, Industrial, and Institutional Sector Program Transaction Recommendations and Updates – 30 minutes
    - i. Commercial and Industrial Solar PPA Fund and US Bank Recommendation\* – 10 minutes

- ii. Kresge Foundation Program Related Investment Recommendation\* – Resiliency with Battery Storage – 15 minutes
    - iii. Small Business Energy Advantage in Partnership with the Eversource Energy and United Illuminating Update – 5 minutes
  - b. Residential Sector Program Transaction Recommendations – 20 minutes
    - i. Smart-E Loan Program – Revisions\* – 5 minutes
    - ii. Multifamily Catalyst Fund Pilot Program – A Pathway to Promote More Clean Energy\* – 15 minutes
  - c. Investment Division Transaction Recommendations – 15 minutes
    - i. Bank of America – Strategic Opportunity\*
- 7. Other Business – 5 minutes
- 8. Adjourn

\*Denotes item requiring Board action

Join the meeting online at <https://global.gotomeeting.com/join/937421853>

Or call in using your telephone:  
Dial (872) 240-3212  
Access Code: 937-421-853

Next Regular Meeting: Friday, April 28, 2017 from 9:00-11:00 a.m.  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT



## **RESOLUTIONS (REVISED)**

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

Friday, January 20, 2017  
9:00-11:00 a.m.

Staff Invited: George Bellas, Craig Connolly, Mackey Dykes, Brian Farnen, Bryan Garcia, Ben Healey, Dale Hedman, Bert Hunter, Kerry O'Neill, and Eric Shrago

1. Call to order
2. Public Comments – 5 minutes
3. Consent Agenda\* – 10 minutes
  - a. Approval of Meeting Minutes for December 16, 2016\* and January 5, 2017\*

### **Resolution #1**

Motion to approve the minutes of the Board of Directors Meeting for December 16, 2016

### **Resolution #2**

Motion to approve the minutes of the Board of Directors Meeting for January 5, 2017

- b. Position Description\*

### **Resolution #3**

Motion to approve the position description for Vice President of Residential Programs

- c. Financial Statement for November 2016
  - d. Comprehensive Annual Financial Report for FY 2016
  - e. Hannover Pond Update
  - f. Acknowledgement and Recognition
  - g. EECLP Business Plan
4. Strategic Retreat Overview – 15 minutes
  5. Committee Recommendations and Updates\* – 20 minutes

- a. Budget and Operations Committee – 20 minutes
  - i. Progress to Targets – Proposed Revisions\* – 15 minutes

**Resolution #4**

**RESOLVED**, the Connecticut Green Bank Board of Directors approves the fiscal year 2017 target adjustments outlined in Attachment A as presented here today

- ii. Budget Investments, Revenues, and Expenses – Proposed Revisions\* – 5 minutes

**Resolution #5**

**RESOLVED**, that the Connecticut Green Bank Board of Directors approves the fiscal year 2017 revisions and reallocations outlined in Attachment B .

- 6. Staff Transaction Recommendations and Updates\* – 50 minutes
  - a. Commercial, Industrial, and Institutional Sector Program Transaction Recommendations and Updates – 30 minutes
    - i. Commercial and Industrial Solar PPA Fund and US Bank Recommendation\* – 10 minutes

**Resolution #6**

**WHEREAS**, the Green Bank has successfully utilized all of the capacity of the CT Solar Lease 2 program (“Solar Lease 2”), which was authorized at a special meeting of the Board of Directors of the Connecticut Green Bank (“Green Bank”) held on June 26, 2013;

**WHEREAS**, the Green Bank has received a draft term sheet from U.S. Bank to extend the success of Solar Lease 2 by investing approximately \$9 million in tax equity financing into a new solar fund focused exclusively on commercial-scale systems (“Solar Lease 3”), in a manner materially consistent, absent debt financing at the project level, with the structure previously approved by the Board of Directors with respect to Solar Lease 2; and

**WHEREAS**, the Green Bank intends to create a new special purpose vehicle and fund structure for Solar Lease 3, utilizing U.S. Bank tax equity, as broadly set forth herein.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board of Directors (“Board”) authorizes the President of the Green Bank and any other duly authorized officer of the Green Bank, to execute term sheets and negotiate and deliver definitive documentation to enable U.S. Bank tax equity capital and Green Bank sponsor equity to create together a Solar Lease 3 fund consistent with the memorandum submitted to the Board dated January 13, 2017, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from the date of authorization by the Board;

**RESOLVED**, that the Green Bank may commit up to \$15 million to Solar Lease 3 for term financing, in anticipation that Solar Lease 3 will be back-levered once its capacity has been fully utilized and the portfolio appropriately seasoned; and

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

- ii. Kresge Foundation Program Related Investment Recommendation\* – Resiliency with Battery Storage – 15 minutes

**Resolution #7**

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) is actively seeking to deploy private capital to support affordable, clean, and resilient energy to property owners;

**WHEREAS**, the Kresge Foundation (“Kresge”) is a private foundation that funds arts and culture, environment, education, health, community development and human resources;

**WHEREAS**, pursuant to Connecticut General Statutes Section 16-245n, as amended from time to time, the Green Bank is authorized to accept both charitable gifts and loans from philanthropic foundations;

**WHEREAS**, the Green Bank drafted a proposal to Kresge dated June 30, 2016, which the latter has accepted, for a \$3,000,000 Program Related Investment (“PRI”) to support the deployment of clean energy systems that provide energy resilience and are installed at affordable housing and other buildings that might act as hubs during major grid outage events in coastal and urban Connecticut; and

**WHEREAS**, Green Bank staff recommends that the Board authorize the creation of a Special Purpose Entity that will be wholly owned by the Green Bank to take on the Kresge PRI obligation.

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank, is authorized to execute and accept the Kresge PRI, and in so doing obligate the Green Bank in a total amount not to exceed \$3,000,000 with terms and conditions consistent with the memorandum and associated exhibits submitted to the Board of Directors dated January 13, 2017, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from January 13, 2017;

**RESOLVED**, that the Green Bank may establish a wholly owned Special Purpose Entity with all the requisite powers to take on the Kresge PRI obligation as described in the memorandum to the Board of Directors dated January 13, 2017; and

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

- iii. Small Business Energy Advantage in Partnership with the Eversource Energy and United Illuminating Update – 5 minutes
- b. Residential Sector Program Transaction Recommendations – 20 minutes
  - i. Smart-E Loan Program – Revisions\* – 5 minutes

### **Resolution #8**

**WHEREAS**, in July of 2011, the Connecticut General Assembly passed Public Act 11-80, “AN ACT CONCERNING THE ESTABLISHMENT OF THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION AND PLANNING FOR CONNECTICUT’S ENERGY FUTURE,” which created the Connecticut Green Bank (the “Green Bank”) to develop programs to finance and otherwise support clean energy investment in residential projects per the definition of clean energy in CGS Section 16-245n(a);

**WHEREAS**, in February of 2013, the DEEP released the Comprehensive Energy Strategy (“CES”) for Connecticut that includes developing financing programs that leverage private capital to make clean energy investments more affordable, including the pilot Smart-E Loan residential financing program and the development of an on bill repayment (“OBR”) program for residential customers with a utility shutoff provision for failure to make loan repayments; and

**WHEREAS**, in May of 2013, Green Bank launched the Smart-E Loan program, statewide as of November 2013, with 9 credit unions and community banks providing low cost and long-term financing for measures that are consistent with the state energy policy and the implementation of the CES. The Smart-E Loan uses \$4.3 million of credit enhancement, including both repurposed ARRA-SEP and Green Bank funds, to attract nearly \$30 million of private investment from local financial institutions.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board of Directors (the “Board”) approves of the request to allow for all current and future community banks, credit unions and community development financial institutions to utilize the Smart-E Loan Program’s alternative underwriting option, consistent with the memorandum submitted to the Board dated October 9, 2015 and as modified by the memorandum submitted to the Board January 13, 2017.

- ii. Multifamily Catalyst Fund Pilot Program – A Pathway to Promote More Clean Energy\* – 15 minutes

### **Resolution #9**

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) actively seeks to deploy private capital investment toward clean energy improvements in the state’s multifamily housing which in some cases have preexisting health and safety issues that are preventing opportunities for clean energy improvements to be made;



**WHEREAS**, the definition of “clean energy” per the Green Bank’s enabling statute set forth at C.G.S. 16-45n includes renewable energy technologies as well as “financing of energy efficiency projects,” but does not include health and safety;

**WHEREAS**, the Green Bank’s enabling statute provides that the Green Bank may make “expenditures that promote investment in clean energy in accordance with a comprehensive plan developed by it to foster the growth, development, and commercialization of clean energy sources,” and that “such expenditures may include, but not be limited to...the implementation of the plan developed pursuant to ... this section”;

**WHEREAS**, the Green Bank Comprehensive Plan approved by the Board of Directors on July 22, 2016 provides guidance on mitigating health and safety issues that act as barriers to realizing clean energy investments opportunities to make in its executive summary, goals, evaluation framework, and residential sector sections; the Comprehensive Plan also notes that the goals of the Green Bank are to support the implementation of Connecticut’s clean energy policies be they statutory (i.e., PA 15-194), planning (i.e., Comprehensive Energy Strategy, Integrated Resources Plan), or regulatory in nature;

**WHEREAS**, the 2013 Comprehensive Energy Strategy for Connecticut released by the Connecticut Department of Energy and Environmental Protection recognizes that health and safety issues are a barrier to clean energy improvements;

**WHEREAS**, Green Bank staff has developed guidelines for how the Green Bank shall make loan investments to remove health and safety barriers to realize clean energy improvements at multifamily properties consistent with the Green Bank’s enabling statute;

**WHEREAS**, the Green Bank Board of Directors (the “Board”) has previously approved a Program Related Investment (“PRI”) in the amount of \$5,000,000 from the John D. and Catherine T. MacArthur Foundation (“MacArthur”) to support the Green Bank’s efforts to accelerate energy efficiency and clean energy upgrades in multifamily properties across the state of Connecticut as outlined in the proposal presented by the Green Bank to MacArthur;

**WHEREAS**, MacArthur later selected the Housing Development Fund (“HDF”) to receive and administer the MacArthur PRI;

**WHEREAS**, Green Bank staff is now requesting a reallocation of \$1,500,000 from the Statutory and Infrastructure Sector (\$1,000,000 from Anaerobic Digester Projects and \$500,000 from MicroGrids) to support a pilot program providing term financing for energy and related health and safety improvements (“Pilot Program”).

**NOW**, therefore be it:

**RESOLVED**, that the Board authorizes additional funding from the Green Bank’s balance sheet through a reallocation from the Statutory and Infrastructure Sector, in an amount not to exceed \$1,500,000, for the Pilot Program with terms and conditions consistent with the guidelines and memorandum dated January 13, 2017 and associated exhibits submitted to the Board; and

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

c. Investment Division Transaction Recommendations – 15 minutes

i. Bank of America – Strategic Opportunity\*

**Resolution #10**

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) actively seeks to deploy private capital to support clean energy upgrades and generation;

**WHEREAS**, Bank of America (“BofA”) has proposed to loan \$10,000,000 (the “BoA Funds”) to the Green Bank to support the Green Bank’s efforts to accelerate energy efficiency and clean energy generation across Connecticut; and

**WHEREAS**, the proposed loan qualifies as a strategic selection and award pursuant to Green Bank Operating Procedures Section XII due to BofA’s uniquely attractive offer to lend to the Green Bank, and the strategic nature of being the first green bank to source low-cost, long-term private capital based on its balance sheet.

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank, is authorized to execute and accept the BofA Funds, and in so doing obligate the Green Bank in a total amount not to exceed \$10,000,000 with terms and conditions consistent with the memorandum submitted to the Board of Directors dated January 13, 2017, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from January 13, 2017; and

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

7. Other Business – 5 minutes

8. Adjourn

\*Denotes item requiring Board action

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Dial (872) 240-3212

Access Code: 937-421-853

Next Regular Meeting: Friday, April 28, 2017 from 9:00-11:00 a.m.  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT

# CONNECTICUT GREEN BANK

Board of Directors

Draft Minutes

Friday, December 16, 2016

A regular meeting of the Board of Directors of the **Connecticut Green Bank (the “Green Bank”)** was held on December 16, 2016 at the officer of the Green Bank, 845 Brook Street, Rocky Hill, CT, in the Colonel Albert Pope board room.

## 1. Call to Order

Catherine Smith, Chairperson of the Green Bank, called the meeting to order at 9:08 a.m. Board members participating: Bettina Bronisz, State Treasurer’s Office (“Designee”), Norma Glover, John Harrity, Reed Hundt (by phone), Matt Ranelli, Tom Flynn (by phone), Rob Klee and Kevin Walsh (by phone).

Members Absent: Patricia Wrice, and Mun Choi

Others Attending: Bruce Chudwick

Staff Attending: Mariana Trief, Eric Schrago, Brian Farnen, Cheryl Samuels, Kerry O’Neill, Mackey Dykes, George Bellas, Bert Hunter, Bryan Garcia, Nicholas Zuba, Jane Murphy, Kim Stevenson, Selya Price, Craig Connolly, Ben Healey (by phone), and Anthony Clark.

## 2. Public Comments

There were no public comments.

## 3. Consent Agenda

**Upon a motion made by Matt Ranelli, and seconded by Bettina Bronize, the Consent Agenda was approved unanimously.**

### a. **Approval of Meeting Minutes for October 21, 2016\***

#### **Resolution #1**

Motion to approve the minutes of the Board of Directors Meeting for Oct 21, 2016

### b. **Position Descriptions\***

#### **Resolution #2**

Motion to approve the position descriptions for Vice President of Residential Programs and Director of Clean Energy Finance (Director II)

### c. **Financial Statements through October 2016**

#### **4. President's Update**

Bryan Garcia provided an update on the strategic retreat. He discussed the items on the agenda as well as the special guests that they would have in attendance. He thanked Eric Schrago for his assistance in putting the retreat together. He also discussed the format that would be followed during the retreat. Matt Ranelli provided some suggestions on what should be included in the discussion.

Norma Glover discussed natural gas and stated that it needs some clarification regarding climate change. Commissioner Smith agreed, stating it's a very important topic for discussion.

Commissioner Klee stated that a key part of discussion will be the 80% reduction in greenhouse gases. John Harrity stated that they need to consider the type of legislation needed to get to the 80% reduction.

Commissioner Smith stated that a key part of discussion should be on the GC3 Planning Process.

Bryan Garcia discussed the 5-year anniversary of the Connecticut Green Bank and the evening celebrating that. Norma Glover stated that it was a very nice evening in education. Commissioner Smith congratulated the Connecticut Green Bank on realizing their successes.

Craig provided the Board with a video regarding moving forward with ideas and innovation.

Commissioner Klee requested a paper or leave behind version of the video for the upcoming legislative session.

#### **5. Committee Recommendations and Updates**

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

##### **i. Revision of Bylaws**

Brian Farnen discussed the cleanup and annual review of the Bylaws of the Connecticut Green Bank. He stated that there are three changes in the Bylaws. They will change the Board schedule for meetings from calendar year to fiscal year and Board meetings must be 6 times a year, but don't have to be regularly scheduled meetings. Lastly, the Bylaws will be revised to delete the section regarding the Connecticut Green Bank being within Connecticut Innovations.

##### **Resolution #3**

**RESOLVED**, that the Board of Directors of the Connecticut Green Bank approves of the revisions to the Green Bank Bylaws.

##### **ii. Revision of Operating Procedures**

Brian Farnen explained that the operating procedures were to be updated to reflect current business practices, statutory changes and lessons learned. The changes include: revising the CDFI enabling language to include both the Green Bank and an

affiliate – (latter being the more likely option), deleting sections related to being within CI for administrative purposes, clarifying and simplify state contracting requirement language, and clarifying borrower Chief Financial Officer certification requirement only needed during time period when funds are dispersed, not afterwards. .

**Upon a motion made by Matt Ranelli and, seconded by John Harrity, Resolutions 3 and 4 passed unanimously.**

**Resolution #4**

**RESOLVED**, that the Board of Directors of the Connecticut Green Bank approves of the revisions to the Green Bank Operating Procedures.

**6. Staff Transaction Recommendations and Updates**

**a. Infrastructure Sector Program Transaction Recommendation**

**i. New England Hydropower Special Capital Reserve Fund Self-Sufficiency Finding**

Bert Hunter discussed the background of the Meriden Hydroelectric facility. He stated that staff and the developer, New England Hydropower, met with staff of the Federal Energy Regulatory Commission (FERC) and staff of the US Department of Energy (DOE) on the technology and that they were both excited about this technology.

Mariana Trief provided an overview of the project. She stated that \$3.9 million in construction finance from Key Bank had been approved for this project, of which 60% has already been drawn upon. She stated that they are well into in the construction phase. She stated that the project will be completed in the February/March time frame and commence operation in the Spring.

Commissioner Klee discussed the dam that is being used for the project, and that it was refurbished a few years ago by the State of Connecticut.

John Harrity questioned if people will be able to view the facility. Mariana Trief stated that a portion of the facility will be fenced off and the top of the screw will be protected with a see-through cover so people will be able to view it from a distance.

John Harrity suggested that a plaque be placed at the project for the public regarding this being a project done by the Connecticut Green Bank.

Mariana Trief discussed the term financing, stating that it is financed through Clean Renewable Energy Bonds. She stated that these are the first issuance of bonds by the Connecticut Green Bank.

Mariana Trief stated that the CREBs allocation from the IRS has been granted, which grants a 70% federal tax credit subsidy and requires bond issuance by April 4, 2017. Bert Hunter stated that they won't know the actual cost of the funds until the subsidy is locked in .

Mariana Trief discussed the \$4.8 million cost of the project and where the funds will come from. She also discussed the structure of the project.

Bruce Chudwick provided information on the structure of the bond documentation for the Hanover Pond Hydroelectric Project. He explained that the Indenture lays out the responsibilities of the Connecticut Green Bank and that the debt service reserve funds will be directed to and controlled by the trustee.

Bruce Chudwick discussed the self-sufficiency findings and the requirement by the Statute for the Connecticut Green Bank to access the SCRF. He stated that the Connecticut Green Bank is required to contribute \$100,000 annually under a project support agreement. He stated that the Connecticut Green Bank will maintain the Debt Service Reserve Fund. He discussed the CREBs and the fact that they bear an interest rate of not more than 4.19% (which Mr. Hunter confirmed is locked in through February 5, 2017 and the bonds are expected to be issued by this date). he stated that the PURA buy down applies to all the CREBs for the first 10 years of the project. He stated that the final agreed upon CREBs amount will not exceed \$3 million notwithstanding an increase in the federal tax credit rate.

Bettina Bronisz questioned the \$300,000 Debt Service Reserve Fund. Marianna Trief stated that the final figure will be between \$250,000 and \$300,000 and will be equal to "maximum annual debt service" and that staff are just giving themselves room.

John Harrity questioned if the 193 KW goes to the grid. Marianna Trief stated that the electricity will be consumed by the City of Meriden by way of a Virtual Net Metering Agreement. She stated that it will generate be about 115 homes. Matt Ranelli recused himself from the discussion and the vote.

Commissioner Klee stated that he is voting only as a member of the Connecticut Green Bank Board.

Bettina Bronisz stated that she is voting only on the findings as a member of the Connecticut Green Bank Board.

Matt Ranelli stated that he is abstaining since his law firm is serving as Bond Counsel to the Green Bank.

**Upon a motion made by Norma Glover and, seconded by Bettina Bronisz, with an abstention by Matt Ranelli, the Board approved.**

**Resolution #5**

**WHEREAS**, Chapter 283 of the Connecticut General Statutes, as amended (the "Act"), among other things: (a) authorizes the Connecticut Green Bank (the "Green Bank") to support financing

or other expenditures that promote investment in clean energy sources, and to enter into contracts with private sources to raise capital for such purposes; (b) authorizes the Green Bank from time to time to issue negotiable bonds for any corporate purpose, as shall be authorized by resolution of the members of the Board of Directors; which resolution may contain provisions for the Green Bank to pledge all or any part of the revenues from a project or any revenue-producing contract or contracts to secure the payment of the bonds; and (c) provides that at the discretion of the Green Bank, any bonds may be secured by a trust agreement by and between the Green Bank and a corporate trustee, which trust agreement may secure said bonds by a pledge or assignment of any revenues to be received, any contract or proceeds of any contract, or any other property, revenues, moneys or funds available to the Green Bank for such purpose; and

**WHEREAS**, pursuant to the Act, the Green Bank Board of Directors (the “Board”), at its February 26, April 22, July 6 and July 22, 2016 meetings (the “Prior Meetings”) authorized the following elements of the development of a small hydroelectric facility at the Hanover Pond Dam on the Quinnipiac River in Meriden (“Project”):

- i) a guaranty to a third-party lender for construction financing in an amount not to exceed \$3.9 million,
- ii) funding from the Green Bank’s balance sheet in an amount not to exceed \$1,400,000
- iii) a working capital guaranty in an amount not to exceed \$600,000 for the benefit of New England Hydropower Company (“NEHC”), the project developer, with a 24- month maturity under the Green Bank’s existing working capital facility partnership with Webster Bank;
- iv) term financing based on:
  - a. proceeding with the prerequisites to the issuance of New Clean Renewable Energy Bonds (“CREBs”) in an amount not to exceed \$3,000,000 within 270 days of the original date of authorization by the Board of Directors (that is, February 26, 2016); and,
  - b. securing the issuance utilizing the Special Capital Reserve Fund (“SCRF”) subject to further Board, Office of the Treasurer, and Office of Policy and Management approval;
- v) a minimum debt service reserve fund required for the SCRF in an amount not to exceed \$250,000;
- vi) the creation of a Special Purpose Entity to be wholly owned by the Green Bank, to own, operate, and manage the Project, as required by CREBs regulations; and
- vii) the official intent that payment of Project construction and financing costs may be paid from temporary advances of other available funds and that such advances shall be reimbursed from the proceeds of the CREBs financing.

**WHEREAS**, the structure of the CREBs financing is substantially complete, which financing provides, in part, that:

1. The Green Bank make a loan to CGB Meriden Hydro LLC (the “Borrower”), a wholly-owned subsidiary of the Green Bank, for its purchase of the Project, as referred to and pursuant to a Loan Agreement, by and between the Green Bank and the Borrower (the “Loan Agreement”);
2. The loan to the Borrower shall be secured by an assignment to the Green Bank of all of

- the Borrower's interests in the Project and the revenues therefrom;
3. For the purpose of providing the funds needed to make the loan to the Borrower for its purchase of the Project, the Green Bank shall issue the CREBs, to be known as the "Connecticut Green Bank New Clean Renewable Energy Bond" (the "Bond") in an amount not to exceed \$3,000,000, secured by the Project revenues and the SCRF, as provided in an Indenture of Trust by and between the Green Bank and U.S. Bank National Association (the "Indenture of Trust"); and
  4. The Bond shall be sold directly to Banc of America Leasing & Capital, LLC (the "Purchaser") pursuant to a bond purchase contract (the "Purchase Contract") by and between the Green Bank and the Purchaser.

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

**FURTHER RESOLVED**, that the minimum debt service reserve fund required for the SCRF is hereby increased to an amount not to exceed \$300,000; and

**FURTHER RESOLVED**, that the Self Sufficiency Findings presented to the Board at this meeting and as attached hereto are hereby approved and adopted, and the President of the Green Bank and any other duly authorized officer are authorized to take appropriate actions to secure the SCRF for the CREBs issuance, provided the Green Bank complies with all statutory requirements for the SCRF, which will require among other things (1) State of Connecticut Office of Policy and Management approval, and (2) approval by the Office of the State Treasurer and other documentation required under the CGS; and

**FURTHER RESOLVED**, that, regarding the issuance of the Connecticut Green Bank New Clean Renewable Energy Bond:

Section 1. To accomplish the purposes of the Act and to provide for financing the cost of the Project, an appropriation of \$3,000,000 is hereby ratified and confirmed, and to pay for said appropriation the issuance of the Bond by the Green Bank is hereby authorized subject to the provisions of this Resolution and the Indenture of Trust. The Bond shall be in an aggregate principal amount not to exceed \$3,000,000 and the redemption provisions, if any, sinking fund installment payments, if any, interest rates, maturity dates and other terms of the Bond shall be determined and/or approved by the Authorized Representative (as hereinafter defined) within such limitations permitted herein and by the Act, and the execution of the Purchase Contract reflecting such terms by an Authorized Representative shall constitute conclusive evidence of such determination. The form of the Bond and all other provisions with respect thereto shall be substantially as set forth in the Indenture of Trust.

Section 2. The Bond shall be a special obligation of the Green Bank, payable solely by a pledge or assignment of any revenues to be received, any contract or proceeds of any contract, or any other property, revenues, moneys or funds available to the Green Bank for such purpose as described in the Indenture of Trust. Neither the State of Connecticut nor any political subdivision thereof shall be obligated to pay the principal of or the interest on the Bond except from revenues of the Project for which the Bond is issued. Neither the full faith and credit nor the taxing power of the State of Connecticut or any political subdivision thereof, including the Green Bank, is pledged to the payment of the principal of or interest on the Bond.



Section 3. The form of the Bond and the Indenture of Trust substantially in the forms presented to this meeting or as subsequently delivered by an Authorized Representative of the Green Bank, and made a part of this Resolution as though set forth in full herein, are hereby approved. The Authorized Representative of the Green Bank is hereby authorized to execute and deliver the Bond, the Indenture of Trust, the Loan Agreement, the Purchase Contract, and any other documents or instruments, with such changes, insertions and omissions as may be approved by the Authorized Representative, as he or she deems advisable for the purpose of issuing the Bond (collectively, the "Financing Documents") and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Section 3. The Bond shall be sold to the Purchaser in accordance with the Purchase Contract and executed in the manner provided in the Purchase Contract.

Section 4. All covenants, stipulations, obligations and agreements of the Green Bank contained in this Resolution and the Financing Documents shall be deemed to be the covenants, stipulations, obligations and agreements of the Green Bank to the full extent authorized or permitted by law, and such covenants, stipulations, obligations and agreements, shall be binding upon the Green Bank and its successors from time to time and upon any board or body to which any powers or duties, affecting such covenants, stipulations, obligations and agreements shall be transferred by or in accordance with law.

Section 5. No covenant, stipulation, obligation or agreement contained in this Resolution or the Financing Documents shall be deemed to be a covenant, stipulation, obligation or agreement of any member, officer, agent or employee of the Green Bank in his or her individual capacity and neither the members of the Board nor any person executing the Bond shall be liable personally on the Bond or be subject to any personal liability or accountability by reason of the issuance thereof.

Section 6. The President and Chief Executive Officer of the Green Bank (the "Authorized Representative") is hereby designated the authorized representative of the Green Bank to execute and deliver the Financing Documents and any and all papers, instruments, opinions, certificates, affidavits and other documents, and to do and cause to be done any and all acts and things necessary or proper for carrying out this Resolution and the issuance of the Bond, including changes or revisions in the forms of or supplements or amendments to such documents as he or she deems advisable.

Section 7. The law firm of Shipman & Goodwin LLP of Hartford, Connecticut is hereby appointed Bond Counsel to the Green Bank for the issuance of the Bond.

**FURTHER RESOLVED**, that the proper Green Bank officers, employees and representatives are authorized and empowered to do all other acts to complete the Project and issue the Bond as they shall deem necessary and desirable to carry out the intent of this Resolution.

**b. Commercial, Industrial, and Institutional Sector Program Transaction Recommendations**

**i. C-PACE Transaction (Shelton)**

**Pulled from the agenda.**

**c. Residential Sector Program Transaction Recommendations**

**i. Multifamily Pre-Development and Gap/Health & Safety Financing Programs**

Kerry O'Neill provided a program update along with a request for approval of a new program. She stated that they have identified new needs in the market. Approval would allow the Connecticut Green Bank to finance projects that are having problems financing through HDF. She stated that the projects have a level of underwriting that requires a level of technical expertise. She stated that they are asking to do those projects at the Connecticut Green Bank with additional funding to meet the market needs. They are looking to replicate Multifamily for health and safety. She stated that they are requesting an additional \$2 million. She stated that the focus is on outreach in the affordable market.

Brian Farnen explained that he was not comfortable with the Green Bank doing stand-alone health and safety loans (or any other non-energy improvement) or loans that are primarily focused on a non-clean energy improvement as our enabling statute only speaks to "clean energy". He stated that the financing and investments need to be on clean energy.

Commissioner Smith stated she was confused about the numbers. Kerry O'Neill clarified, stating that they currently have authorization to use \$500,000. They are looking for an additional \$2 million. She stated that \$1.5 million would be used for gap financing and/or health and safety.

Commissioner Smith discussed the word affordable stating that she felt it should be, "targeted to affordable." Kerry O'Neill stated that they struck the word affordable because of the mixed use of the monies.

Kim Stevenson stated that they don't want to limit themselves and this is the reasoning behind requesting additional funds.

Brian Farnen stated that we should put limitations or rules of the road on how much we can do for non-energy improvements like health and safety. He stated for example that he does not feel comfortable with standalone health and safety loans. Further, Brian was concerned about getting outside the scope of what we were set up for and if we ever defaulted on a non-energy loan/investment, the press, legislators and other stakeholders would ask what we were doing.

Bert Hunter stated that the Statute broadly encompasses the proposed transaction as the statute permits funds to be used for expenditures that promote investment in clean energy – and dealing with health and safety barriers would promote investment in financing energy efficiency – which is under the definition of clean energy by statute. Brian Farnen further explained that he believes there needs to

be a (1) direct linkage or nexus between any non-energy improvement and the energy improvement and (2) the improvement must be predominantly focused on clean energy improvement (e.g., more than 50%). Commissioner Klee stated that health and safety is a huge barrier. He stated that this is keeping them out of important goals of the entity itself. He stated that he wouldn't want to put a limit on a project.

Commissioner Smith stated that there are other entities that focus on health and safety and questioned how the Connecticut Green Bank is working with those other agencies. Kerry O'Neill stated that these are not properties that are engaging with CHFA. She stated that CHFA is asking the Connecticut Green Bank to pilot some solutions.

Commissioner Smith stated that does not see how health and safety will pay back loans. Kerry O'Neill stated that they have rational underwriting criteria. She stated that there is a lot of flexibility on how these loans can be structured.

Commissioner Klee stated that they would be giving the market better financing opportunities.

Matt Ranelli stated that they must do more in this space than in others. He stated that they do this in the C-PACE area. He stated that he is in favor of putting limits on it.

John Harrity questioned how much is really in this space. He stated that he feels that low income housing and renewables really speaks about community solar and shared solar for those homes. Kim Stevenson stated that they are partnering with different agencies and that complex and vulnerable properties are coming to the Connecticut Green Bank. She stated that other agencies are not willing or able to fund them. She stated that they need flexibility to do those outliers, but that that's not the predominant strategy.

Kerry O'Neill stated that the estimates in the low income sector are that 25 – 40% of units have some sort of health and safety issue. She stated that their preference is efficiency first.

Tom Flynn stated that they need to adopt a very clear policy on what they will consider as a percentage and what will go towards health and safety.

Bettina Bronisz stated that she is unclear as to why this cannot be addressed by other agencies. Kerry O'Neill stated that in affordable housing there are federal and state subsidies along with natural occurring affordable housing. She stated that the majority of the low income market is natural occurring.

Commissioner Klee questioned if there is a way to partner with banks. Kerry O'Neill stated that the Connecticut Green Bank will do the predevelopment part and then the customer will go to their local lender and refinance it out that way.

Brian Farnen again stated that he feels that the Connecticut Green Bank needs to be focused on clean energy and does not feel that they should be doing standalone health and safety loans per our enabling statute.

Commissioner Klee stated that he's concerned that there is nobody lending in this space and that he feels that they should pilot it out.

Matt Ranelli stated that their mission is not so limited that they can only do what the market drives.

Bryan Garcia stated that the Legislature in the statute defaults to the governance of the organization through its Board of Directors approval of a Comprehensive Plan. The Comprehensive Plan clearly states that the Connecticut Green Bank must tackle barriers (e.g., health and safety) in this market for energy efficiency. He also questioned the source of funding (e.g., ratepayer vs. non-ratepayer) to support health and safety measures that would lead to clean energy improvements.

Commissioner Smith stated that there must be additional guidelines around the health and safety market. She stated that her concern is that it's not clearly written. She proposed that the staff come back to the Board with a policy.

Kerry O'Neill stated that they are also requesting expanding the predevelopment loan program. They are requesting an additional \$500,00.

**Upon a motion made by Commissioner Klee and, seconded by Bettina Bronisz the additional funds for the predevelopment loans was approved.**

**Resolution #7**

**WHEREAS**, the Connecticut Green Bank ("Green Bank") is actively seeking to deploy private capital to support clean energy upgrades in the state's multifamily housing sector;

**WHEREAS**, the Green Bank Board of Directors (the "Board") has previously approved a Program Related Investment ("PRI") in the amount of \$5,000,000 from the John D. and Catherine T. MacArthur Foundation ("MacArthur") to support the Green Bank's efforts to accelerate energy efficiency and clean energy upgrades in affordable multifamily properties across the state of Connecticut as outlined in the proposal presented by the Green Bank to MacArthur;

**WHEREAS**, MacArthur later selected the Housing Development Fund ("HDF") to receive and administer the MacArthur PRI;

**WHEREAS**, the Green Bank Board of Directors has previously approved \$1,000,000 for a pre-development loan fund with \$500,000 of that coming from MacArthur funds to support affordable multifamily properties and \$500,000 coming from Green Bank funds; and

**WHEREAS**, Green Bank staff is now requesting a reallocation of \$2,000,000 from the Statutory and Infrastructure Sector (\$1,000,000 from Anaerobic Digester Projects and \$1,000,000 from MicroGrids) to support: i) pre-development energy improvement loans; and ii) term financing for energy and related health and safety improvements,

**NOW**, therefore be it:

**RESOLVED**, that the Board authorizes additional funding from the Green Bank's balance sheet through a reallocation from the Statutory and Infrastructure Sector, in addition to the existing \$500,000 authorization for pre-development energy loans for affordable multifamily properties, in an amount not to exceed \$2,000,000, with \$500,000 of that total allocated for pre-development loans and \$1.5M for affordable gap and health & safety financing loans (with the health and safety financing contingent upon staff bringing back a policy as it relates to establishing a nexus between the non-energy and clean energy components of a project financing), with terms and conditions consistent with the memorandum dated December 9, 2016 and associated exhibits submitted to the Board; and

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

7. **Executive Session**

**Upon a motion made by Commissioner Klee and, seconded by Bettina Bronisz, the Board voted unanimously to go into Executive Session at 10:49 a.m.**

8. **Other Business**

Anthony Clark provided an update on the Kresge Foundation. He stated that they will bring the term sheet to Board as a full agenda item in January.

Bert Hunter mentioned the success of the RFP for private capital for the Small Business Energy Advantage program – and noted that the Green Bank received \$300 million in proposals for private capital for the program and that the Green Bank, together with Eversource, United Illuminating and the C&I committee of the Energy Efficiency Board agreed on the private capital source to focus on for further discussions.

John Harrity discussed PURA and the issuance of a decision on the UI rate case. He stated that it's not a decision that utilities will be pleased with.

9. **Adjourn**

**Upon a motion made by Bettina Bronisz and, seconded by John Harrity, the meeting was adjourned at 11:08 a.m.**

Respectfully Submitted,

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Catherine Smith, Chairperson

## **CONNECTICUT GREEN BANK**

### **Board of Directors**

Draft Minutes – Special Meeting

Strategic Retreat

Thursday, January 5, 2017

A special meeting of the Board of Directors of the **Connecticut Green Bank (the “Green Bank”)** was held on January 5, 2017 at Yale University, Kroon Hall, 161 Prospect Street, New Haven, CT

#### **1. Call to order**

Catherine Smith, Chairperson of the Green Bank and Commissioner of the Department of Economic and Community Development (“DECD”), called the meeting to order at 12:08 p.m. Board members participating: Norma Glover; John Harrity; Reed Hundt; Rob Klee, Vice Chairperson of the Green Bank and Commissioner of the Department of Energy and Environmental Protection (“DEEP”); Matthew Ranelli and Tom Flynn.

Members absent: Mun Choi, Pat Wrice, Kevin Walsh and Bettina Bronize

Staff Attending: George Bellas, Craig Connolly, Mackey Dykes, Brian Farnen, Bryan Garcia, Ben Healey, Dale Hedman, Bert Hunter, Alex Kovtunenکو, Kerry O’Neill, Eric Shrago, Matt Macunas,.

Others: Dr. Jonathan Raab of Raab Associates, Ltd., acting as facilitator, Frances Beinecke. former President of the Natural Resources Defense Council (joined discussion for the last hour of the meeting).

#### **2. Public Comments**

There were no public comments

#### **3. Kick-Off – Successes and Shortcomings (12:00 to 12:45 – 45 minutes)**

##### **2011 to 2016 – What were the Connecticut Green Bank’s successes and shortcomings (or missed best practices) in its first 5 years?**

The Board first brainstormed key successes and shortcomings for the Green Bank in its first 5 years, compared the Board’s lists to staff’s lists, and then had an open discussion on the similarities and differences

Several next steps were identified, including:

- Continuing to work closely and build relationships with the utilities and the Energy Efficiency Board;
- Investigating how the creation of a private entity (e.g., CDFI, 501(c)3 non-profit, foundation, etc.) may help the organization achieve greater results; and
- Addressing various operational issues that need improvements.

**4. Strategic Issues to Address (12:45 to 4:50 – 245 minutes)**

**a. Issue #1 – The “Big Picture” – Towards 80% Reductions of GHG Emissions by 2050 (12:45 to 1:55 – 70 minutes)**

Commissioner Klee described the opportunity and challenges inherent in Connecticut striving to meet its climate action goals. Particular emphasis was on the transportation sector, building heating and cooling sector, and on electrifying these sectors while continuing to strive to reduce the carbon intensity of the electricity grid.

The Board members and staff then broke into 2 separate break-out groups to discuss the roles that the Bank could play to keep CT on a pathway to successfully achieving its 80% reduction target by 2050. The groups specifically were asked to consider the Green Bank’s potential role in the transportation, building heating/cooling sectors, and clean grid.

One of the next steps identified was:

- Working with DEEP and the utilities to develop new programs to support the GC3 in the areas of renewable thermal technologies, zero emission vehicles, and a cleaner electric grid;

**b. Issue #2 – Financial Position of the Connecticut Green Bank; Leveraging Resources for Public-Private Partnerships and Sustainability: Emerging Opportunities Like Bank of America (1:55 to 2:55– 60 minutes)**

Staff presented a slide deck reviewing the Green Bank’s financial position, and reviewed a recent strategic opportunity by Bank of America. The Board and staff then discussed the Bank’s financial strengths and accounting practices, as well as what kinds of opportunities this could open up.

One of the next steps identified was:

- Investing more of its financial resources into existing programs and products by putting in more of the organization’s capital;

**c. Issue #3 – Financial Position of the Connecticut Green Bank – Protecting Resources from Transfer to the General Fund: Strategies and Communications\* (3:10 to 4:00 – 50 minutes)**

The Board and staff discussed ways the organization might mitigate threats to its strong financial position.

Several next steps were identified, including:

- Providing an additional set of non-GAAP financial statements that brings the organization’s commitments into its financial statements (as opposed to the footnotes); and
- Allowing the President and CEO to work with the Chair of the Board of Directors to develop and implement a proactive strategy through the legislative session to manage the budget deficit.

**d. Issue #4 – The Green Bank Movement in a Trump Administration – Opportunities and Vulnerabilities (4:00 to 4:50 – 50 minutes)**

The Board and the staff discussed what insights they wanted to share about how a new federal administration might impact the pursuit of clean energy in the U.S., and what challenges and opportunities this might posit for the CT Green Bank.

Several next steps were identified, including:

- Pursuing the Bank of America investment as a strategy to communicating the importance of public-private partnerships in advancing the clean energy economy;
- Continuing to support the Green Bank Network and the Green Bank Academy to share best practices and lessons learned within the green bank movement; and
- Continuing to support federal legislation in support of green banks and/or infrastructure that supports clean energy with the Coalition for Green Capital.

5. Next Steps (4:50 to 5:00 – 10 minutes)

Green Bank staff will summarize and synthesize the information and ideas shared at this meeting and present some potential strategies to address these issues at the next Board of Directors meeting.

6. Adjourn

The meeting was adjourned at 5:00p.m.

Respectfully Submitted,

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Catherine Smith, Chair



## CONNECTICUT GREEN BANK

### VICE PRESIDENT, RESIDENTIAL PROGRAMS

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**Position Grade:** EX

**Direct Reports:** Directors, Managers, Associates, Assistants

**Salary Range:** \$116,250 to 189,000

**Career Series:** Program

**Reports to:** President & CEO

**Wage Hour Class:** Exempt

**Hours Worked:** 40

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#### **SUMMARY:**

The Vice President, Residential Programs oversees the development and implementation of all Connecticut Green Bank (CGB) programs focused on the residential sector. The vice president will lead CGB's single-family and multifamily financing programs. The vice president will coordinate with the state and other stakeholders to implement clean energy policy recommendations from the Comprehensive Energy Strategy including R-PACE (if passed) and other financing programs in statute.

Similar to the managing director level, the Vice President is distinguished from lower level directors by either its oversight of multiple areas in large operational departments, or the management of program services with agency-wide internal and/or significant external impact. The Vice President is the most highly experienced and specialized within the Director career series. While the core duties may overlap significantly with lower level Directors, the Vice President is an expert in their field and has full managerial and decision making responsibility on issues of significance and consequence: 1. Issues involving the use of personnel (recruitment, progressive discipline, termination, etc.); 2. Issues pertaining to the formulation, interpretation, or administration of policy and/or legislation affecting their program area; 3. Issues involving exceptions or deviations from policy or past practice; 4. significant input into issues involving the allocation of financial resources; 5. Strategic direction of residential sector programming. In addition, a vice president has complete programmatic responsibility and is responsible for coordinating department wide resources (staff, consultants, budget, etc.) and external resources as part of overall responsibility for an entire program with significant internal and external impact.

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

#### **EXAMPLES OF DUTIES:**

- Initiates and manages the design of CGB's residential programs for single-family and multifamily;

- Works with the Chief Investment Officer to design residential clean energy financial products to attract private capital;
- Works with the Director of Marketing to develop strategies to increase participation in CGB residential programs and uptake in financial products;
- Works with the President, Chief Legal Officer and General Counsel, and Chief Investment Officer to develop R-PACE (and C-PACE for multifamily), on-bill repayment, CDFI, and other policies and procedures for residential clean energy financing
- Works closely with financiers, property owners, municipalities and other key stakeholders to create programs that attract their interest and secures their participation;
- Works with state agencies, utilities, the Connecticut Energy Efficiency Fund, as well as other key stakeholders, to align programs where possible and assure Connecticut's energy finance program takes advantage of shared resources and programmatic synergies;
- Ensures all operational (i.e. staff and policies) and organizational (i.e. contracting and reporting) requirements are being implemented and carried out;
- Manages the selection of consultants, where necessary, to support the program in areas where CGB does not have specific in-house expertise;
- Works in collaboration with the President, Chief Legal Officer and General Counsel, and Director of Marketing to integrate comprehensive strategies to advance clean energy;
- Contributes to the development and implementation of CGB's comprehensive plan with a particular emphasis on strategy related to the residential sector;
- Works with the Board of Directors and the President to lead the development of clean energy programs and initiatives;
- Regularly updates the Board of Directors, with support from the President and Executive Vice President and CIO on the development and progress of residential programs;
- Represent CGB on appropriate task forces, committees, and boards relevant to clean energy finance;
- Represents CGB to the public in speaking engagements; and
- Supervises CGB staff including managers, associates, and assistants.

**MINIMUM QUALIFICATIONS REQUIRED**  
**KNOWLEDGE, SKILL AND ABILITY:**

- Strong knowledge and experience in clean energy finance and/or policy;
- Familiarity with the finance and energy industries;
- Considerable experience in program/project management;
- Ability to work in a team environment as a lead contributor, manager, and facilitator;
- Strong knowledge of business operations and general management including supervisory experience;
- Considerable ability to develop programs, manage stakeholder processes toward results, and interpret energy policy;
- Understanding of the interaction in clean energy markets between finance and demand;
- Demonstrated ability to understand various scientific and energy-related technological principles and applications, and integrate those concepts into the overall project, program, or CGB;
- Expertise in scalable models for financing building upgrades through a variety of financial products (i.e. loans, leases, ESAs, , PPAs) and the appropriate application of each to various market segments;

- Ability to work with external stakeholders including strong facilitation, negotiation, and coordination skills;
- Considerable interpersonal skills, as well as oral and written communications skills;
- Ability to market the benefits of residential clean energy financing products to potential customers;
- Knowledge of State and Federal energy policies and regulations that support clean energy finance; and
- Familiarity with energy efficiency issues and energy efficiency service contracts.

## **EXPERIENCE AND TRAINING:**

### **General Experience:**

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

### **Special Experience:**

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

### **Substitutions Allowed:**

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

## **CAREER SERIES**

The career series for this classification is:

- Administrative Assistant
- Program Assistant
- Senior Assistant
- Associate
- Senior Associate
- Assistant Manager
- Associate Manager
- Manager
- Senior Manager
- Assistant Director
- Associate Director
- Director I
- Director II
- Managing Director
- Vice President

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

**COMPREHENSIVE ANNUAL  
FINANCIAL REPORT**

**FISCAL YEAR ENDED JUNE 30, 2016**

(With Summarized Totals as of and for Fiscal Year Ended June 30, 2015)

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

**CONNECTICUT GREEN BANK**  
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# **INTRODUCTORY SECTION**



December 26, 2016

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, 2016 accompanied by summarized totals as of and for the fiscal year ended June 30, 2015.

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 has issued an unmodified opinion on the Green Bank’s financial statements for the fiscal year ending June 30, 2016. 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.

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, 2015 and June 30, 2014. 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'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 three goals:

1. To attract and deploy capital to finance the clean energy<sup>2</sup> goals for Connecticut, including:
  - a. Help Connecticut in becoming the most energy efficient state in the nation;
  - b. Scale-up the deployment of renewable energy in Connecticut; and
  - c. Provide support for the infrastructure needed to lead the clean energy economy.
2. To develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers.
3. To reduce reliance on grants, rebates, and other subsidies and move towards innovative low-cost financing of clean energy deployment.

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

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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.

## **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 five years, we are deploying more green energy in our state than ever before (see Table 1).<sup>3</sup>

**Table 1. Project Investments between FY 2012 through FY 2016<sup>4</sup>**

	<u>FY 2016</u>	<u>FY 2015</u>	<u>FY 2014</u>	<u>FY 2013</u>	<u>FY 2012</u>	<u>Total</u>
Total Investment (\$MM)	\$ 314.1	\$ 335.5	\$ 140.2	\$ 111.1	\$ 15.0	\$ 915.9
Green Bank Investment (\$MM)	48.0	55.7	37.8	18.6	4.8	164.9
Leverage Ratio	6.6 - 1.0	6.1 - 1.0	3.7 - 1.0	6.0 - 1.0	3.1 - 1.0	5.6 - 1.0
% of Funding						
Approved as Grants	43%	50%	48%	67%	100%	51%
Installed Capacity (MW)	74.4	65.5	26.1	23.5	2.9	192.4

By using \$164.9 million of ratepayer funds, we have attracted \$751.0 million of private investment in clean energy for a total investment of \$915.9 million. This is supporting the deployment of 192.4 MW of renewable energy and producing and saving an estimated 1.3 million MMBtu of clean energy while creating over 11,000 job-years and reducing an estimated 2.1 million tons of CO<sub>2</sub> emissions over the life of the projects.

### *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 providing positive value to our consumers.

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. More green homes mean greener, healthier communities.

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.

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<sup>3</sup> Connecticut Green Bank – Investment and Public Benefit Performance from Clean Energy Projects from FY 2012 through FY 2016 – Board of Director Memo of October 21, 2016.

<sup>4</sup> Includes approved, closed and completed transactions approved by the Board of Directors consistent with its Comprehensive Plan and Budget.

### 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.

This year, we have seen several of our programs serving as replicable and scalable models, including:

- Commercial Property Assessed Clean Energy (C-PACE) for commercial, industrial, multifamily, and non-profit buildings with Hannon Armstrong
- Solar for All residential solar PV lease and energy efficiency energy savings agreement for low-to-moderate income households with PosiGen

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.

In a study done by the Center for American Progress,<sup>5</sup> it is estimated that the U.S. needs at least \$200 billion in efficient and renewable energy annually for 20 years to reduce carbon emissions and avert climate disaster. The Natural Resources Defense Council and Coalition for Green Capital estimate that based on Connecticut, its market size, growth rate, and private-public leverage ratio, that a green bank – like the Connecticut Green Bank – successfully operating in every state in America would yield \$200 billion in national annual investment within 5 years, with 90% of funds coming from private sources and all public contributions returned over 10 to 20 years.

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

The Green Bank receives funding through a number of sources, including a Systems Benefit Charge, the Regional Greenhouse Gas Initiative (RGGI), renewable energy certificate (REC) sales 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.

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<sup>5</sup> Green Growth: A U.S. Program for Controlling Climate Change and Expanding Job Opportunities by the Center for American Progress (September 2014)

## **Acknowledgements**

First and foremost, we would like to thank the Staff of the Connecticut Green Bank. In our first five years, through their hard work, commitment and innovation, we 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, for their assistance and advice during the course of this audit, 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 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,

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

Bryan T. Garcia  
President and CEO

A handwritten signature in blue ink, appearing to read 'George D. Bellas', written in a cursive style.

George D. Bellas  
Vice President - Finance and Administration

# 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>6</sup> (or designee)	Ex Officio	Yes	Robert Klee <sup>7</sup>	DEEP
Commissioner of DECD <sup>8</sup> (or designee)	Ex Officio	Yes	Catherine Smith <sup>9</sup>	DECD
Residential or Low Income Group	Appointed	Yes	Pat Wrice	Operation Fuel
Investment Fund Management	Appointed	Yes	Norma Glover	NJG Associates
Environmental Organization	Appointed	Yes	Matthew Ranelli <sup>10</sup>	Shipman & Goodwin
Finance or Deployment	Appointed	Yes	Thomas Flynn	Environmental Data Resources
Finance of Renewable Energy	Appointed	Yes	Reed Hundt <sup>11</sup>	Coalition for Green Capital
Finance of Renewable Energy	Appointed	Yes	Kevin Walsh	GE Energy Financial Services
Labor	Appointed	Yes	John Harranty	IAM Connecticut
R&D or Manufacturing	Appointed	Yes	Mun Choi	University of Connecticut
President of the Green Bank	Ex Officio	No	Bryan Garcia	Connecticut Green Bank
Board of Connecticut Innovations <sup>12</sup>	Ex Officio	No	(unfilled)	(unfilled)

## Discretely Presented Component Units

Position	Name
President	Bryan Garcia
Treasurer	George Bellas
Secretary	Brian Farnen
Chief Investment Officer	Roberto Hunter

<sup>6</sup> Department of Energy and Environmental Protection

<sup>7</sup> Vice Chairperson of the Board of Directors and Chairperson of the Budget and Operations Committee

<sup>8</sup> Department of Economic and Community Development

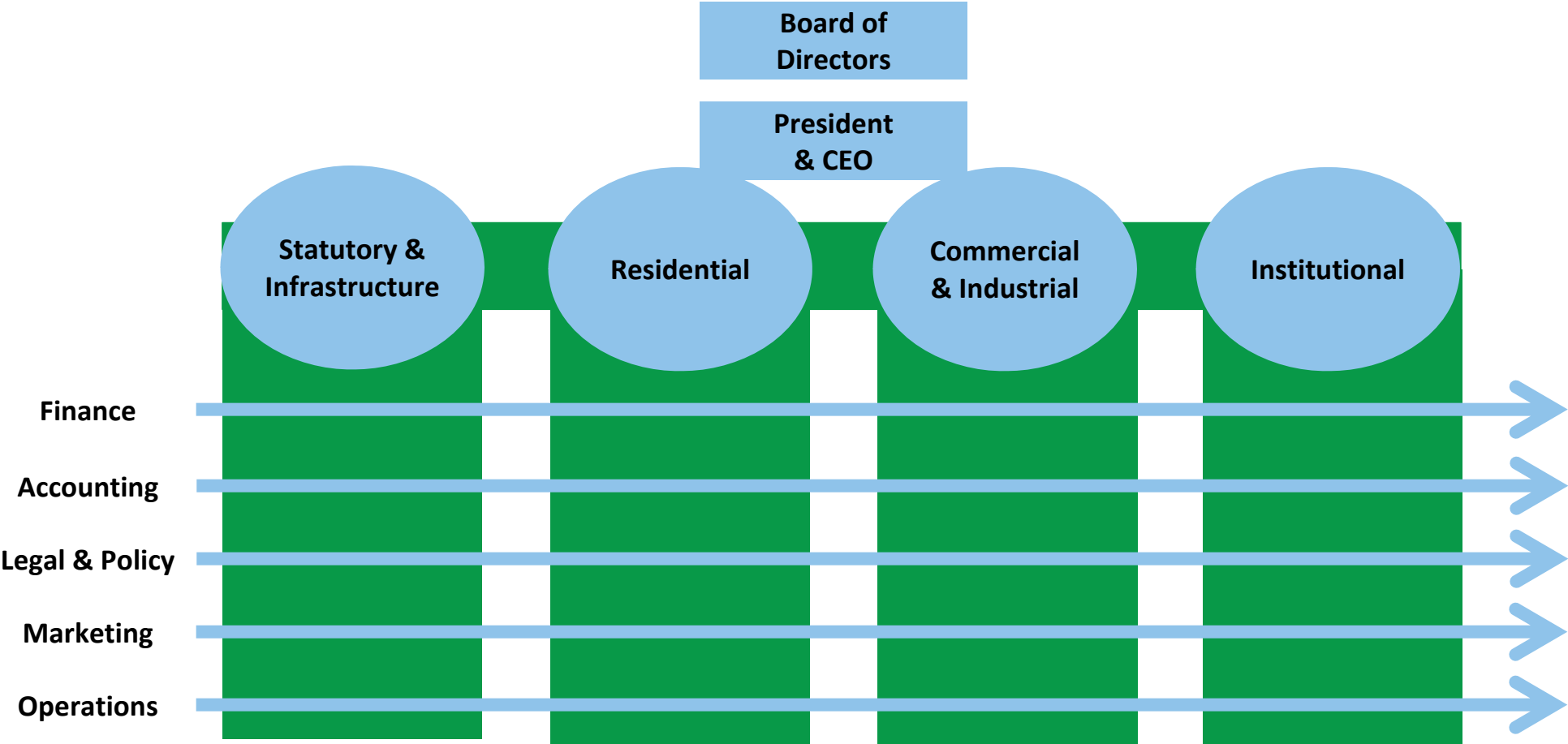
<sup>9</sup> Chairperson of the Board of Directors

<sup>10</sup> Secretary of the Board of Directors and Chairperson of the Audit, Compliance and Governance Committee

<sup>11</sup> Chairperson of the Deployment Committee

<sup>12</sup> It should be noted that several members of the Board of Directors of the Green Bank currently serve on the Board of Directors of Connecticut Innovations, including Mun Choi and Catherine Smith.

# Organizational Chart





Government Finance Officers Association

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Reporting**

Presented to

**Connecticut Green Bank**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2015**

Executive Director/CEO

# **FINANCIAL SECTION**



# BlumShapiro

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## Independent Auditors' Report

To the Board of Directors  
Connecticut Green Bank

### 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 (CGB) (a component unit of the State of Connecticut) as of and for the fiscal year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise CGB'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, 2016, 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 10 and schedule of Green Bank's proportionate share of the net pension liability and proportionate share of contributions to the state employees' retirement system (SERS) on pages 52 and 53 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.

### *Other Matter*

The financial statements of Connecticut Green Bank as of and for the year ended June 30, 2015 were audited by other auditors in accordance with auditing standards generally accepted in the United States of America, who had issued their report thereon dated January 28, 2016, which contained unmodified opinions on the respective financial statements of the business-type activities and the aggregate discretely presented component units. The accompanying June 30, 2015 summarized comparative information is presented for purposes of additional analysis and is not a required part of the basic financial statements. The accompanying June 30, 2015 summarized comparative information has 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 it.

**Other Reporting Required by *Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated December 26, 2016, 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 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 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.

*Blum, Shapiro & Company, P.C.*

West Hartford, Connecticut  
December 26, 2016

# 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 (CGB), 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, 2016. 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.

CGB as a reporting entity is comprised of the primary government and two 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*.

### 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.

CGB 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 CGB 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 CGB 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. CGB 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 CGB 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 CGB'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 CGB. The Statement of Cash Flows reconciles the changes in cash and cash equivalents with the activities of CGB 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 2016

#### *NET POSITION*

Net position increased by \$18.2 million to \$127.4 million at June 30, 2016 and cash and cash equivalents increased by \$9.1 million in 2016 to \$57.8 million.

The acquisition of \$3.5 million in bonds was a part of the proceeds received by CGB as a result of the sale of CPACE program loans during fiscal years 2014 through 2016. See Note 5. Solar lease notes decreased \$811,000 due to scheduled principal repayments. See Note 6. The decrease in program loans in 2016 to \$33.3 million as compared to \$40.5 million in 2015 was primarily a result of the sale of CPACE loans held in the CGB portfolio to an outside investor. See Note 7. Capital assets increased to \$58.1 million in 2016 compared to \$27.0 million in 2015 as a result of the continued acquisition of solar equipment by CT Solar Lease 2 LLC. See Note 1 for further discussion of CT Solar Lease 2 LLC's operations.

As of June 30, 2016, the Board of Directors designated \$84.5 million in net position to fund contingent grant, loan and investment commitments as described in Note 14. These grants, loans and investments are expected to be paid or funded over the next one to six fiscal years.

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

The following table summarizes the net position of the reporting entity at June 30, 2016 and 2015 (in thousands):

	Net Position (in thousands)		
	<u>2016</u>	<u>2015</u>	<u>Increase (Decrease)</u>
Cash and cash equivalents	\$ 57,822	\$ 48,693	\$ 9,129
Bonds receivable	3,492	1,600	1,892
Portfolio investments	1,000	1,000	-
Solar lease notes	9,008	9,819	(811)
Program loans	33,268	40,518	(7,250)
Capital assets, net	58,115	26,971	31,144
Other assets	<u>14,124</u>	<u>8,972</u>	<u>5,152</u>
<b>Total Assets</b>	<u>176,829</u>	<u>137,573</u>	<u>39,256</u>
<b>Deferred Outflows of Resources</b>			
Deferred amount for pensions	<u>2,575</u>	<u>1,670</u>	<u>905</u>
Total deferred outflows of resources	<u>2,575</u>	<u>1,670</u>	<u>905</u>
Current liabilities	6,964	6,825	139
Unearned revenue	6,258	2,519	3,740
Pension liabilities	16,096	14,900	1,196
Other long term liabilities	2,528	1,094	1,434
Fair value of interest rate swap	1,628	660	968
Long term debt, less current maturities	<u>18,567</u>	<u>3,546</u>	<u>15,021</u>
Total liabilities	<u>52,042</u>	<u>29,544</u>	<u>22,498</u>
<b>Deferred Inflows of Resources</b>			
Deferred amount for pensions	<u>-</u>	<u>532</u>	<u>(532)</u>
Total deferred outflows of resources	<u>-</u>	<u>532</u>	<u>(532)</u>
Invested in capital assets	58,115	26,971	31,144
Restricted Net Position:			
Non-expendable	1	1	-
Restricted - energy programs	9,750	8,799	951
Unrestricted	<u>59,496</u>	<u>73,396</u>	<u>(13,900)</u>
<b>Total Net Position</b>	<u>\$ 127,362</u>	<u>\$ 109,167</u>	<u>\$ 18,195</u>

### **CHANGES IN NET POSITION**

Operating revenues decreased by \$8.5 million in fiscal year 2016 primarily as a result of a decrease in RGGI auction proceeds of \$10.1 million. CGB received \$6.5 million from the State in RGGI auction proceeds during the year as compared to RGGI auction proceeds of \$16.6 million in 2015. Public Act 13-247, see Note 10, allowed the Commissioner of the Connecticut Department of Energy and

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

Environmental Protection to transfer additional RGGI auction proceeds to CGB to be used to support energy efficiency financing opportunities. This increase in RGGI auction proceeds helped offset payments to the State by CGB required under Public Act 13-247 during fiscal year 2015. Helping to offset the decrease in RGGI auction proceeds was an increase in REC sales of \$1.2 million over the prior year to \$2.7 million for fiscal year 2016.

Total expenditures for grants and programs in 2016 were \$26.8 million, an increase of \$4.7 million when compared to the total expenditures of \$22.1 million in 2015. Included in these totals are payments representing financial incentives to residential and commercial property owners to install renewable energy or energy efficiency measures of \$12.8 million in 2016 and \$11.3 million in 2015. These financial incentives and the associated costs to administer these payments fluctuate from year to year as they are based on the achievement of contract milestones established by each CGB program.

General and administrative expenses increased by \$1.5 million in 2016 to \$4.6 million compared to \$3.1 million in 2015 primarily resulting from expenditures for new marketing and branding initiatives undertaken in 2016.

The following table summarizes the changes in net position between June 30, 2016 and 2015 (in thousands):

Changes in Net Position (in thousands)			
	2016	2015	Increase (Decrease)
<b>Revenues</b>	\$ 37,788	\$ 46,294	\$ (8,506)
<b>Operating Expenses</b>			
Grants and programs	26,843	22,131	4,712
General and administrative expense	4,630	3,117	1,512
Total operating expenses	31,473	25,248	6,225
<b>Operating Income</b>	6,315	21,046	(14,731)
<b>Non-Operating Revenues (Expenses)</b>			
Interest earned	2,641	2,311	330
Interest expense	(731)	(119)	(612)
Investment loss	(33)	(1,180)	1,147
Unrealized loss on interest rate swap	(968)	(660)	(308)
Provision for loan losses	(1,022)	(564)	(458)
Capital contribution	12,294	6,844	5,450
Distribution to member	(301)	(105)	(196)
Payments to State of Connecticut		(19,200)	19,200
<b>Net Change</b>	18,195	8,374	9,821
<b>Net Position Beginning of Year</b>	109,167	100,793	8,374
<b>Net Position at End of Year</b>	\$ 127,363	\$ 109,167	\$ 18,195

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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### FINANCIAL HIGHLIGHTS OF FISCAL 2015

#### *NET POSITION*

Net position increased by \$8.4 million to \$109.1 million at June 30, 2015 and cash and cash equivalents decreased by \$32 million in 2015 to \$48.7 million.

The acquisition of \$1.6 million in bonds was a part of the proceeds received by CGB as a result of the sale of CPACE program loans during fiscal year 2014. See Note 5. Solar lease notes decreased \$0.7 million as a result of scheduled principal repayments. See Note 6. The increase in program loans in 2015 to \$40.5 million as compared to \$13.4 million in 2014 was primarily a result of increased CGB financings of CPACE and residential solar projects. See Note 7. Capital assets increased to \$27.0 million from \$3.1 million in 2015 as a result of the continued acquisition of solar equipment by CT Solar Lease 2 LLC. See Note 1 for further discussion of CT Solar Lease 2 LLC's operations.

As of June 30, 2015, the Board of Directors designated \$89.5 million in net position to fund contingent grant, loan and investment commitments as described in Note 14. These grants, loans and investments are expected to be paid or funded over the next one to six fiscal years. In addition to these commitments, an additional \$23 million has been designated by the Board to fund future program commitments.



# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

The following table summarizes the net position at June 30, 2015 and 2014 (in thousands):

	Net Position (in thousands)		
	2015	(as restated) 2014	Increase (Decrease)
Cash and cash equivalents	\$ 48,693	\$ 80,925	\$ (32,232)
Bonds receivable	1,600	1,600	-
Portfolio investments	1,000	1,000	-
Solar lease notes	9,819	10,544	(725)
Program loans	40,518	13,403	27,115
Capital assets, net	26,971	3,074	23,897
Other assets	<u>8,972</u>	<u>9,943</u>	<u>(971)</u>
<b>Total Assets</b>	<u>137,573</u>	<u>120,489</u>	<u>17,084</u>
<b>Deferred Outflows of Resources</b>			
Deferred amount for pensions	<u>1,670</u>	-	<u>1,670</u>
Total deferred outflows of resources	<u>1,670</u>	-	<u>1,670</u>
Current liabilities	6,825	4,801	2,024
Unearned revenue	2,519	469	2,050
Pension liabilities	14,900	14,305	595
Other long term liabilities	1,094	-	1,094
Fair value of interest rate swap	660	-	660
Long term debt, less current maturities	<u>3,546</u>	<u>121</u>	<u>3,425</u>
Total liabilities	<u>29,544</u>	<u>19,696</u>	<u>9,848</u>
<b>Deferred Inflows of Resources</b>			
Deferred amount for pensions	<u>532</u>	-	<u>532</u>
Total deferred inflows of resources	<u>532</u>	-	<u>532</u>
Invested in capital assets	26,971	3,074	23,897
Restricted Net Position:			
Non-expendable	1	1	-
Restricted - energy programs	8,799	9,096	(297)
Unrestricted	<u>73,396</u>	<u>88,622</u>	<u>(15,226)</u>
<b>Total Net Position</b>	<u>\$ 109,167</u>	<u>\$ 100,793</u>	<u>\$ 8,374</u>

### **CHANGES IN NET POSITION**

Revenue from interest on cash deposits and promissory notes increased \$1.2 million to \$2.3 million in 2015. CGB received \$16.6 million from the State in RGGI auction proceeds during the year as compared to RGGI auction proceeds of \$20.1 million in 2014. Public Act 13-247, see Note 10, allowed the Commissioner of the Connecticut Department of Energy and Environmental Protection to transfer additional RGGI auction proceeds to CGB to be used to support energy efficiency financing opportunities. This increase in RGGI auction proceeds helped offset payments to the State by CGB required under Public Act 13-247 during fiscal year 2015.

# CONNECTICUT GREEN BANK

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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Total expenditures for grants and programs in 2015 were \$22.1 million, a decrease of \$1.3 million from the prior year. Grant and program expenditures fluctuate from year to year as they are based on the achievement of contract milestones by the grantee.

General and administrative expenses increased by \$580 thousand from \$2.5 million to \$3.1 million.

The following table summarizes the changes in net position between June 30, 2015 and 2014 (in thousands):

	Changes in Net Position (in thousands)		
	2015	2014	Increase (Decrease)
<b>Revenues</b>	<u>\$ 46,294</u>	<u>\$ 48,754</u>	<u>\$ (2,460)</u>
<b>Operating Expenses</b>			
Grants and programs	22,131	23,439	(1,308)
General and administrative expense	<u>3,117</u>	<u>2,537</u>	<u>580</u>
<b>Total Operating Expenses</b>	<u>25,248</u>	<u>25,976</u>	<u>(728)</u>
<b>Operating Income</b>	21,046	22,778	(1,732)
<b>Non-Operating Revenues (Expenses)</b>			
Interest earned	2,311	1,142	1,169
Interest expense	(119)	-	(119)
Investment loss	(1,180)	-	(1,180)
Unrealized loss on interest rate swap	(660)	-	(660)
Provision for loan losses	(564)	(1,311)	747
Capital contribution	6,844	201	6,643
Distribution to member	(105)	(12)	(93)
Payments to State of Connecticut	<u>(19,200)</u>	<u>(6,200)</u>	<u>(13,000)</u>
<b>Net Change</b>	8,374	16,598	(8,225)
<b>Net Position Beginning of Year</b>	<u>100,793</u>	<u>84,195</u>	<u>(14,718)</u>
<b>Net Position End of Year</b>	<u>\$ 109,167</u>	<u>\$ 100,793</u>	<u>\$ (29,436)</u>

### REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of CGB'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.

**CONNECTICUT GREEN BANK**  
**CONSOLIDATING STATEMENT OF NET POSITION**  
**JUNE 30, 2016**

(with summarized totals for the year ended June 30, 2015)

	Discretely Presented Component Units				2016 Total Reporting Entity	2015 Total Reporting Entity
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services Inc.	Eliminating Entries		
<b>Assets</b>						
<b>Current Assets</b>						
Cash and cash equivalents	\$ 41,569,390	\$ 1,381,506	\$ 5,121,165	\$	\$ 48,072,061	\$ 39,893,649
Accounts receivable	1,408,922	21,700			1,430,622	35,155
Utility remittance receivable	2,670,634				2,670,634	2,518,850
Other receivables	264,197	165,805			430,002	313,228
Due from component units	44,346,437	574,723	4,407,273	(49,328,433)	-	-
Prepaid expenses and other assets	3,286,803	959,003			4,245,806	1,030,251
Contractor loans	2,272,906				2,272,906	3,112,663
Current portion of solar lease notes	845,479				845,479	803,573
Current portion of program loans	1,378,242				1,378,242	10,264,825
Total current assets	<u>98,043,010</u>	<u>3,102,737</u>	<u>9,528,438</u>	<u>(49,328,433)</u>	<u>61,345,752</u>	<u>57,972,194</u>
<b>Noncurrent Assets</b>						
Portfolio investments	1,000,000				1,000,000	1,000,000
Bonds receivable	3,492,282				3,492,282	1,600,000
Solar lease notes, less current portion	8,162,635				8,162,635	9,015,437
Program loans, less current portion	31,889,275				31,889,275	30,253,119
Renewable Energy Credits	812,770				812,770	933,054
Investment in component units	100		20,982,892	(20,982,992)	-	-
Capital assets, net of depreciation and amortization	248,752	65,678,493		(7,812,331)	58,114,914	26,971,087
Asset retirement obligation, net		2,261,472			2,261,472	1,029,196
Restricted assets:						
Cash and cash equivalents	5,249,983	4,500,000			9,749,983	8,799,005
Total noncurrent assets	<u>50,855,797</u>	<u>72,439,965</u>	<u>20,982,892</u>	<u>(28,795,323)</u>	<u>115,483,331</u>	<u>79,600,898</u>
<b>Total Assets</b>	<u>148,898,807</u>	<u>75,542,702</u>	<u>30,511,330</u>	<u>(78,123,756)</u>	<u>176,829,083</u>	<u>137,573,092</u>
<b>Deferred Outflows of Resources</b>						
Deferred amount for pensions	<u>2,575,368</u>				<u>2,575,368</u>	<u>1,669,961</u>
<b>Total Deferred Outflows of Resources</b>	<u>2,575,368</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>2,575,368</u>	<u>1,669,961</u>

The accompanying notes are an integral part of the financial statements

**CONNECTICUT GREEN BANK**  
**CONSOLIDATING STATEMENT OF NET POSITION (CONTINUED)**  
**JUNE 30, 2016**

(with summarized totals for the year ended June 30, 2015)

	Discretely Presented Component Units			Eliminating Entries	2016 Total Reporting Entity	2015 Total Reporting Entity
	Total Primary Government	CT Solar Lease 2 LLC	CEFIA Solar Services Inc.			
<b>Liabilities, Deferred Inflows of Resources and Net Position</b>						
<b>Liabilities</b>						
Current maturities of long-term debt	\$ 233,581	\$ 1,560,600	\$	\$	\$ 1,794,181	\$ 307,203
Accounts payable and accrued expenses	2,235,140	745,106	4,500		2,984,746	5,820,170
Due to component units	574,723	18,593,259	30,160,451	(49,328,433)	-	-
Due to outside agency	30,127				30,127	49,516
Custodial liability	2,155,128				2,155,128	647,964
Unearned revenue	5,337,477	920,727			6,258,204	2,518,537
Total current liabilities	10,566,176	21,819,692	30,164,951	(49,328,433)	13,222,386	9,343,390
Asset retirement obligation		2,528,335			2,528,335	1,094,125
Long-term debt, less current maturities	2,960,344	15,607,075			18,567,419	3,546,321
Fair value of interest rate swap		1,627,864			1,627,864	660,073
Pension liability	16,096,113				16,096,113	14,899,766
Total liabilities	29,622,633	41,582,966	30,164,951	(49,328,433)	52,042,117	29,543,675
<b>Deferred Inflows of Resources</b>						
Deferred amount for pensions					-	532,135
<b>Net Position</b>						
Invested in capital assets	248,752	65,678,493		(7,812,331)	58,114,914	26,971,087
Restricted Net Position:						
Nonexpendable	1,000	17,482,892	100	(17,482,992)	1,000	1,000
Restricted for energy programs	5,249,983	4,500,000			9,749,983	8,799,005
Unrestricted (deficit)	116,351,807	(53,701,649)	346,279	(3,500,000)	59,496,437	73,396,151
<b>Total Net Position</b>	<b>\$ 121,851,542</b>	<b>\$ 33,959,736</b>	<b>\$ 346,379</b>	<b>\$ (28,795,323)</b>	<b>\$ 127,362,334</b>	<b>\$ 109,167,243</b>

The accompanying notes are an integral part of the financial statements

**CONNECTICUT GREEN BANK**  
**CONSOLIDATING STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN NET ASSETS**  
**FOR THE YEAR ENDED JUNE 30, 2016**

(with summarized totals for the year ended June 30, 2015)

	<u>Discretely Presented Component Units</u>				<u>2016 Total Reporting Entity</u>	<u>2015 Total Reporting Entity</u>
	<u>Total Primary Government</u>	<u>CT Solar Lease 2 LLC</u>	<u>CEFIA Solar Services Inc.</u>	<u>Eliminations</u>		
<b>Operating Revenues</b>						
Utility remittances	\$ 26,605,084	\$	\$	\$	\$ 26,605,084	\$ 27,233,987
Grant revenue	589,917				589,917	192,274
RGGI auction proceeds	6,481,562				6,481,562	16,583,545
Energy system sales	32,767,009			(32,767,009)	-	16,689
REC sales	2,419,990	233,793			2,653,783	1,474,488
Other income	387,321	2,182,804	126,075	(1,238,311)	1,457,889	793,435
Total operating revenues	<u>69,250,883</u>	<u>2,416,597</u>	<u>126,075</u>	<u>(34,005,320)</u>	<u>37,788,235</u>	<u>46,294,418</u>
<b>Operating Expenses</b>						
Cost of goods sold - energy systems	28,826,974			(28,826,974)	-	-
Grants and program expenses	25,127,814	3,078,633		(1,363,363)	26,843,084	22,130,676
General and administrative expenses	4,445,648	305,217	4,750	(126,075)	4,629,540	3,117,376
Total operating expenses	<u>58,400,436</u>	<u>3,383,850</u>	<u>4,750</u>	<u>(30,316,412)</u>	<u>31,472,624</u>	<u>25,248,052</u>
<b>Operating Income (Loss)</b>	<u>10,850,447</u>	<u>(967,253)</u>	<u>121,325</u>	<u>(3,688,908)</u>	<u>6,315,611</u>	<u>21,046,366</u>
<b>Nonoperating Revenue (Expenses)</b>						
Interest income - prommisory notes	2,520,151				2,520,151	2,217,368
Interest income - short term cash deposits	92,536	27,777	300		120,613	93,949
Interest expense LT debt	(61,796)	(669,043)			(730,839)	(119,345)
Interest income - component units	60,127			(60,127)	-	-
Interest expense - component units		(60,127)		60,127	-	-
Payments to State of Connecticut					-	(19,200,000)
Distributions to member		(301,548)			(301,548)	(104,579)
Realized loss on investments	(33,723)				(33,723)	(1,180,285)
Unrealized gain (loss) on interest rate swap		(967,791)			(967,791)	(660,073)
Provision for loan losses	(1,021,826)				(1,021,826)	(563,825)
Total nonoperating revenue (expenses)	<u>1,555,469</u>	<u>(1,970,732)</u>	<u>300</u>	<u>-</u>	<u>(414,963)</u>	<u>(19,516,790)</u>
<b>Change in Net Position before Payments to State of Connecticut and Capital Contributions</b>	<u>12,405,916</u>	<u>(2,937,985)</u>	<u>121,625</u>	<u>(3,688,908)</u>	<u>5,900,648</u>	<u>1,529,576</u>
Capital contributions		21,770,182		(9,475,739)	12,294,443	6,844,430
<b>Change in Net Position</b>	<u>12,405,916</u>	<u>18,832,197</u>	<u>121,625</u>	<u>(13,164,647)</u>	<u>18,195,091</u>	<u>8,374,006</u>
<b>Net Position - Beginning of Year</b>	<u>109,445,626</u>	<u>15,127,539</u>	<u>224,754</u>	<u>(15,630,676)</u>	<u>109,167,243</u>	<u>100,793,237</u>
<b>Net Position - End of Year</b>	<u>\$ 121,851,542</u>	<u>\$ 33,959,736</u>	<u>\$ 346,379</u>	<u>\$ (28,795,323)</u>	<u>\$ 127,362,334</u>	<u>\$ 109,167,243</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, 2016**  
(with summarized totals for the year ended June 30, 2015)

	Total Primary Government	Discretely Presented Component Units			2016 Total Reporting Entity	2015 Total Reporting Entity
		CT Solar Lease 2 LLC	CEFIA Solar Services Inc.	Eliminating Entries		
<b>Cash Flows from Operating Activities</b>						
Sales of energy systems	\$ 35,128,139	\$	\$	\$ (35,128,139)	\$ -	\$ 10,943
Sales of Renewable Energy Credits	2,443,524				2,443,524	1,705,932
Utility company remittances	26,453,300				26,453,300	28,117,538
Grants	797,101				797,101	139,487
RGGI auction proceeds	5,313,666				5,313,666	21,078,165
Other income	374,478	865,827			1,240,305	688,944
Lease payments received		976,737			976,737	519,377
Grant and program expenditures	(13,219,421)	(1,553,797)			(14,773,218)	(11,331,214)
Grants, incentives and credit enhancements	(11,170,406)				(11,170,406)	(9,800,594)
Purchases of energy equipment	(34,278,291)				(34,278,291)	(19,989,550)
General and administrative expenditures	(4,350,882)	(179,791)	(4,450)		(4,535,123)	(3,806,822)
Net cash provided by (used in) operating activities	<u>7,491,208</u>	<u>108,976</u>	<u>(4,450)</u>	<u>(35,128,139)</u>	<u>(27,532,405)</u>	<u>7,332,206</u>
<b>Cash Flows from Non-capital Financing Activities</b>						
Payments to State of Connecticut					-	(19,200,000)
Funds received (disbursed) from escrow & custodial accounts	1,035,343				1,035,343	-
Advances to CGB component units	(15,762,500)		(7,900,000)	23,662,500	-	-
Subordinated debt advance to component units			(1,463,198)	1,463,198	-	-
Advances from CGB and component units	217,500	7,900,000	15,545,000	(23,662,500)	-	-
Repayments of Advances (to) from component units		(8,350,000)	8,350,000		-	-
Net cash provided by (used in) non-capital financing activities	<u>(14,509,657)</u>	<u>(450,000)</u>	<u>14,531,802</u>	<u>1,463,198</u>	<u>1,035,343</u>	<u>(19,200,000)</u>
<b>Cash Flows from Capital and Related Financing Activities</b>						
Purchase of capital assets	(67,645)	(35,128,140)		35,128,139	(67,646)	(89,808)
Proceeds from long-term debt	2,510,837	15,000,000			17,510,837	3,932,274
Repayment of long-term debt	(170,445)	(832,325)			(1,002,770)	(232,432)
Interest expense	(61,795)	(575,472)			(637,267)	(89,585)
Proceeds from subordinated debt with component unit		1,463,198		(1,463,198)	-	-
Capital contributions from/(to) component entities		9,475,739	(9,475,739)		-	-
Capital contributions from Firststar Development, LLC		12,294,443			12,294,443	6,844,430
Return of capital to Firststar Development, LLC		(219,969)			(219,969)	(86,336)
Net cash provided by (used in) capital and related financing activities	<u>2,210,952</u>	<u>1,477,474</u>	<u>(9,475,739)</u>	<u>33,664,941</u>	<u>27,877,628</u>	<u>10,278,543</u>
<b>Cash Flows from Investing Activities</b>						
Return of principal on WC & program loans	26,765,812				26,765,812	2,332,356
Interest on short-term investments, cash, solar lease notes and loans	1,825,395	24,340	300		1,850,035	887,457
CPACE program loan disbursements	(15,474,204)				(15,474,204)	(22,181,032)
Grid Tied program loan disbursements	(911,249)				(911,249)	(1,166,205)
AD/CHP program loan disbursements					-	-
Alpha/Operational Demo program loan disbursements	(350,000)				(350,000)	(100,000)
Energy Efficiency program loan disbursements					-	(89,000)
Campus Efficiency NOW program loan disbursements					-	(396,662)
HOPBI program loan disbursements	(1,093,599)				(1,093,599)	(4,443,148)
Residential Solar Loan program disbursements	(3,037,972)				(3,037,972)	(5,486,610)
Net cash used in investing activities	<u>7,724,183</u>	<u>24,340</u>	<u>300</u>	<u>-</u>	<u>7,748,823</u>	<u>(30,642,844)</u>
<b>Net Increase (Decrease) in Cash and Cash Equivalents</b>	<u>2,916,686</u>	<u>1,160,790</u>	<u>5,051,913</u>	<u>-</u>	<u>9,129,389</u>	<u>(32,232,095)</u>
<b>Cash and Cash Equivalents - Beginning of Year</b>	<u>43,902,687</u>	<u>4,720,716</u>	<u>69,252</u>	<u>-</u>	<u>48,692,655</u>	<u>80,924,749</u>
<b>Cash and Cash Equivalents - End of Year</b>	<u>\$ 46,819,373</u>	<u>\$ 5,881,506</u>	<u>\$ 5,121,165</u>	<u>\$ -</u>	<u>\$ 57,822,044</u>	<u>\$ 48,692,654</u>
<b>Reconciliation of Operating Loss to Net Cash Provided by (Used in) Operating Activities:</b>						
Operating income (loss)	\$ 10,850,447	\$ (967,253)	\$ 121,325	\$ (3,688,908)	\$ 6,315,611	\$ 21,046,366
Adjustments to reconcile operating loss to net cash provided by (used in) operating activities:						
Depreciation	120,735	1,656,821			1,777,556	519,502
Accretion		105,843			105,843	-
Deferred lease revenue		(41,040)			(41,040)	-
Other	88,960	3,436			92,396	-
Changes in operating assets and liabilities:						
(Increase) decrease in operating assets	(5,156,143)	(994,683)	(126,075)	(31,439,231)	(37,716,132)	(16,743,102)
(Decrease) increase in operating liabilities	1,587,209	345,852	300		1,933,361	2,509,440
<b>Net Cash Provided by (Used in) Operating Activities</b>	<u>\$ 7,491,208</u>	<u>\$ 108,976</u>	<u>\$ (4,450)</u>	<u>\$ (35,128,139)</u>	<u>\$ (27,532,405)</u>	<u>\$ 7,332,206</u>

The accompanying notes are an integral part of the financial statements

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

**Nature of Operations**

The Connecticut Green Bank (CGB) 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. CGB, 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. CGB 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 were transferred to the newly created CGB as of July 1, 2011. Pursuant to Connecticut General Statute 4-38f, CGB is within CI for administrative purposes only.

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 CGB's financial statements for the year ended June 30, 2015, 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 CGB and is the principal source of CGB's revenue. CGB 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.

CGB also received payments from the Regional Greenhouse Gas Initiative (RGGI) for the financing of energy efficiency and renewable energy projects through CGB's CPACE program.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

**Reporting Entity**

CGB, 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.

CGB established four legally separate for-profit entities whose collective purpose, at the present time, is to administer the CGB's solar energy programs. CGB 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), 99% owned by CGB (1% owned by CI), established to fund a portfolio of residential solar loans and, through its CT Solar Lease 2 program, to enable investment in solar photovoltaic and solar thermal 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, 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 administers the portfolio of projects with the assistance of AFC First Financial Corporation. CGB's board of directors acts as the governing authority of CEFIA Holdings LLC. CGB appoints CGB employees to manage the operations of CEFIA Holdings LLC. CGB 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, 2016**

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**2. 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. CGB's board of directors acts as the governing authority of CT Solar Loan I LLC. CGB appoints CGB employees to manage the operations of CT Solar Loan I LLC. CGB 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 solar thermal equipment and the sale of energy under power purchase agreements as managing member of CT Solar Lease 2 LLC. CEFIA Solar Services, Inc. ("Solar Services") has a one percent ownership interest in CT Solar Lease 2 LLC 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. CGB through CEFIA Holdings LLC directly appoints the board of directors of Solar Services. 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. CGB 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 CGB has a minority membership interest in CT Solar Lease 2 LLC, CGB believes that to exclude it from these financial statements would be misleading.

Advances between the primary government (CGB) 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, 2016**

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

Condensed combining information for the primary government (CGB) and its two blended component units (CEFIA Holdings LLC and CT Solar Loan I LLC) is presented as follows:

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

	<u>CGB</u>	<u>CT Solar Loan I LLC</u>	<u>CEFIA Holdings LLC</u>	<u>Eliminating Entries</u>	<u>Total Primary Government</u>
<b>Assets</b>					
<b>Current Assets</b>					
Cash and cash equivalents	\$ 34,513,690	\$ 3,042,147	\$ 4,013,553	\$	\$ 41,569,390
Accounts receivable	1,408,922				1,408,922
Utility remittance receivable	2,670,634				2,670,634
Other receivables	189,894		74,303		264,197
Due from component units	40,965,279		20,269,002	(16,887,844)	44,346,437
Prepaid expenses and other assets	503,585	21,850	2,761,368		3,286,803
Contractor loans	2,272,906				2,272,906
Current portion of solar lease notes	845,479				845,479
Current portion of program loans	1,184,060	194,182			1,378,242
Total current assets	<u>84,554,449</u>	<u>3,258,179</u>	<u>27,118,226</u>	<u>(16,887,844)</u>	<u>98,043,010</u>
<b>Noncurrent Assets</b>					
Portfolio investments	1,000,000				1,000,000
Bonds receivable	3,492,282				3,492,282
Solar lease notes, less current portion	8,162,635				8,162,635
Program loans, less current portion	28,015,661	3,873,614			31,889,275
Renewable Energy Credits	812,770				812,770
Investment in component units	99,000		100	(99,000)	100
Capital assets, net of depreciation and amortization	248,752				248,752
Asset retirement obligation, net					
Restricted assets:					
Cash and cash equivalents	4,949,139	300,844			5,249,983
Total noncurrent assets	<u>46,780,239</u>	<u>4,174,458</u>	<u>100</u>	<u>(99,000)</u>	<u>50,855,797</u>
<b>Total Assets</b>	<u>131,334,688</u>	<u>7,432,637</u>	<u>27,118,326</u>	<u>(16,986,844)</u>	<u>148,898,807</u>
<b>Deferred Outflows of Resources</b>					
Deferred amount for pensions	2,575,368				2,575,368
<b>Total Deferred Outflows of Resources</b>	<u>2,575,368</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>2,575,368</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

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

	<u>CGB</u>	<u>CT Solar Loan I LLC</u>	<u>CEFIA Holdings LLC</u>	<u>Eliminating Entries</u>	<u>Total Primary Government</u>
<b>Liabilities, Deferred Inflows of Resources and Net Position</b>					
<b>Liabilities</b>					
Current maturities of long-term debt	\$	\$ 233,581	\$	\$	\$ 233,581
Accounts payable and accrued expenses	2,012,246	3,032	219,862		2,235,140
Due to component units	574,723	4,072,500	12,815,344	(16,887,844)	574,723
Due to outside agency	30,127				30,127
Custodial liability	1,327,343		827,785		2,155,128
Unearned revenue			5,337,477		5,337,477
Total current liabilities	<u>3,944,439</u>	<u>4,309,113</u>	<u>19,200,468</u>	<u>(16,887,844)</u>	<u>10,566,176</u>
Asset retirement obligation					
Long-term debt, less current maturities		2,960,344			2,960,344
Fair value of interest rate swap					
Pension liability	<u>16,096,113</u>				<u>16,096,113</u>
Total liabilities	<u>20,040,552</u>	<u>7,269,457</u>	<u>19,200,468</u>	<u>(16,887,844)</u>	<u>29,622,633</u>
<b>Deferred Inflows of Resources</b>					
Deferred amount for pensions					
<b>Net Position</b>					
Invested in capital assets	248,752				248,752
Restricted Net Position:					
Nonexpendable			100,000	(99,000)	1,000
Restricted for energy programs	4,949,139	300,844			5,249,983
Unrestricted (deficit)	<u>108,671,613</u>	<u>(137,664)</u>	<u>7,817,858</u>		<u>116,351,807</u>
<b>Total Net Position</b>	<u>\$ 113,869,504</u>	<u>\$ 163,180</u>	<u>\$ 7,917,858</u>	<u>\$ (99,000)</u>	<u>\$ 121,851,542</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

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

	<u>CGB</u>	<u>CT Solar Loan I LLC</u>	<u>CEFIA Holdings LLC</u>	<u>Eliminating Entries</u>	<u>Total Primary Government</u>
<b>Operating Revenues</b>					
Utility remittances	\$ 26,605,084	\$	\$	\$	\$ 26,605,084
Grant revenue	807,417			(217,500)	589,917
RGGI auction proceeds	6,481,562				6,481,562
Energy system sales			32,767,009		32,767,009
REC sales	2,419,990				2,419,990
Other income	380,245	389	6,687		387,321
Total operating revenues	<u>36,694,298</u>	<u>389</u>	<u>32,773,696</u>	<u>(217,500)</u>	<u>69,250,883</u>
<b>Operating Expenses</b>					
Cost of goods sold - energy systems			28,826,974		28,826,974
Grants and program expenses	24,814,547	319,816	210,951	(217,500)	25,127,814
General and administrative expenses	4,417,256	17,142	11,250		4,445,648
Total operating expenses	<u>29,231,803</u>	<u>336,958</u>	<u>29,049,175</u>	<u>(217,500)</u>	<u>58,400,436</u>
<b>Operating Income (Loss)</b>	<u>7,462,495</u>	<u>(336,569)</u>	<u>3,724,521</u>		<u>10,850,447</u>
<b>Nonoperating Revenue (Expenses)</b>					
Interest income - promissory notes	2,209,719	310,432			2,520,151
Interest income - short term cash deposits	83,372	338	8,826		92,536
Interest expense LT debt		(61,796)			(61,796)
Interest income - component units	60,127				60,127
Interest expense - component units					
Payments to State of Connecticut					
Distributions to member					
Realized loss on investments	(33,723)				(33,723)
Unrealized gain (loss) on interest rate swap					
Provision for loan losses	(1,021,826)				(1,021,826)
Total nonoperating revenue (expenses)	<u>1,297,669</u>	<u>248,974</u>	<u>8,826</u>	<u>-</u>	<u>1,555,469</u>
<b>Change in Net Position before Payments to State of Connecticut and Capital Contributions</b>	8,760,164	(87,595)	3,733,347		12,405,916
Capital contributions					
<b>Change in Net Position</b>	8,760,164	(87,595)	3,733,347	-	12,405,916
<b>Net Position - Beginning of Year</b>	<u>105,109,340</u>	<u>250,775</u>	<u>4,184,511</u>	<u>(99,000)</u>	<u>109,445,626</u>
<b>Net Position - End of Year</b>	<u>\$ 113,869,504</u>	<u>\$ 163,180</u>	<u>\$ 7,917,858</u>	<u>\$ (99,000)</u>	<u>\$ 121,851,542</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

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

	<u>CGB</u>	<u>CT Solar Loan I LLC</u>	<u>CEFIA Holdings LLC</u>	<u>Eliminating Entries</u>	<u>Total Primary Government</u>
<b>Cash Flows from Operating Activities</b>					
Sales of energy systems	\$	\$	\$ 35,128,139	\$	\$ 35,128,139
Sales of Renewable Energy Credits	2,443,524				2,443,524
Utility company remittances	26,453,300				26,453,300
Grants	797,101				797,101
RGGI auction proceeds	5,313,666				5,313,666
Other income	374,478				374,478
Lease payments received					
Grant and program expenditures	(12,646,408)	(364,597)	(208,416)		(13,219,421)
Grants, incentives and credit enhancements	(11,170,406)				(11,170,406)
Purchases of energy equipment			(34,278,291)		(34,278,291)
General and administrative expenditures	(4,327,471)	(17,094)	(6,317)		(4,350,882)
Net cash provided by (used in) operating activities	<u>7,237,784</u>	<u>(381,691)</u>	<u>635,115</u>	<u>-</u>	<u>7,491,208</u>
<b>Cash Flows from Non-capital Financing Activities</b>					
Payments to State of Connecticut					
Funds received (disbursed) from escrow & custodial accounts	1,035,343				1,035,343
Advances to CGB component units	(15,762,500)				(15,762,500)
Subordinated debt advance to component units					
Advances from CGB and component units		217,500			217,500
Repayments of Advances (to) from component units	10,389	(219,239)	208,850		
Net cash provided by (used in) non-capital financing activities	<u>(14,716,768)</u>	<u>(1,739)</u>	<u>208,850</u>	<u>-</u>	<u>(14,509,657)</u>
<b>Cash Flows from Capital and Related Financing Activities</b>					
Purchase of capital assets	(67,645)				(67,645)
Proceeds from long-term debt		2,510,837			2,510,837
Repayment of long-term debt		(170,445)			(170,445)
Interest expense		(61,795)			(61,795)
Proceeds from subordinated debt with component unit					
Capital contributions from/(to) component entities					
Capital contributions from Firststar Development, LLC					
Return of capital to Firststar Development, LLC					
Net cash provided by (used in) capital and related financing activities	<u>(67,645)</u>	<u>2,278,597</u>	<u>-</u>	<u>-</u>	<u>2,210,952</u>
<b>Cash Flows from Investing Activities</b>					
Return of principal on WC & program loans	25,756,384	1,009,428			26,765,812
Interest on short-term investments, cash, solar lease notes and loans	1,548,423	268,148	8,824		1,825,395
CPACE program loan disbursements	(15,474,204)				(15,474,204)
Grid Tied program loan disbursements	(911,249)				(911,249)
AD/CHP program loan disbursements					
Alpha/Operational Demo program loan disbursements	(350,000)				(350,000)
Energy Efficiency program loan disbursements					
Campus Efficiency NOW program loan disbursements					
HOPBI program loan disbursements	(1,093,599)				(1,093,599)
Residential Solar Loan program disbursements	(2,489,159)	(548,813)			(3,037,972)
Net cash used in investing activities	<u>6,986,596</u>	<u>728,763</u>	<u>8,824</u>	<u>-</u>	<u>7,724,183</u>
<b>Net Increase (Decrease) in Cash and Cash Equivalents</b>	(560,033)	2,623,930	852,789	-	2,916,686
<b>Cash and Cash Equivalents - Beginning of Year</b>	<u>40,022,862</u>	<u>719,061</u>	<u>3,160,764</u>	<u>-</u>	<u>43,902,687</u>
<b>Cash and Cash Equivalents - End of Year</b>	<u>\$ 39,462,829</u>	<u>\$ 3,342,991</u>	<u>\$ 4,013,553</u>	<u>\$ -</u>	<u>\$ 46,819,373</u>
<b>Reconciliation of Operating Loss to Net Cash Provided by (Used in) Operating Activities:</b>					
Operating income (loss)	\$ 7,462,495	\$ (336,569)	\$ 3,724,521	\$	\$ 10,850,447
Adjustments to reconcile operating loss to net cash provided by (used in) operating activities:					
Depreciation	120,735				120,735
Accretion					
Deferred lease revenue					
Other	86,664	2,296			88,960
Changes in operating assets and liabilities:					
(Increase) decrease in operating assets	(1,237,055)	(2,602)	(3,916,486)		(5,156,143)
(Decrease) increase in operating liabilities	804,945	(44,816)	827,080		1,587,209
<b>Net Cash Provided by (Used in) Operating Activities</b>	<u>\$ 7,237,784</u>	<u>\$ (381,691)</u>	<u>\$ 635,115</u>	<u>\$ -</u>	<u>\$ 7,491,208</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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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**

CGB, 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 CGB. 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.

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.

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 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. Non-operating revenue (expense) consists of investment earnings, and other items not considered operational by management.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

**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 \$500 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

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.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

All solar facilities are owned by CT Solar Lease 2 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.

**Impairment of Long-Lived Assets**

CT Solar Lease 2 LLC reviews its 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 during the fiscal year ending June 30, 2016.

**Asset Retirement Obligations**

CT Solar Lease 2 LLC (CT SL2) is required to recognize its liability related to asset retirement obligations when it has the legal obligation to retire long-lived assets. Upon the expiration of operating leases or a Power Purchase Agreement's (PPA) initial or extended terms, customers generally have the option to purchase the solar facilities at fair market value or require CT SL2 to remove the solar facilities at its 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. 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 considers 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 routinely reviews and reassesses its estimates to determine if an adjustment to the value of asset retirement obligations is required.



**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

The aggregate carrying amount of asset retirement obligations recognized by CT SL2 was \$2,528,335 and \$1,094,125 at June 30, 2016 and June 30, 2015 respectively. The following table shows changes in the aggregate carrying amount of CT SL2's asset retirement obligation for the year ended June 30, 2016:

Balance - June 30, 2015	\$	1,094,125
Additional accruals		1,328,366
Accretion expense		<u>105,844</u>
Balance - June 30, 2016	\$	<u><u>2,528,335</u></u>

**Portfolio Investments**

CGB 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, CGB'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. CGB 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. CGB 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 CGB's portfolio investments are uninsured against loss and unregistered, and are held in the administrator's name.

**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 CGB's component units by outside entities.
- *Unrestricted Net Position* represents assets which do not meet the definition of the two preceding categories.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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**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 2015 summarized information have been reclassified to conform to the 2016 presentation.

**Subsequent Events**

CGB has performed a review of events subsequent to the statement of net position date through December 26, 2016, the date of the financial statements where available to be issued. Except as described below, 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, CGB utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. CGB 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

**CONNECTICUT GREEN BANK  
 NOTES TO FINANCIAL STATEMENTS  
 FOR THE YEAR ENDED JUNE 30, 2016**

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

- 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

**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, CGB’s fair value measurements at June 30, 2016:

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Portfolio investments	\$ <u>                    </u>	\$ <u>                    </u>	\$ <u>1,000,000</u>	\$ <u>1,000,000</u>

The following table sets forth by level, within the fair value hierarchy, CGB’s fair value measurements at June 30, 2015:

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Portfolio investments	\$ <u>                    </u>	\$ <u>                    </u>	\$ <u>1,000,000</u>	\$ <u>1,000,000</u>

There were no transfers between levels during the years ended June 30, 2016 and 2015.

Furthermore, there were no changes in level 3 assets during 2016 or 2015, respectively.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

**3. CASH AND CASH EQUIVALENTS**

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

	<u>2016</u>	<u>2015</u>
Checking	\$ 4,499,265	\$ 4,680,259
Money Market	10,103,292	2,616,390
State Treasurer's Short-Term Investment Fund	<u>33,469,504</u>	<u>32,597,000</u>
Unrestricted cash and cash equivalents	48,072,061	39,893,649
Checking - restricted	1,109,782	1,670,516
Money Market - restricted	5,001,190	3,500,000
State Treasurer's Short-Term Investment Fund - restricted	<u>3,639,011</u>	<u>3,628,489</u>
Total cash and cash equivalents	<u>\$ 57,822,044</u>	<u>\$ 48,692,654</u>

***Cash and cash equivalents as of June 30, 2016***

	<u>Primary Government</u>	<u>CT Solar Lease 2 LLC</u>	<u>CEFIA Solar Services, Inc.</u>	<u>Total</u>
Checking	\$ 4,179,676	\$ 244,856	\$ 74,733	\$ 4,499,265
Money Market	3,920,210	1,136,650	5,046,432	10,103,292
State Treasurer's Short-Term Investment Fund	<u>33,469,504</u>	<u>                    </u>	<u>                    </u>	<u>33,469,504</u>
Unrestricted Cash and Cash Equivalents	41,569,390	1,381,506	5,121,165	48,072,061
Restricted Cash				
Checking	109,782	1,000,000		1,109,782
Money market	1,501,190	3,500,000		5,001,190
State Treasurer's Short-Term Investment Fund	<u>3,639,011</u>	<u>                    </u>	<u>                    </u>	<u>3,639,011</u>
	<u>\$ 46,819,373</u>	<u>\$ 5,881,506</u>	<u>\$ 5,121,165</u>	<u>\$ 57,822,044</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

	<i>Cash and cash equivalents as of June 30, 2015</i>			
	<u>Primary Government</u>	<u>CT Solar Lease 2 LLC</u>	<u>CEFIA Solar Services, Inc.</u>	<u>Total</u>
Checking	\$ 4,495,298	\$ 161,841	\$ 23,120	\$ 4,680,259
Money Market	2,511,383	58,875	46,132	2,616,390
State Treasurer's Short-Term Investment Fund	<u>32,597,000</u>			<u>32,597,000</u>
Unrestricted Cash and Cash Equivalents	39,603,681	220,716	69,252	39,893,649
Restricted Cash				
Checking	670,516	1,000,000		1,670,516
Money market		3,500,000		3,500,000
State Treasurer's Short-Term Investment Fund	<u>3,628,489</u>			<u>3,628,489</u>
	<u>\$ 43,902,686</u>	<u>\$ 4,720,716</u>	<u>\$ 69,252</u>	<u>\$ 48,692,654</u>

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

The State Treasurer's Short-Term Investment Fund is a Standard & Poors 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 CGB'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.

**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**

CGB 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.

**Credit Risk**

Connecticut General Statutes authorize CGB 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.

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

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**

CGB'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, CGB's deposits may not be returned to it. CGB does not have a deposit policy for custodial credit risk. As of June 30, 2016 and 2015, \$19,019,356 and \$12,212,054, respectively, of CGB's bank balances were exposed to custodial credit risk. Primary government consisted of \$8,727,950 and \$7,795,388 as of June 30, 2016 and 2015, respectively. CT Solar Lease 2, LLC consisted of \$5,420,241 and \$4,416,666 as of June 30, 2016 and 2015, respectively. CEFIA Solar Services, Inc. consisted of \$ 4,871,165 as of June 30, 2016. CEFIA Solar Services, Inc. had no balances exposed to credit risk as of June 30, 2015. Funds held by banks on behalf of CGB, CT Solar Lease 2 LLC and CEFIA Solar Services included contractual requirements to maintain \$6,000,346 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, CGB will not be able to recover the value of the investment. CGB does not have a policy relating to the credit risk of investments. As of June 30, 2016 and 2015, CGB had no reportable credit risk.

**4. PORTFOLIO INVESTMENTS**

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

**CONNECTICUT GREEN BANK  
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**5. BONDS RECEIVABLE**

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

This Series represents two \$800,000 bonds received in connection with the CGB's May 2014 sale of C-PACE Loans to Clean Fund Holdings, LLC (CFH). CFH paid CGB approximately \$6.4 million in cash along with two bonds issued to CGB 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. CGB received a principal repayment of \$8,858 for each bond as a result of a C-PACE loan payoff in 2016. At June 30, 2016, management believes no valuation allowance is necessary on these bonds.

Each bond required semi-annual interest-only payments to CGB 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 CGB.

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

This Series represents two \$955,000 bonds received in connection with the CGB's August 2015 sale of C-PACE Loans to Clean Fund Holdings, LLC (CFH). CFH paid CGB approximately \$7.7 million in cash along with two bonds issued to CGB through Public Finance Authority. The 2015 Series bonds carry interest of 5.52% per annum with a maturity date of August 13, 2035. At June 30, 2016, management believes no valuation allowance is necessary on these bonds.

Each bond required semi-annual interest-only payments to CGB starting September 15, 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 CGB.

Principal maturities of these bonds are as follows:

<u>Year ended June 30,</u>	<u>2014B-1</u>	<u>2014C-1</u>	<u>2015B-1</u>	<u>2015C-1</u>	<u>Total</u>
2017	\$	\$	\$	\$	\$
2018					
2019					
2020					
2021					
2022 - 2026					
2027 - 2031	277,500	277,500			555,000
2032 - 2036	<u>513,641</u>	<u>513,641</u>	<u>955,000</u>	<u>955,000</u>	<u>2,937,282</u>
	<u>\$ 791,141</u>	<u>\$ 791,141</u>	<u>\$ 955,000</u>	<u>\$ 955,000</u>	<u>\$ 3,492,282</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
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**6. SOLAR LEASE NOTES RECEIVABLE**

In June of 2008 the predecessor of the CGB, 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>	
2017	\$ 845,479
2018	888,736
2019	934,205
2020	982,001
2021	1,032,242
2022-2025	<u>4,416,442</u>
	9,099,105
Less reserve for losses	<u>(90,991)</u>
	<u>\$ 9,008,114</u>
Current portion	\$ 845,479
Noncurrent portion	<u>8,162,635</u>
	<u>\$ 9,008,114</u>



**CONNECTICUT GREEN BANK  
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**7. PROGRAM LOANS RECEIVABLE**

Outstanding principal balances by program for the years ending June 30, 2016 and 2015 are as follows:

	<u>2016</u>	<u>2015</u>
Loans in repayment for completed projects:		
<b>Connecticut Green Bank</b>		
CPACE Program benefit assessments- in repayment	\$ 11,221,563	\$ 21,329,246
CPACE Promissory notes	1,553,884	
Grid-Tied Program term loans	8,701,188	7,722,894
Multifamily/Affordable housing program loans	2,467,231	
Alpha/Operational Demonstration program loans	1,136,421	836,421
Other program loans	680,737	1,746,443
<b>CT Solar Loan I LLC</b>		
Residential Solar PV Program loans-in repayment	<u>4,041,563</u>	<u>3,584,829</u>
	29,802,587	35,219,833
Reserve for loan losses	<u>(4,674,813)</u>	<u>(3,644,796)</u>
Total loans in repayment for completed projects, net	<u>\$ 25,127,774</u>	<u>\$ 31,575,037</u>
Loan advances for projects under construction:		
<b>Connecticut Green Bank</b>		
CPACE Program benefit assessments- under construction	\$ 8,113,510	\$ 8,050,041
<b>CT Solar Loan I LLC</b>		
Residential Solar PV Program loans-under construction	<u>26,233</u>	<u>892,866</u>
Total loans advances for projects under construction	<u>\$ 8,139,743</u>	<u>\$ 8,942,907</u>

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

Scheduled repayments of principal under these loans in repayment as of June 30, 2016 is as follows:

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Thereafter</u>	<u>Total</u>
<b>Connecticut Green Bank</b>							
CPACE Program benefit assessments- in repayment	\$ 690,557	\$ 451,377	\$ 476,959	\$ 503,994	\$ 531,086	\$ 8,567,591	\$ 11,221,564
CPACE promissory notes	30,388	36,682	39,448	42,644	46,315	1,358,405	1,553,882
Grid-Tied Program term loans	163,511	170,200	177,592	185,274	194,744	7,809,867	8,701,188
Multifamily/Affordable housing term loans	188,844	315,965	208,576	219,202	230,369	1,304,275	2,467,231
Alpha/Operational Demonstration program loans			501,421			635,000	1,136,421
Other program loans	110,760	110,760	100,633	95,000	19,379	244,205	680,737
<b>CT Solar Loan I LLC</b>							
Residential Solar PV Program loans - in repayment	<u>194,182</u>	<u>207,719</u>	<u>220,713</u>	<u>233,899</u>	<u>249,183</u>	<u>2,935,868</u>	<u>4,041,564</u>
	<u>1,378,242</u>	<u>1,292,703</u>	<u>1,725,342</u>	<u>1,280,013</u>	<u>1,271,076</u>	<u>22,855,211</u>	<u>29,802,587</u>
Reserve for loan losses		<u>(23,500)</u>	<u>(503,279)</u>	<u>(20,559)</u>	<u>(19,379)</u>	<u>(4,108,096)</u>	<u>(4,674,813)</u>
	<u>\$ 1,378,242</u>	<u>\$ 1,269,203</u>	<u>\$ 1,222,063</u>	<u>\$ 1,259,454</u>	<u>\$ 1,251,697</u>	<u>\$ 18,747,115</u>	<u>\$ 25,127,774</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 6.0% with terms ranging from 10 to 20 years. CPACE promissory notes were a component of proceeds received from the sale of 23 benefit assessments from CGB's portfolio to a third-party capital provider in 2016. These promissory notes carry interest rates ranging from 7.1% to 14.1% and mature on September 10, 2036.

The grid-tied term loan represents the financing of two projects. The first project is the 15 megawatt Dominion Bridgeport Fuel Cell Park from Project 150. Interest is paid monthly on the outstanding principal balance at a rate of 5.0% until 2022 when principal payments commence over a 48-month period. The second project is the 5 mega-watt wind turbine project in Colebrook. Interest on the revolving term loan is paid quarterly at prime plus 3%. Interest on the non-revolving term loan is paid quarterly based on the project's cash flows. The minimum rate of interest on the non-revolving 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 of 2015.

Affordable Housing loans represent advances to a third-party capital provider which finances solar PV installations and energy efficiency measures with a lease product developed for low to moderate income households. CGB has committed to providing up to \$5,000,000 in advances under a term financing facility carrying a 5% interest rate. Each advance matures six years from the date of the advance. The final maturity date of all advances made under the facility is March 30, 2023. Multifamily loans are advances to developers of Solar PV installations targeting multifamily residences. Loans are for two years and carry no interest. As of June 30, 2016 \$117,500 had been advanced under this program.

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NOTES TO FINANCIAL STATEMENTS  
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**7. PROGRAM LOANS RECEIVABLE (CONTINUED)**

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 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. FINANCING ACTIVITIES**

**Long-Term Debt - Primary Government**

**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, 2016 and 2015 there was \$691,707 and \$853,525, respectively, outstanding. All borrowings will have matured by September 20, 2028.

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:

<u>Years Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2017	\$ 49,265	\$ 40,162	\$ 89,427
2018	52,049	37,130	89,179
2019	54,356	33,939	88,295
2020	56,594	30,622	87,216
2021	59,813	27,139	86,952
2022 - 2026	329,126	77,600	406,726
Thereafter	90,504	4,770	95,274
	<u>\$ 691,707</u>	<u>\$ 251,362</u>	<u>\$ 943,069</u>

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**8. FINANCING ACTIVITIES (CONTINUED)**

**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>
2017	\$ 184,316	\$ 143,346	\$ 327,662
2018	109,808	136,541	246,349
2019	116,603	129,745	246,348
2020	123,820	122,528	246,348
2021	131,483	114,865	246,348
2022 - 2026	1,836,188	189,089	2,025,277
Thereafter	-	-	-
	<u>\$ 2,502,218</u>	<u>\$ 836,114</u>	<u>\$ 3,338,332</u>

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

CT Solar Lease 2, LLC has a \$24,000,000 line of credit agreement (Additional LOC) with First Niagara Bank, N.A. (First Niagara) as the Administrative Agent and Lender along with an additional participating lender. The additional LOC is broken down by lender as follows:

First Niagara Bank, N.A	\$ 15,000,000
Webster Bank, National Association	<u>9,000,000</u>
	<u>\$ 24,000,000</u>

Funds may be drawn down in no more than ten total advances by October 1, 2016. With the exception of the final advance, each advance must be in the principal amount of \$2,400,000 or a whole multiple of \$100,000 in excess of \$2,400,000. 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, 2016 and 2015, \$18,000,000 and \$3,000,000, respectively, had been advanced under the additional LOC. Principal repayments of \$832,325 were made as of June 30, 2016. No principal repayments were made as of June 30, 2015.

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

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) First Niagara's prime rate, and (c) the LIBOR rate plus 1 percent. 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 15year amortization schedule as outlined 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 CGB. 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.

**9. INTEREST RATE SWAP AGREEMENT**

CT Solar Lease 2 LLC entered into an interest rate swap agreement with First Niagara (the Swap Agreement) in September 2014 in anticipation of making its first draw down on the credit agreement. Payments made and received are based on a notional amount of \$19,374,375 and \$11,804,925 as of June 30, 2016 and 2015, respectively. The agreement provides for CT Solar Lease 2 LLC to receive payments based on the 1 month USD-LIBOR-BBA (0.44205% and 0.18550% at June 30, 2016 and 2015, respectively) and to make payments based on an interest rate of 2.78%. The agreement matures on December 15, 2025. The fair value of the interest rate swap agreement as of June 30, 2016 and 2015 were reported as a liability of \$1,627,864 and \$660,073, respectively which is represented as the fair value of the interest rate swap on the accompanying 2016 and 2015 Statement of Net Position. CGB used the dollar-offset method for evaluating effectiveness of the interest rate swap agreement.

**10. PAYMENT TO STATE OF CONNECTICUT**

The Connecticut Legislature passed Public Act 13-247 pertaining to the State's budget for the biennium ending June 30, 2015 and signed into law on June 19, 2013. This Act required the Connecticut Green Bank to transfer \$19,200,000 to the State's General Fund during fiscal year 2015. No payments to the State were made in fiscal year 2016.

**CONNECTICUT GREEN BANK  
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**11. RELATED PARTY TRANSACTIONS AND OPERATING LEASES**

**Due to outside agency**

CGB utilizes the services of CI, as provided in the General Statutes of the State of Connecticut. CI provides services to CGB, at cost, for its operations. Such services include, but are not limited to, staff for human resources and information technology support, office space, equipment, supplies and insurance. Expenses billed to CGB by CI totaled \$58,401 and \$477,161 for the years ended June 30, 2016 and 2015, respectively. As of June 30, 2016 and 2015, amounts due to CI were \$30,127 and \$49,516, respectively.

**Unused Commitment Fee**

The Investor Member of CT Solar Lease 2 LLC is entitled to an annual fee due within 30 days of the end of each calendar year, 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 percent 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 percent. The unused commitment fee totaled \$99,486 and \$252,135 for the years ended June 30, 2016 and 2015, respectively, and is included in accounts payable and accrued expenses on the accompanying statement of net position.

**Priority Return**

The Investor Member is the Tax-Equity Investor and is entitled to substantially all of the tax benefits of CT Solar Lease 2 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, 2021, the Flip Date.

The investor Member of CT Solar Lease 2 LLC shall be due a cumulative, quarterly distribution 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 a priority returns of \$299,831 and \$26,159 for the years ended June 30, 2016 and 2015, respectively.

**Administrative Services Fee**

The Managing Member of CT Solar Lease 2 LLC, CEFIA Solar Services, Inc. provides administrative and management services to the Company and earns a quarterly fee initially equal to \$30,000 per quarter beginning July 1, 2013. The amount of the fee increased 2.5 percent each July 1<sup>st</sup> beginning July 1, 2014. The administrative services fee totaled \$130,075 and \$123,000 for the years ended June 30, 2016 and 2015, respectively, and is included in accounts payable and accrued expenses on the accompanying statement of net position.

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

**Prepaid Priority Return**

The investor member of CT Solar Lease 2 LLC will be paid a prepaid priority return with respect to each residential energy system project where the customer has made a prepayment to CT Solar Lease 2 LLC. The prepaid priority return is a one-time distribution to the investor member equal to 4.2055% of each prepaid project's purchase price. The prepaid priority return will be paid to the investor member on the date it makes its initial acquisition capital contribution with respect to the purchase of the prepaid project. During the years ended June 30, 2016 and 2015, the investor member was paid \$1,717 and \$72,402, respectively, related to the prepaid priority return.

**Payroll Taxes and Fringe Benefit Charges**

Pursuant to state statute, CGB is subject to fringe benefit charges for pension plan and medical plan contributions which are paid at the state level. CGB's employer payroll taxes are also paid at the state level. CGB reimburses the state for these payments. The reimbursement for 2016 and 2015 was \$3,691,048 and \$3,061,004, respectively, comprising 74.30% and 75.80%, respectively, of gross salaries.

**Operating Leases**

During 2014, CGB entered into a non-cancellable 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, 2016 and 2015 was \$159,498 and \$154,572, respectively.

In addition, CGB has a non-cancelable 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, 2016 and 2015 amounted to \$ 105,422 and \$97,723, respectively. CGB also began sub leasing additional office space from CI in March of 2016. Initial monthly payments are \$5,665.50 with escalating payments through December 2020. Rent expense related to this sub lease was \$22,662 for the year ended June 30, 2016.

In addition, CGB leases office equipment on a month-to-month basis. Rent expense related to the office equipment for the years ended June 30, 2016 and 2015 was \$13,465 and \$6,439, respectively.

Future minimum lease payments for office rentals are as follows:

<b><u>Years Ending June 30,</u></b>	
2017	\$ 325,318
2018	333,379
2019	341,440
2020	349,501
2021	176,766
	<u>\$ 1,526,404</u>

**CONNECTICUT GREEN BANK  
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**12. CAPITAL ASSETS**

Capital asset activity for reporting entity for the years ended June 30, 2016 and 2015 are as follows:

Primary Government:

<u>2016</u>	<u>Balance, July 1, 2015</u>	<u>Additions</u>	<u>Deletions</u>	<u>Adjustments</u>	<u>Balance, June 30, 2016</u>
Capital assets being depreciated:					
Furniture and equipment	\$ 222,701	\$ 11,417	\$ (7,054)	\$ (57,641)	\$ 169,423
Computer hardware and software	128,627	35,963	(9,400)	57,641	212,831
Leasehold improvements	153,657	72,187			225,844
Capital assets not being depreciated:					
Construction in progress	7,141	23,090	(25,729)		4,502
	<u>512,126</u>	<u>142,657</u>	<u>(42,183)</u>	<u>-</u>	<u>612,600</u>
Less accumulated depreciation and amortization:					
Furniture and equipment	122,149	60,653	(4,125)	(75,598)	103,079
Computer hardware and software	50,906	26,124	(1,055)	75,598	151,573
Leasehold improvements	75,232	33,964			109,196
	<u>248,287</u>	<u>120,741</u>	<u>(5,180)</u>	<u>-</u>	<u>363,848</u>
Capital assets, net	<u>\$ 263,839</u>	<u>\$ 21,916</u>	<u>\$ (37,003)</u>	<u>\$ -</u>	<u>\$ 248,752</u>
<u>2015</u>	<u>Balance, July 1, 2014</u>	<u>Additions</u>	<u>Deletions</u>	<u>Adjustments</u>	<u>Balance, June 30, 2015</u>
Capital assets being depreciated:					
Furniture and equipment	\$ 338,938	\$ 18,353	\$ (134,590)		\$ 222,701
Computer hardware and software	88,337	57,480	(17,190)		128,627
Leasehold improvements	139,682	13,975			153,657
Capital assets not being depreciated:					
Construction in progress	7,141				7,141
	<u>574,098</u>	<u>89,808</u>	<u>(151,780)</u>	<u>-</u>	<u>512,126</u>
Less accumulated depreciation and amortization:					
Furniture and equipment	205,820	50,919	(134,590)		122,149
Computer hardware and software	33,845	34,251	(17,190)		50,906
	<u>284,166</u>	<u>115,901</u>	<u>(151,780)</u>	<u>-</u>	<u>248,287</u>
Capital assets, net	<u>\$ 289,932</u>	<u>\$ (26,093)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 263,839</u>



**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

**12. CAPITAL ASSETS (CONTINUED)**

Discretely presented component units:

<b>2016</b>	<b>Balance, July 1, 2015</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2016</b>
Capital assets being depreciated:					
Solar lease equipment	\$ 21,011,832	\$ 29,240,167	\$ -	\$ (2,717,508)	\$ 47,534,491
Capital assets not being depreciated:					
WIP solar lease equipment	<u>6,014,560</u>	<u>18,206,741</u>	<u>(11,067,035)</u>	<u>(1,222,525)</u>	<u>11,931,741</u>
	<u>27,026,392</u>	<u>47,446,908</u>	<u>(11,067,035)</u>	<u>(3,940,033)</u>	<u>59,466,232</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	<u>319,144</u>	<u>1,532,051</u>		<u>(251,125)</u>	<u>1,600,070</u>
	<u>319,144</u>	<u>1,532,051</u>	<u>-</u>	<u>(251,125)</u>	<u>1,600,070</u>
Capital assets, net	<u>\$ 26,707,248</u>	<u>\$ 45,914,857</u>	<u>\$ (11,067,035)</u>	<u>\$ (3,688,908)</u>	<u>\$ 57,866,162</u>
<b>2015</b>	<b>Balance, July 1, 2014</b>	<b>Additions</b>	<b>Deletions</b>	<b>Adjustments</b>	<b>Balance, June 30, 2015</b>
Capital assets being depreciated:					
Solar lease equipment	\$ 1,035,159	\$ 22,753,915	\$ -	\$ (2,777,242)	\$ 21,011,832
Capital assets not being depreciated:					
WIP solar lease equipment	<u>1,759,111</u>	<u>4,847,060</u>		<u>(591,611)</u>	<u>6,014,560</u>
	<u>2,794,270</u>	<u>27,600,975</u>	<u>-</u>	<u>(3,368,853)</u>	<u>27,026,392</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	<u>9,865</u>	<u>309,279</u>			<u>319,144</u>
	<u>9,865</u>	<u>309,279</u>	<u>-</u>	<u>-</u>	<u>319,144</u>
Capital assets, net	<u>\$ 2,784,405</u>	<u>\$ 27,291,696</u>	<u>\$ -</u>	<u>\$ (3,368,853)</u>	<u>\$ 26,707,248</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

**12. CAPITAL ASSETS (CONTINUED)**

Total Reporting Entity:

2016	Balance, July 1, 2015	Additions	Deletions	Adjustments	Balance, June 30, 2016
Capital assets being depreciated:					
Solar lease equipment	\$ 21,011,832	\$ 29,240,167	\$	\$ (2,717,508)	\$ 47,534,491
Furniture and equipment	222,701	11,417	(7,054)	(57,641)	169,423
Computer hardware and software	128,627	35,963	(9,400)	57,641	212,831
Leasehold improvements	153,657	72,187			225,844
Capital assets not being depreciated:					
WIP solar lease equipment	6,014,560	18,206,741	(11,067,035)	(1,222,525)	11,931,741
Construction in progress	7,141	23,090	(25,729)		4,502
	<u>27,538,518</u>	<u>47,589,565</u>	<u>(11,109,218)</u>	<u>(3,940,033)</u>	<u>60,078,832</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	319,144	1,532,051		(251,125)	1,600,070
Furniture and equipment	122,149	60,653	(4,125)	(75,598)	103,079
Computer hardware and software	50,906	26,124	(1,055)	75,598	151,573
Leasehold improvements	75,232	33,964			109,196
	<u>567,431</u>	<u>1,652,792</u>	<u>(5,180)</u>	<u>(251,125)</u>	<u>1,963,918</u>
Capital assets, net	<u>\$ 26,971,087</u>	<u>\$ 45,936,773</u>	<u>\$ (11,104,038)</u>	<u>\$ (3,688,908)</u>	<u>\$ 58,114,914</u>
2015	Balance, July 1, 2014	Additions	Deletions	Adjustments	Balance, June 30, 2015
Capital assets being depreciated:					
Solar lease equipment	\$ 1,035,159	\$ 22,753,915	\$	\$ (2,777,242)	\$ 21,011,832
Furniture and equipment	338,938	18,353	(134,590)		222,701
Computer hardware and software	88,337	57,480	(17,190)		128,627
Leasehold improvements	139,682	13,975			153,657
Capital assets not being depreciated:					
WIP solar lease equipment	1,759,111	4,847,060		(591,611)	6,014,560
Construction in progress	7,141				7,141
	<u>3,368,368</u>	<u>27,690,783</u>	<u>(151,780)</u>	<u>(3,368,853)</u>	<u>27,538,518</u>
Less accumulated depreciation and amortization:					
Solar lease equipment	9,865	309,279			319,144
Furniture and equipment	205,820	50,919	(134,590)		122,149
Computer hardware and software	33,845	34,250	(17,189)		50,906
Leasehold improvements	44,501	30,731			75,232
	<u>294,031</u>	<u>425,179</u>	<u>(151,779)</u>	<u>-</u>	<u>567,431</u>
Capital assets, net	<u>\$ 3,074,337</u>	<u>\$ 27,265,604</u>	<u>\$ (1)</u>	<u>\$ (3,368,853)</u>	<u>\$ 26,971,087</u>

**13. GRANT PROGRAMS**

CGB, the primary government, recognizes grant revenue based on expenditures or fulfillment of program requirements. For the year ended June 30, 2016 and 2015, CGB recognized related grant revenue of \$589,917 and \$143,615, respectively under Department of Energy programs.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

**14. COMMITMENTS AND LOAN GUARANTEES**

**Commitments**

As of June 30, 2016 and 2015, the Board of Directors designated a portion of CGB's unrestricted net position to fund financial incentives for specific commercial and residential projects in the following areas:

<b>Primary Government</b>	<b>Type</b>	<b>06/30/2016</b>	<b>Type</b>	<b>06/30/2015</b>
<b>Connecticut Green Bank</b>				
Solar PV	Incentive	\$ 56,457,195	Incentive	\$ 45,017,128
AD/CHP Programs	Loan	15,462,247	Loan	14,462,247
CPACE	Loan	7,022,004	Loan	15,178,559
Multifamily/LMI Solar PV & Energy Eff.	Loan	9,510,841	Loan	12,000,000
Energy Efficiency Programs	Grant/Loan	1,130,000	Grant/Loar	277,763
Education and Outreach	Grant	706,900	Grant	694,120
Other Technologies	Loan	271,795	Loan	271,795
Alpha and Operational Demonstration	Loan	165,000	Loan	465,000
Wind	Loan	-	Loan	1,102,888
		<u>90,725,982</u>		<u>89,469,500</u>
Solar PV commitments payable to CT Solar Lease 2 LLC:		<u>(6,223,664)</u>		<u>(6,036,671)</u>
Total Reporting Entity		<u>\$ 84,502,318</u>		<u>\$ 83,432,829</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, 2016**

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

**Loan Guarantees**

As of June 30, 2016, the following financial guarantees, approved by the Board of Directors, were outstanding. There were no outstanding financial guarantees as of June 30, 2015. As of June 30, 2016 CGB has not recognized a liability or made any payments pursuant to these guarantees. Should payments be made in the future, CGB 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.

<b>Guarantor</b>	<b>Issuer</b>	<b>Relationship of Guarantor to Issuer</b>	<b>Type of Obligation Guaranteed</b>	<b>Maximum Amount of Guaranty</b>	<b>Obligations Guaranteed as of 6/30/2016</b>
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	\$ -
CGB	Developers of clean energy projects in Connecticut	Issuers participate in programs administered by CGB to install energy equipment at residential and commercial sites.	Commercial loans with various terms	5,000,000	-
CGB	CT Solar Loan I LLC	Blended unit of primary government	Non revolving term note	2,510,837	2,502,218
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	6,000,000
CGB	New England Hydropower Company	Issuer is the developer of hydropower project in Connecticut approved by the CGB Board of Directors.	Equipment purchase	<u>345,660</u>	<u>345,660</u>
				<u>\$ 13,456,497</u>	<u>\$ 8,847,878</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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**15. PENSION PLAN**

All employees of the CGB participate in the State Employees' Retirement System (SERS), which is administered by the State Employees' Retirement Commission. The CGB has no liability for pension costs other than the annual contribution. The latest actuarial study was performed on the plan as a whole, as of June 30, 2012, and does not separate information for employees of the CGB. Therefore, certain pension disclosures pertinent to CGB otherwise required pursuant to accounting principles generally accepted in the United States of America are omitted. Based upon the 2012 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 8% (previously 8.25%); (2) price inflation of 2.75% (previously 3%) for cost of living adjustments; (3) projected salary increases of 4% to 20%, Social Security wage base increases of 3.50% per annum; (4) payroll growth of 3.75% per annum; and (5) the RP-2000 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 three tiers. Tier I and Tier IIA are contributory plans, and Tier II is a noncontributory plan.

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. 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, will become members of Tier IIA. Tier IIA plan is essentially the existing Tier II plan with the exception that employee contributions of 2 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.

Employees hired on or after July 1, 2011 are covered under the Tier III plan. Tier III requires employee contributions of two 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

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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**15. PENSION PLAN (CONTINUED)**

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 CGB covered by SERS for the years ended June 30, 2016 and 2015 was \$4,695,647 and \$4,013,411, respectively.

**Contributions Made**

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

	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>
Contributions made:				
By employees	\$ 208,516	\$ 171,260	\$ 139,217	\$ 104,214
Percent of current year covered payroll	4.4%	4.3%	4.5%	4.1%
Percent of required contributions	100.0%	100.0%	100.0%	100.0%
By CGB	\$ 2,474,182	\$ 1,974,507	\$ 1,669,961	\$ 1,125,649
Percent of current year covered payroll	52.7%	49.2%	53.5%	44.7%
Percent of required contributions	100.0%	100.0%	100.0%	100.0%

CGB has contributed the required amount for each of the past three years.

**16. PENSION LIABILITIES, PENSION EXPENSE, DEFERRED OUTFLOWS OF RESOURCES, AND DEFERRED INFLOWS OF RESOURCES**

The implementation of GASB 68 resulted in CGB reporting an initial net pension liability for fiscal year 2015. The Statement required CGB 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 Pension (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.

At June 30, 2016 and 2015, CGB reported a liability of \$16,096,113 and \$14,899,766, respectively for its proportionate share of the net pension liability. The net pension liability as of June 30, 2016 was measured as of June 30, 2015, 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. CGB's allocation of the net pension liability was based on the 2015 covered payroll multiplied by the SERS 2015 contribution rate of 37.91 percent. As of June 30, 2016 and 2015, CGB's proportion was 0.09741 percent and 0.09304 percent respectively.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

**16. PENSION LIABILITIES, PENSION EXPENSE, DEFERRED OUTFLOWS OF RESOURCES, AND DEFERRED INFLOWS OF RESOURCES (CONTINUED)**

For the years ended June 30, 2016 and 2015, CGB recognized pension expense of \$1,399,477 and \$1,431,032, respectively. Pension expense is reported in CGB's financial statements as part of general and administration expense and grant and program expenditures. At June 30, 2016 and 2015, CGB reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

As of June 30, 2016:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Net Difference between projected and actual earnings on pension plan investments	\$ 2,535	\$
Change in proportion and differences between employer contributions and proportionate share of contributions	598,326	
CGB Contributions subsequent to the measurement date	<u>1,974,507</u>	
	<u>\$ 2,575,368</u>	<u>\$ -</u>

As of June 30, 2015:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Net Difference between projected and actual earnings on pension plan investments	\$	\$ (532,135)
CGB Contributions subsequent to the measurement date	<u>1,669,961</u>	
	<u>\$ 1,669,961</u>	<u>\$ (532,135)</u>

The amount recognized as deferred inflows of resources, representing the net difference between projected and actual earnings, 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 (2017)	\$ 92,310
Year 2 (2018)	92,310
Year 3 (2019)	92,308
Year 4 (2020)	231,591
Year 5 (2021)	<u>92,342</u>
	<u>\$ 600,861</u>

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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**16. PENSION LIABILITIES, PENSION EXPENSE, DEFERRED OUTFLOWS OF RESOURCES, AND DEFERRED INFLOWS OF RESOURCES (CONTINUED)**

**Actuarial Methods and Assumption**

The total pension liability in the June 30, 2014 actuarial valuation was determined based on the results of an actuarial experience study for the period July 1, 2007 through June 30, 2011. The key actuarial assumptions are summarized below:

Inflation	2.75%
Salary increase	4.00% -20% including inflation
Investment rate of return	8%, net of pension plan investment expense, including inflation
Cost of living adjustment	2.30%-3.60% for certain tiers

Mortality rates were based on the RP-2000 Mortality Table for Males or Females, as appropriate, with adjustments for mortality improvements based on Scale AA.

**Discount Rate**

The discount rate used to measure the total pension liability at June 30, 2015 was the long term expected rate of return, 8.00 percent. 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 2015.

**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, 2016**

**16. PENSION LIABILITIES, PENSION EXPENSE, DEFERRED OUTFLOWS OF RESOURCES, AND DEFERRED INFLOWS OF RESOURCES (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:

<b>Asset Class</b>	<b>Target Allocation</b>	<b>Long-term Expected Real Rate of Return</b>
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%

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

The following presents CGB's proportionate share of the net pension liability calculated using the discount rate of 8.00 percent, as well as the proportionate share of the net pension liability using a 1.00 percent increase or decrease from the current discount rate.

	<b>1% Decrease</b>	<b>Discount Rate</b>	<b>1% Increase</b>
	7.0%	8.0%	9.0%
CGB's proportionate share of the net pension liability	\$ 19,146,790	\$ 16,096,113	\$ 13,525,960

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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**17. RESTRICTED NET POSITION**

Restricted net position at June 30, 2016 and 2015 consisted of the following:

	<u>2016</u>	<u>2015</u>
Primary Government		
Nonexpendable		
Connecticut Innovations, Inc. equity interest	\$ <u>1,000</u>	\$ <u>1,000</u>
Energy Programs		
CGB		
Assets restricted for maintaining loan loss and interest rate buydown reserves	\$ 3,748,793	\$ 3,999,005
Assets restricted by contractual obligations for maintaining pledge accounts for loan guarantees	1,200,346	
CT Solar Loan I LLC		
Assets restricted by contractual obligations for maintaining loan loss reserve	<u>300,844</u>	<u>300,000</u>
	<u>5,249,983</u>	<u>4,299,005</u>
Discretely Presented Component Units		
CT Solar Lease 2 LLC		
Assets restricted for maintaining loan loss reserve	3,500,000	3,500,000
Assets restricted for operating and maintenance reserve	<u>1,000,000</u>	<u>1,000,000</u>
	<u>4,500,000</u>	<u>4,500,000</u>
	<u>\$ 9,749,983</u>	<u>\$ 8,799,005</u>

**18. RISK MANAGEMENT**

CGB 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.

**CONNECTICUT GREEN BANK  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED JUNE 30, 2016**

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

CGB owns Class 1 Renewable Energy Credits (RECs) that are generated by certain commercial renewable energy facilities for which CGB provided the initial funding. Through its Residential Solar Incentive Program, CGB owns the rights to future RECs generated by facilities installed on residential properties. On March 23, 2015 CGB entered into a contract to sell a total of 98,553 RECs generated during the period 2014 to 2016. For the year ended June 30, 2016 CGB sold its contractual obligation of 30,000 RECs. For the year ended June 30, 2015 CGB sold its contractual obligation of 23,553 RECs. CGB's remaining obligation is to sell 45,000 RECs generated or to be generated in 2016 for \$49.50 per REC. Based on historical performance, management believes that the RECs it will receive from funded commercial facilities and residential facilities will exceed the commitments to sell RECs under this agreement.

RECs trade on the New England Power Pool (NEPOOL) market. The market price of Connecticut Class 1 RECs as of June 30, 2016 ranged from \$35.00 to \$37.50. CGB's inventory as of June 30, 2016 has been priced at its cost.

## **REQUIRED SUPPLEMENTARY INFORMATION**

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

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As of June 30,	<u>2016</u>	<u>2015</u>
Green Bank's portion of the net pension liability	0.97410%	0.09304%
Green Bank's proportionate share of the net pension liability	\$ 16,096,113	\$ 14,899,766
Green Bank's covered employee payroll	\$ 4,695,647	\$ 4,013,411
Green Bank's proportionate share of the net pension liability as a percentage of its covered-employee payroll	342.79%	371.25%
Plan fiduciary net position as a percentage of the total pension liability	39.23%	39.54%

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

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

	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012*</u>
Contractually required contribution	\$ 2,474,182	\$ 1,974,507	\$ 1,669,961	\$ 1,125,649	\$ \$ 601,014
Contributions in relation to the contractually required contribution	<u>2,474,182</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>
Green Bank's covered employee payroll	\$ 4,695,647	\$ 4,013,411	\$ 3,121,583	\$ 2,517,190	\$ 1,541,308
Contributions as a percentage of covered-employee payroll	52.70%	49.20%	53.50%	44.72%	38.99%

\* The Green Bank had no employees prior to 2012 and accordingly there is no activity for 2011 and 2010.

**STATISTICAL SECTION**  
(unaudited)

# **FINANCIAL STATISTICS**



**CONNECTICUT GREEN BANK  
STATISTICAL SECTION INTRODUCTION**

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

**FINANCIAL STATISTICS**

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

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

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

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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 Five Fiscal Years**

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b>Primary Government</b>					
Invested in capital assets, net of related debt	\$ 248,752	\$ 263,839	\$ 289,932	\$ 362,505	\$ 91,329
Restricted Net Position					
Non-expendable	1,000	1,000	1,000	1,000	
Restricted - energy programs	5,249,983	4,299,005	4,595,715	5,036,656	176,974
Unrestricted	<u>116,351,807</u>	<u>104,881,783</u>	<u>97,754,765</u>	<u>93,717,230</u>	<u>80,920,002</u>
	<u>121,851,542</u>	<u>109,445,627</u>	<u>102,641,412</u>	<u>99,117,391</u>	<u>81,188,305</u>
<b>CT Solar Lease 2 LLC</b>					
Invested in capital assets, net of related debt	65,678,493	30,830,671	3,538,975		
Restricted Net Position					
Non-expendable	17,482,892	8,007,153	1,294,801	100	
Restricted - energy programs	4,500,000	4,500,000	4,500,000	4,500,000	
Unrestricted (deficit)	<u>(53,701,649)</u>	<u>(28,210,286)</u>	<u>(5,741,703)</u>	<u>(1,616,886)</u>	
	<u>33,959,736</u>	<u>15,127,538</u>	<u>3,592,073</u>	<u>2,883,214</u>	<u>-</u>
<b>CEFIA Solar Services, Inc.</b>					
Restricted Net Position					
Non-expendable	100	100	100	100	
Restricted - energy programs					
Unrestricted (deficit)	<u>346,279</u>	<u>224,654</u>	<u>109,123</u>		
	<u>346,379</u>	<u>224,754</u>	<u>109,223</u>	<u>100</u>	<u>-</u>
<b>Eliminations</b>					
	<u>(28,795,323)</u>	<u>(15,630,676)</u>	<u>(5,549,471)</u>	<u>(3,500,100)</u>	
<b>Total Net Position</b>	<u>\$ 127,362,334</u>	<u>\$ 109,167,243</u>	<u>\$ 100,793,237</u>	<u>\$ 98,500,605</u>	<u>\$ 81,188,305</u>

**CONNECTICUT GREEN BANK**  
**CHANGES IN NET POSITION**  
**Last Five Fiscal Years**

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b>Primary Government</b>					
<b>Operating Revenues</b>	\$ 69,250,883	\$ 72,038,472	\$ 52,301,283	\$ 43,343,093	\$ 39,753,684
<b>Operating Expenses</b>					
Cost of Goods Sold	28,826,974	22,526,874	2,794,270		
Grants and program expenditures	25,127,814	21,111,751	22,948,676	23,634,465	31,122,355
General and administrative expenses	4,445,648	2,984,178	2,408,715	1,811,227	1,387,854
Total Operating Expenses	<u>58,400,436</u>	<u>46,622,803</u>	<u>28,151,661</u>	<u>25,445,692</u>	<u>32,510,209</u>
<b>Operating Income (Loss)</b>	<u>10,850,447</u>	<u>25,415,669</u>	<u>24,149,622</u>	<u>17,897,401</u>	<u>7,243,475</u>
<b>Non-Operating Revenue and (Expenses)</b>					
Interest on solar lease notes	2,520,151	2,217,368	1,034,953	583,575	589,007
Interest on short-term investments	92,536	83,761	98,383	103,928	140,786
Interest income	60,127	58,511	57,407		
Interest expense	(61,796)	(26,985)			
Realized gain (loss) on investments	(33,723)	(1,180,285)	(350,000)	(1,034,605)	
Unrealized gain (loss) on investments			349,999	378,059	434,702
Provision for loan losses	<u>(1,021,826)</u>	<u>(563,825)</u>	<u>(1,310,933)</u>		
Net Non-Operating Revenues	<u>1,555,469</u>	<u>588,545</u>	<u>(120,191)</u>	<u>30,957</u>	<u>1,164,495</u>
<b>Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)</b>	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>		<u>(19,200,000)</u>	<u>(6,200,000)</u>		
<b>Increase in Net Position</b>	<u>\$ 12,405,916</u>	<u>\$ 6,804,214</u>	<u>\$ 17,829,431</u>	<u>\$ 17,929,358</u>	<u>\$ 8,407,970</u>

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

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b>CT Solar Lease 2 LLC</b>					
<b>Operating Revenues</b>	\$ 2,416,597	\$ 210,869	\$ 1,770	\$	\$
<b>Operating Expenses</b>					
Grants and program expenditures	3,078,633	1,201,123	600,186		
General and administrative expenses	305,217	124,748	127,511	853,480	
Total Operating Expenses	<u>3,383,850</u>	<u>1,325,871</u>	<u>727,697</u>	<u>853,480</u>	<u>-</u>
<b>Operating Loss</b>	<u>(967,253)</u>	<u>(1,115,002)</u>	<u>(725,927)</u>	<u>(853,480)</u>	
<b>Non-Operating Revenue and (Expenses)</b>					
Interest on short-term investments	27,777	9,207	8,642		
Interest expense	(729,170)	(150,871)	(57,407)		
Unrealized gain (loss) on investments	(967,791)	(660,073)			
Net Non-Operating Revenues	<u>(1,669,184)</u>	<u>(801,737)</u>	<u>(48,765)</u>	<u>-</u>	<u>-</u>
<b>Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)</b>	(2,636,437)	(1,916,739)	(774,692)	(853,480)	
Capital Contributions	21,770,182	13,556,783	1,496,135	3,736,694	
Distributions to Members	<u>(301,548)</u>	<u>(104,579)</u>	<u>(12,584)</u>		
<b>Increase in Net Position</b>	<u>\$ 18,832,197</u>	<u>\$ 11,535,465</u>	<u>\$ 708,859</u>	<u>\$ 2,883,214</u>	<u>\$ -</u>

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

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b><u>CEFIA Solar Services, Inc.</u></b>					
<b>Operating Revenues</b>	\$ 126,075	\$ 123,000	\$ 120,000	\$	\$
<b>Operating Expenses</b>					
General and administrative expenses	4,750	8,450	10,877		
Total Operating Expenses	4,750	8,450	10,877	-	-
<b>Operating Loss</b>	121,325	114,550	109,123		
<b>Non-Operating Revenue and (Expenses)</b>					
Interest on short-term investments	300	981			
Net Non-Operating Revenues	300	981	-	-	-
<b>Income (Loss) Before Transfers, Capital Contributions and Member (Distributions)</b>	121,625	115,531	109,123		
<b>Capital Contributions</b>				100	
<b>Increase in Net Position</b>	\$ 121,625	\$ 115,531	\$ 109,123	\$ 100	\$ -

**CONNECTICUT GREEN BANK  
OPERATING REVENUE BY SOURCE  
Last Five 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>													
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>													
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>													
2016	\$ 126,075	\$ -	- %	\$ -	- %	\$ -	- %	\$ -	- %	\$ -	- %	\$ 126,075	100.0 %
2015	123,000	-	- %	-	- %	-	- %	-	- %	-	- %	123,000	100.0 %
2014	120,000	-	- %	-	- %	-	- %	-	- %	-	- %	120,000	100.0 %
2013	-	-	- %	-	- %	-	- %	-	- %	-	- %	-	- %
2012	-	-	- %	-	- %	-	- %	-	- %	-	- %	-	- %
<b>Eliminations</b>													
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>													
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 Five Fiscal Years**

	Year Ended June 30,									
	2016		2015		2014		2013		2012	
	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total	Revenue	% of Total
<b>Utility Remittances (1)</b>										
Eversource	\$ 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	5,381,507	20.2 %	5,334,446	19.6 %	5,457,245	19.6 %	5,477,316	19.8 %	4,987,317	18.5 %
Total	<u>\$ 26,605,084</u>	<u>100.0 %</u>	<u>\$ 27,233,987</u>	<u>100.0 %</u>	<u>\$ 27,779,345</u>	<u>100.0 %</u>	<u>\$ 27,621,409</u>	<u>100.0 %</u>	<u>\$ 27,025,088</u>	<u>100.0 %</u>
<b>RGGI Auction Proceeds (2)</b>										
Renewables	\$ 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	<u>\$ 6,481,562</u>	<u>100.0 %</u>	<u>\$ 16,583,545</u>	<u>100.0 %</u>	<u>\$ 20,074,668</u>	<u>100.0 %</u>	<u>\$ 4,744,657</u>	<u>100.0 %</u>	<u>\$ 2,052,748</u>	<u>100.0 %</u>
<b>Grant Revenue</b>										
Federal ARRA Grants	\$	-- %	\$	-- %	\$	-- %	\$ 8,376,681	83.5 %	\$ 8,738,726	83.8 %
DOE Grants	589,917	100.0 %	143,614	74.7 %	321,642	100.0 %	1,622,569	16.2 %	1,645,525	15.8 %
Private Foundation		-- %	48,660	25.3 %		-- %	36,000	0.4 %	50,000	0.5 %
Total	<u>\$ 589,917</u>	<u>100.0 %</u>	<u>\$ 192,274</u>	<u>100.0 %</u>	<u>\$ 321,642</u>	<u>100.0 %</u>	<u>\$ 10,035,250</u>	<u>100.0 %</u>	<u>\$ 10,434,251</u>	<u>100.0 %</u>
<b>Sales of Renewable Energy Certificates (3)</b>										
Gross Proceeds	\$ 2,677,317	101.0 %	\$ 1,474,488	100.0 %	\$ 381,444	101.3 %	\$ 150,000	102.0 %	\$ 146,038	102.3 %
Commissions	(23,534)	(1.0 %)		-- %	(4,885)	(1.3 %)	(3,000)	(2.0 %)	(3,300)	(2.3 %)
Total	<u>\$ 2,653,783</u>	<u>100.0 %</u>	<u>\$ 1,474,488</u>	<u>100.0 %</u>	<u>\$ 376,559</u>	<u>100.0 %</u>	<u>\$ 147,000</u>	<u>100.0 %</u>	<u>\$ 142,738</u>	<u>100.0 %</u>

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

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

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

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

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b>Primary Government</b>					
Line of Credit (including adjustments)	\$ 1,100,000	\$ 1,100,000	\$ 4,000,000	\$ -	\$ -
Cumulative Advances	1,085,956	1,085,956	126,088	-	-
Cumulative Repayments	(394,249)	(232,431)	-	-	-
Cumulative Outstanding Debt	<u>691,707</u>	<u>853,525</u>	<u>126,088</u>	<u>-</u>	<u>-</u>
Available LOC	-	-	3,873,912	-	-
<b>Primary Government</b>					
Original Term Note	2,510,837	-	-	-	-
Repayments	(8,619)	-	-	-	-
Cumulative Outstanding Debt	<u>2,502,218</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<b>CT Solar Lease 2 LLC</b>					
Line of Credit (including adjustments)	24,000,000	26,700,000	26,700,000	26,700,000	-
Cumulative Advances	18,000,000	3,000,000	-	-	-
Cumulative Repayments	(832,325)	-	-	-	-
Cumulative Outstanding Debt	<u>17,167,675</u>	<u>3,000,000</u>	<u>-</u>	<u>-</u>	<u>-</u>
Available LOC	6,000,000	23,700,000	26,700,000	26,700,000	-
<b>CEFIA Solar Services, Inc.</b>					
Line of Credit (including adjustments)	-	-	-	-	-
Cumulative Advances	-	-	-	-	-
Cumulative Repayments	-	-	-	-	-
Cumulative Outstanding Debt	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Available LOC	-	-	-	-	-
<b>Total Reporting Entity</b>					
Cumulative Outstanding Debt	<u>\$ 20,361,600</u>	<u>\$ 3,853,525</u>	<u>\$ 126,088</u>	<u>\$ -</u>	<u>\$ -</u>



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

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<b>Fiscal Year</b>	<b>Population <sup>(1)</sup></b>	<b>Median Age <sup>(1)</sup></b>	<b>Per Capita Income <sup>(1)</sup></b>	<b>Median Household Income <sup>(1)</sup></b>	<b>Population 3 Years and Over Enrolled in Public School <sup>(1)</sup></b>	<b>Unemployment Rate <sup>(2)</sup></b>
2016	n/a	n/a	n/a	n/a	n/a	5.8%
2015	3,590,886	40.6	39,430	\$ 71,346	729,896	5.5%
2014	3,592,053	40.3	39,373	70,048	733,997	6.5%
2013	3,583,561	40.2	37,726	67,098	751,831	7.7%
2012	3,572,213	40.0	36,891	67,276	759,755	8.5%

Sources: (1) US Census Bureau  
(2) US Department of Labor

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

Employer <sup>(1)</sup>	2015			2014			2013		
	Employees	Rank	Percentage of Total State Employment <sup>(2)</sup>	Employees	Rank	Percentage of Total State Employment <sup>(2)</sup>	Employees	Rank	Percentage of Total State Employment <sup>(2)</sup>
State of Connecticut	51,646	1	2.89%	54,230	1	3.05%	53,951	1	3.10%
United Technologies	24,000	2	1.34	25,000	2	1.40	27,000	2	1.55
Yale New Haven Health System	20,071	3	1.12	18,869	3	1.06	18,639	3	1.07
Hartford Healthcare	18,107	4	1.01	18,597	4	1.05	16,951	4	0.98
Yale University	14,787	5	0.83	14,787	5	0.83	14,750	5	0.85
General Dynamics Electric Boat	9,583	6	0.54	8,896	7	0.50	8,817	6	0.51
Wal-Mart Stores Inc.	8,800	7	0.49	9,289	6	0.52	8,761	7	0.50
The Travelers Cos. Inc.	7,300	8	0.41	7,400	9	0.42	7,400	9	0.43
The Hartford Financial Services Group	7,000	9	0.39	7,000	11	0.39	7,700	11	0.44
Mohegan Sun	6,900	10	0.39	7,300	10	0.41	7,300	10	0.42
Foxwoods Resort Casino	5,301	14	0.30	7,600	8	0.43	7,667	8	0.44

Sources: (1) Hartford Business Journal, Book of Lists  
 (2) US Department of Labor

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

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b>Program Services</b>					
Statutory & Infrastructure	9.00	8.00	7.00	7.00	9.00
Residential	6.00	6.00	5.00	3.00	1.00
Commercial & Industrial	4.00	2.00	4.00	2.00	
Institutional		1.00	1.00	1.00	1.00
Subtotal Program Services	<u>19.00</u>	<u>17.00</u>	<u>17.00</u>	<u>13.00</u>	<u>11.00</u>
<b>Administrative &amp; Support</b>					
Executive	4.00	4.00	4.00	4.00	4.00
Finance	6.00	5.00	4.00	3.00	1.00
Accounting	6.00	5.30	3.50	2.75	2.20
Legal & Policy	3.00	3.00	2.00	2.00	2.00
Marketing	6.00	6.00	5.00	5.00	5.00
Operations	3.90	3.50	3.80	4.00	3.85
Subtotal Administrative & Support	<u>28.90</u>	<u>26.80</u>	<u>22.30</u>	<u>20.75</u>	<u>18.05</u>
<b>Total FTEs by Function</b>	<u>47.90</u>	<u>43.80</u>	<u>39.30</u>	<u>33.75</u>	<u>29.05</u>

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

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b>Clean Energy Investment (\$s in Millions)</b>					
CGB Dollars Invested	\$ 48.0	\$ 55.7	\$ 37.8	\$ 18.6	\$ 4.8
Private Dollars Invested	268.3	281.9	102.8	92.7	10.2
Total Project Investment	314.1	335.5	140.2	111.1	15.0
<b>Number of Clean Energy Projects</b>	8,271	6,543	2,422	1,118	417
<b>Annual Energy Savings of Clean Energy (MMBtu)</b>	419,219	1,086,544	378,877	59,481	9,334
<b>Installed Capacity of Clean Energy (MW)</b>					
Anaerobic Digesters	1.0	3.0	3.2		
Biomass		0.6			
CHP	2.5	0.9	3.0	0.7	
Fuel Cell				14.8	
Geothermal					
Hydro		0.5			
Solar PV	70.9	55.4	19.9	8.0	2.9
Wind		5.0			
Total	74.4	65.5	26.1	23.5	2.9
<b>Lifetime Production of Clean Energy (MWh)</b>					
Anaerobic Digesters	82,283	244,404	260,698		
Biomass		14,257			
CHP	229,129	86,611	274,955	62,781	
Fuel Cell				1,166,832	
Geothermal	295	38	84		
Hydro		43,898			
Solar PV	1,683,858	1,317,343	471,912	189,733	68,388
Wind		118,260			
Total	1,995,564	1,824,810	1,007,648	1,419,346	68,388
<b>Jobs Created by Year</b>					
Direct Jobs (# of Jobs)	1,703	1,455	550	559	88
Indirect and Induced Jobs (# of Jobs)	2,740	2,340	885	1,132	142
<b>Lifetime CO2 Emission Reductions</b>					
Emission Reductions (Tons)	885,103	815,600	271,179	178,437	35,459
Home Equivalents (# of Homes)	10,491	10,116	6,499	15,293	326
Cars Off the Road Equivalents (# of Cars)	5,816	5,432	1,630	1,967	236
Acres of Trees Planted Equivalents (# of Acres)	11,643	10,875	3,263	3,937	473

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

	Year Ended June 30,				
	2016	2015	2014	2013	2012
Capital assets being depreciated:					
Solar lease equipment	\$ 47,534,491	\$ 21,011,832	\$ 1,035,159	\$	\$
Furniture and equipment	169,423	222,701	338,938	335,744	13,049
Computer hardware and software	212,832	128,628	88,337	136,659	28,460
Leasehold improvements	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>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	1,600,070	319,144	9,865		
Furniture and equipment	103,079	122,149	205,820	146,560	626
Computer hardware and software	151,573	50,906	33,845	18,093	3,807
Leasehold improvements	109,196	75,232	44,501	16,715	1,971
	<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>\$ 58,114,914</u>	<u>\$ 26,971,088</u>	<u>\$ 3,074,337</u>	<u>\$ 362,505</u>	<u>\$ 91,329</u>

## **NON-FINANCIAL STATISTICS**

## CONNECTICUT GREEN BANK NON-FINANCIAL STATISTICS INTRODUCTION

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This part of the Connecticut Green Bank's (CGB) comprehensive annual financial report presents detailed non-financial information as a context for understanding the methods management uses to measure CGB's success and CGB's efforts to transform the clean energy market in using its financial resources.

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## CONNECTICUT GREEN BANK

### 1. STATEMENT OF THE CONNECTICUT GREEN BANK

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December 26, 2016

Re: Statement of the Connecticut Green Bank on the Non-Financial Statistics Contents of the Comprehensive Annual Financial Report for FY 2016 - 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 2016.

In this section, you will find the following information:

- **Background and Market** – an overview of the organization’s governance, including engagement of its members at the board and committee levels, along with ethics compliance and financial interest disclosure requirements. You will also be able to see the level of investment, deployment and public benefits that are being created within our local communities, including distressed communities and low income census tracts. And last, you will see how the organization has made steady progress in terms of voluntarily ensuring that Connecticut’s small businesses and minority-owned enterprises have opportunities to bid on a portion of the purchases of goods and services that the organization procures.
- **Measures of Success** – as outlined in the organization’s Comprehensive Plan,<sup>1</sup> we are reporting on the following measures of success:
  - **Attract & Deploy Capital** – how we are sourcing projects (as illustrated by projects in statuses from approved to completed), level of investment by both the Connecticut Green Bank and the end-use consumer or private investor, and the private to public leverage ratio being achieved by sector.
  - **Energy Saved and Generated** – how we are quantifying the energy generated and/or saved by each project. This includes the amount of clean energy deployed (i.e., kW), estimate of clean energy produced over the life of the projects (i.e., MWh), estimate of the annual amount of energy savings (i.e., MMBtu), and the variety of renewable energy technologies we have invested in by sector.
  - **Green Bank** – how we are building a balance sheet as a result of our financing focus in terms of asset management (i.e., current vs. non-current assets), ratio of public funds invested in grants and subsidies versus credit enhancements, loans, and leases, and the general credit quality of residential borrowers in our financing programs.
  - **Public Benefits** – how our investment activities are supporting economic development (i.e., jobs) and environmental protection (i.e., GHG emission reductions and equivalencies) benefits.
- **Market Transformation** – an overview of the program logic model for the organization in terms of its goals:
  - **Attract and Deploy** – to attract and deploy capital to finance the clean energy policy goals for Connecticut;
  - **Affordable and Accessible** – to develop and implement strategies that bring down the cost of clean energy to make it more accessible and affordable to consumers; and

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<sup>1</sup> <http://goo.gl/GhRL9t>



## CONNECTICUT GREEN BANK

### 1. STATEMENT OF THE CONNECTICUT GREEN BANK

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- **From Reliance to Markets** – to reduce the market’s reliance on grants, rebates, and other subsidies and move it towards innovative low-cost financing of clean energy deployment.

The program logic model serves as a foundation for evaluating clean energy deployment through subsidy and financing programs of the Connecticut Green Bank. As we begin to evaluate our programs, the reader will see that we have applied the program logic model to the subsidy (i.e., Residential Solar Investment Program) and financing (i.e., CT Solar Loan, CT Solar Lease, Smart-E Loan, and C-PACE) programs.

The assembly of the “Non-Financial Statistics” section of the Comprehensive Annual Financial Report is a process of continuous improvement. For example, the reader can compare FY 2015 with FY 2016 to see that more information is being disclosed to better communicate the level of impact the Connecticut Green Bank is making.

The Green Bank contracted with Marcum, LLP in an Agreed Upon Procedures engagement in which a team from Marcum performed the Green Bank’s procedures to calculate energy generation and savings. These procedures were selected as energy savings and generation metrics are key performance indicators for the organization and are linked to the calculation of many of the impacts of the organization (e.g., economic development and environmental protection). Marcum traced procedures for C-PACE, C-PACE Solar Lease, Solar Lease, Smart-E, Low-Income Solar Lease and Energy Efficiency ESA, Multi-family term financing, and RSIP.

The team from Marcum had no findings for most products and procedures and the Green Bank’s Operations team has refined the processes to reflect Marcum’s findings. The management of the Green Bank will continue to build on these processes to best reflect the organization’s impact and plans to seek external review of these metrics at the end of FY 2017 and will likely engage an external party to perform a Management Assertions Review of the Non-Financial Statistics section of the CAFR.

**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - GOVERNANCE**

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**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 by eleven voting and one non-voting member each with knowledge and expertise in matters related to the purpose of the organization (see Table 2).

**Table 2. Composition of the Board of Directors of the Connecticut Green Bank for FY 2016**

<b>Position</b>	<b>Name</b>	<b>Status</b>	<b>Voting</b>
Commissioner of DECD (or designee)	Catherine Smith	Ex Officio	Yes
Commissioner of DEEP (or designee)	Rob Klee	Ex Officio	Yes
State Treasurer (or designee)	Bettina Bronisz	Ex Officio	Yes
Finance of Renewable Energy	Reed Hundt	Appointed	Yes
Finance of Renewable Energy	Kevin Walsh	Appointed	Yes
Labor Organization	John Harrity	Appointed	Yes
R&D or Manufacturing	Mun Choi	Appointed	Yes
Investment Fund Management	Norma Glover	Appointed	Yes
Environmental Organization	Matthew Ranelli	Appointed	Yes
Finance or Deployment	Tom Flynn	Appointed	Yes
Residential or Low Income	Pat Wrice	Appointed	Yes
President of the Green Bank	Bryan Garcia	Ex Officio	No

The Board of Directors of the Connecticut Green Bank is governed through statute, as well as an [Ethics Statement](#) and [Ethical Conduct Policy](#), [Resolutions of Purposes](#), [Bylaws](#), [Joint Committee Bylaws](#), and [Comprehensive Plan](#). The Comprehensive Plan for the Connecticut Green Bank provides a multiyear 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](#) 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.

The Board of Directors of the Connecticut Green Bank is comprised of eleven (11) ex officio and appointed voting members, and one (1) ex officio non-voting member. The leadership of the Board of Directors, includes:

- **Chair** - Catherine Smith, Commissioner of DECD (designated as the Chair of the Connecticut Green Bank by Governor Malloy)
- **Vice Chair** - Rob Klee, Commissioner of DEEP (voted in by his 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)

For FY 2016, the Board of Directors of the Connecticut Green Bank met nine (9) times, including six (6) regularly scheduled meetings and three (3) special meetings. There was an attendance rate of 76% by the Board of Directors and 49 approved resolutions. For a link to the materials from the Board of Directors meetings that is publicly accessible – [click here](#).

## CONNECTICUT GREEN BANK

### 2. BACKGROUND AND MARKET - GOVERNANCE

---

#### *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

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

The Audit, Compliance and Governance Committee (ACG Committee) of the Connecticut Green Bank 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 Catherine Smith)
- **Members**<sup>2</sup> – John Harrity and Pat Wrice (designated as a member of the Committee by Catherine Smith)

For FY 2016, the ACG Committee of the Connecticut Green Bank met two (2) times, including two (2) regularly scheduled meetings and no special meetings. There was an attendance rate of 83% by the Audit, Compliance and Governance Committee and 5 approved resolutions. For a link to the materials from the ACG Committee meetings that is publicly accessible – [click here](#).

#### **Budget and Operations Committee**

The Budget & Operations Committee (B&O Committee) of the Connecticut Green Bank is comprised of three (3) ex officio and appointed voting members. The leadership of the B&O Committee, includes:

- **Chair** - Rob Klee, Commissioner of DEEP (designated as the Chair by Catherine Smith)
- **Members**<sup>3</sup> - Mun Choi and Norma Glover (designated as a member of the Committee by Catherine Smith)

For FY 2016, the B&O Committee of the Connecticut Green Bank met three (3) times, including three (3) regularly scheduled meetings and no special meetings. There was an attendance rate of 77% by the Budget and Operations Committee and 2 approved resolutions. For a link to the materials from the B&O Committee meetings that is publicly accessible – [click here](#).

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<sup>2</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>3</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

## CONNECTICUT GREEN BANK

### 2. BACKGROUND AND MARKET - GOVERNANCE

---

#### **Deployment Committee**

The Deployment Committee of the Connecticut Green Bank is comprised of four (4) ex officio and appointed voting members. The leadership of the Deployment Committee, includes:

- **Chair**<sup>4</sup> - Reed Hundt, CEO of the Coalition for Green Capital (designated as the Chair by Catherine Smith)
- **Members**<sup>5</sup> - Bettina Bronisz (ex officio per bylaws), Matthew Ranelli, and Pat Wrice (designated as a member of the Committee by Catherine Smith)

For FY 2016, the Deployment Committee of the Connecticut Green Bank met five (5) times, including two (2) regularly scheduled meetings and three (3) special meetings. There was an attendance rate of 85% by the Deployment Committee and 16 approved resolutions. For a link to the materials from the Deployment Committee meetings that is publicly accessible – [click here](#).

#### **Joint Committee**

Pursuant to Section 16-245m(d)(2) of the Connecticut General Statutes, there is hereby 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 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** - 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>6</sup> - Bryan Garcia (non-voting), Norma Glover, Bert Hunter (non-voting), and John Harrity (designated as members of the Committee by Catherine Smith)

For FY 2016, the Joint Committee of the EEB and the Connecticut Green Bank met five (5) times, including four (4) regularly scheduled meetings and one (1) special meeting. There was an attendance rate of 95% by the Joint Committee and 3 approved resolutions. For a link to the materials from the Joint Committee meetings that is publicly accessible – [click here](#).

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<sup>4</sup> Matthew Ranelli, Partner and Shipman and Goodwin for 11/14/14 & 11/21/14 only\*

<sup>5</sup> Bettina Bronisz, Reed Hundt, Rob Klee, Patricia Wrice, & Catherine Smith for 11/14/14 & 11/21/14 only\*

<sup>6</sup> Note – these members are representatives from the Connecticut Green Bank.

**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - GOVERNANCE**

---

**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:

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 and a list of all real property as well as any 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 2016 SFI filing – required by May 2, 2016 – 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 FY 2016**

	<u>Number of SFIs Submitted</u>	<u>% Submitted on Time</u>
Senior Staff	10	100%
Board of Directors	7	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 five years of operation.

**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - COMMUNITIES**

**Fiscal Year 2016 Approved/Closed/Completed Projects**

Communities across Connecticut are demonstrating leadership in their support of green 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 green energy deployment across the state, and we have assembled the “Top 5” in energy, environment, and economy for both FY 2016 as well as FY 2012 through FY 2016.

**Table 4. The “Top 5” Energy, Environment, and Economy Metrics for FY 2016<sup>7</sup>**

Municipality	Watts/ Capita	Municipality	Lifetime CO2 Emissions (tons)	Municipality	Investment Capita
Canaan	171.8	Bridgeport	29,949	Canaan	\$ 777.61
Kent	165.4	Manchester	24,760	Kent	498.93
Windsor	90.3	Bloomfield	21,685	Southington	358.57
Bloomfield	85.9	Milford	20,802	Windsor	346.60
Orange	72.4	Waterbury	19,596	Chester	326.25

**Table 5. Clean Energy Performance by Municipality (FY 2016)**

Municipality	# Projects	Average Investment (Project Cost)	Median Investment (Project Cost)	Total Investment (Project Cost)	Investment / Capita	MW	Watts/ Capita	Annual MMBTU	Total Job Years	Lifetime CO2 Emissions (tons)
Andover	5	\$ 43,707	\$ 37,128	\$ 218,534	\$ 66.16	0.0	15.1	173	3	615
Ansonia	50	30,368	27,000	1,518,394	78.88	0.4	18.9	1,181	23	4,474
Ashford	21	31,493	31,618	661,347	153.20	0.1	32.9	464	10	1,749
Avon	35	32,430	35,490	1,135,042	62.72	0.3	15.4	978	18	3,432
Barkhamsted	17	35,580	34,627	604,867	159.22	0.2	41.4	510	9	1,936
Beacon Falls	7	30,049	27,300	210,345	34.77	0.1	8.5	167	3	636
Berlin	47	32,806	30,240	1,541,875	77.61	0.4	18.2	1,190	24	4,444
Bethany	15	34,207	36,855	513,106	92.24	0.1	22.6	408	8	1,552
Bethel	41	34,899	31,942	1,430,846	76.99	0.3	17.6	1,063	22	4,040
Bethlehem	15	29,877	29,016	448,148	124.24	0.1	26.5	310	7	1,177
Bloomfield	103	49,138	22,155	5,061,227	247.06	1.8	85.9	5,713	61	21,685
Bolton	28	28,336	30,776	793,412	159.32	0.2	45.3	768	12	2,777
Branford	65	33,724	31,395	2,192,068	78.22	0.5	17.6	1,618	34	6,068
Bridgeport	316	34,114	27,000	10,779,927	74.74	2.3	15.8	9,486	142	29,949
Bridgewater	7	44,624	39,028	312,369	180.87	0.1	37.8	212	5	805
Bristol	167	36,867	31,395	6,156,742	101.80	1.4	23.3	4,590	92	17,381
Brookfield	26	39,157	35,870	1,018,073	61.88	0.2	14.3	764	15	2,901
Brooklyn	42	27,446	25,636	1,152,742	140.41	0.3	36.9	982	18	3,729
Burlington	31	68,606	40,950	2,126,799	228.66	0.6	62.1	1,915	27	7,120
Canaan	15	63,971	39,312	959,570	777.61	0.2	171.8	815	13	3,045
Canterbury	21	41,368	32,604	868,726	169.28	0.2	39.2	652	13	2,478
Canton	8	42,236	38,753	337,887	32.83	0.1	8.0	286	5	1,010
Chaplin	3	37,573	40,950	112,718	48.90	0.0	9.3	70	2	265
Cheshire	59	34,510	31,000	2,036,063	69.58	0.5	17.3	1,737	33	6,237
Chester	16	81,441	36,855	1,303,059	326.25	0.1	30.4	406	9	1,498
Clinton	39	48,406	32,760	1,887,829	142.37	0.5	35.8	1,551	25	5,844
Colchester	46	38,424	36,375	1,767,515	110.00	0.4	25.1	1,338	27	4,963
Colebrook	4	41,606	40,159	166,425	112.07	0.0	26.5	128	3	485
Columbia	9	34,120	40,065	307,080	55.99	0.1	12.9	229	5	871
Cornwall	5	24,128	25,935	120,640	84.96	0.0	20.2	93	2	353
Coventry	36	32,319	29,090	1,163,477	93.56	0.3	22.1	891	18	3,384
Cromwell	50	32,915	30,043	1,645,742	117.51	0.4	29.4	1,334	25	5,068
Danbury	80	37,629	36,087	3,010,357	37.21	0.7	8.4	2,217	46	8,421
Darien	6	32,244	28,002	193,463	9.33	0.0	2.2	149	3	565
Deep River	22	34,214	27,983	752,713	162.61	0.1	32.4	504	12	1,846
Derby	34	31,194	30,823	1,060,581	82.20	0.3	20.9	874	16	3,319
Durham	20	44,394	44,145	887,879	120.18	0.2	27.2	651	14	2,473
East Granby	20	37,814	38,679	756,283	146.91	0.1	28.1	480	12	1,780
East Haddam	24	33,491	30,608	803,783	88.08	0.2	19.8	586	12	2,228
East Hampton	39	36,502	35,490	1,423,582	109.85	0.3	24.7	1,058	22	3,950
East Hartford	222	24,024	21,960	5,333,228	104.06	1.4	26.7	4,630	83	16,862
East Haven	117	28,236	27,225	3,303,651	112.92	0.8	26.5	2,615	52	9,545
East Lyme	51	33,574	30,340	1,712,290	89.37	0.4	20.0	1,241	26	4,716
East Windsor	33	47,442	35,490	1,565,578	140.26	0.3	25.8	939	25	3,517

<sup>7</sup> It should be noted that both Bridgeport and Colebrook are in the “Top 5” in several categories as a result of large investments in the Dominion Bridgeport Fuel Cell Park and Colebrook Wind Project respectively.



**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - COMMUNITIES**

Municipality	# Projects	Average Investment (Project Cost)	Median Investment (Project Cost)	Total Investment (Project Cost)	Investment / Capita	MW	Watts/ Capita	Annual MMBTU	Total Job Years	Lifetime CO2 Emissions (tons)
Southbury	45	37,309	33,885	1,678,907	84.35	0.5	22.8	1,472	26	5,591
Southington	147	105,057	32,760	15,443,413	358.57	2.2	51.7	48,977	77	14,970
Sprague	12	43,127	44,796	517,529	173.43	0.1	35.9	359	8	1,319
Stafford	29	33,112	30,030	960,242	79.44	0.2	18.2	714	15	2,712
Stamford	77	76,021	32,382	5,853,634	47.73	0.8	6.5	9,601	97	9,815
Sterling	14	35,614	38,558	498,602	130.18	0.1	27.6	342	8	1,300
Stonington	90	33,751	31,133	3,037,598	163.80	0.7	39.1	2,350	46	8,929
Stratford	207	30,188	27,000	6,248,991	121.61	1.4	27.7	5,118	96	19,491
Suffield	47	36,090	33,278	1,696,230	107.80	0.4	24.8	1,272	26	4,813
Thomaston	23	32,479	26,602	747,008	94.71	0.2	22.7	590	12	2,210
Thompson	41	40,481	25,500	1,659,728	175.48	0.5	50.5	1,568	22	5,880
Tolland	46	33,673	30,345	1,548,935	102.91	0.4	27.1	1,344	24	5,019
Torrington	53	31,851	28,550	1,688,116	46.40	0.4	10.9	1,284	26	4,877
Trumbull	86	37,887	34,125	3,258,323	90.46	0.7	20.6	2,447	49	9,158
Union	2	20,389	20,389	40,777	47.75	0.0	12.5	35	1	131
Vernon	95	36,068	26,887	3,426,415	117.43	0.9	30.6	2,998	49	11,009
Voluntown	17	27,379	28,080	465,444	178.81	0.1	50.5	426	7	1,620
Wallingford	2	19,925	19,925	39,850	0.88	0.0	0.0	56	1	0
Warren	8	44,237	43,567	353,894	242.23	0.1	64.7	306	5	1,164
Washington	11	42,166	31,224	463,824	129.63	0.1	29.7	345	7	1,310
Waterbury	207	34,121	28,270	7,062,995	64.00	1.6	14.4	5,241	112	19,596
Waterford	92	33,592	29,389	3,090,426	158.35	0.7	37.9	2,484	48	9,102
Watertown	64	37,147	34,125	2,377,404	105.60	0.5	23.8	1,740	37	6,610
West Hartford	145	27,928	24,383	4,049,535	64.01	1.0	15.3	3,185	62	11,905
West Haven	182	28,842	26,559	5,249,261	94.47	1.3	23.7	4,282	81	16,204
Westbrook	20	41,956	40,440	839,122	120.95	0.2	27.1	609	13	2,315
Weston	11	39,682	33,768	436,506	42.88	0.1	9.6	384	7	1,202
Westport	22	48,344	40,446	1,063,572	40.30	0.2	9.5	1,205	17	3,102
Wethersfield	81	36,224	28,330	2,934,176	110.03	0.8	28.6	2,541	42	9,387
Willington	21	36,373	35,960	763,838	126.44	0.2	30.1	589	12	2,237
Wilton	40	40,322	38,450	1,612,899	89.30	0.4	22.7	1,408	25	5,053
Winchester	16	24,279	22,170	388,457	34.55	0.1	9.5	348	6	1,322
Windham	44	28,527	25,486	1,255,200	49.68	0.3	12.5	995	19	3,780
Windsor	152	28,499	24,660	4,331,842	346.60	1.1	90.3	3,700	67	13,906
Windsor	70	32,260	21,799	2,258,231	77.75	0.6	21.5	2,180	31	7,892
Locks										
Wolcott	66	37,779	34,808	2,493,426	149.49	0.5	32.3	1,846	39	6,641
Woodbridge	37	52,064	32,634	1,926,384	214.28	0.6	66.0	1,935	26	7,306
Woodbury	13	37,278	38,936	484,615	48.58	0.1	11.7	378	7	1,437
Woodstock	25	31,611	35,316	790,284	99.23	0.2	24.5	664	12	2,403
Unknown	4	305,400	300,640	1,221,600	-	0.2	0	609	5	2,315
Total	8,271	37,974	29,172	314,086,243	87.94	74.4	20.8	419,219	4,444	885,103

**Approved/Closed/Completed Projects Fiscal Year 2012 - 2016**

**Table 6. The “Top 5” Energy, Environment, and Economy Metrics for FY 2012 - 2016<sup>8</sup>**

Municipality	Watts/ Capita	Municipality	Lifetime CO2 Emissions (tons)	Municipality	Investment/ Capita
Colebrook	3,426.9	Bridgeport	127,288	Colebrook	\$ 15,426.21
Canaan	249.5	Colebrook	62,532	Canaan	1,188.07
Woodbridge	213.7	Putnam	57,622	Southington	1,022.74
Hampton	208.9	Middletown	48,781	Bridgeport	1,010.29
Durham	187.6	Bristol	42,312	Windsor	856.09

<sup>8</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).







**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - COMMUNITIES**

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**DISTRESSED COMMUNITIES<sup>9</sup>**

Connecticut’s “distressed communities” are particularly affected by the state’s high energy prices. On average, Connecticut’s neediest households owe \$2,560 more in annual energy bills than they can afford<sup>10</sup>. CGB financing products and marketing efforts seek to bring lower and more predictable energy costs to homes and businesses in distressed communities.

**Table 8. Overview of Distressed and Not Distressed Municipalities, Population, and Households in Connecticut**

	<b>Distressed %</b>	<b>Not Distressed</b>	<b>Distressed</b>	<b>Total</b>
# Towns	15%	144	25	\$ 169
Population	33%	2,406,785	1,167,312	3,574,097
Households	33%	899,083	438,675	1,337,758

CGB has steadily increased its percentage of projects deployed each year in distressed municipalities. This has led to nearly \$300 million in clean energy projects in these communities, creating over 3,600 jobs.

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<sup>9</sup> Distressed Communities as defined by the Department of Economic and Community Development (DECD). DECD Methodology: Weighted components are summed to measure the rank of the 169 towns. For each component, every town is ranked from 1 to 169, with the best town scoring 1 and worst 169. The top 25 towns with highest total scores are designated distressed municipalities.

DECD’s components and weights:

1. Per capita income for 2014, weight 1;
2. % of poverty in population for 2014, weight 1;
3. Unemployment rate for 2015, weight 2;
4. % change in population from 2000 to 2010, weight 1;
5. % change in employment from 2005 to 2015, weight 1;
6. % change in per capita income from 2000 to 2014, weight 1;
7. % of house stock built before 1939 in 2014, weight 1/3;
8. % population with high school degree and higher in 2014, weight 1; and
9. Per Capita Adjusted Equalized Net Grand List in 2016-2017, weight 1.

According to C.G.S. Section 32-9p, a distressed municipality should be based on “high unemployment and poverty, aging housing stock and low or declining rates of growth in job creation, population, and per capita income.”

DECD additionally included 1) Level of Per Capita Income, 2) % of population with high school degree and higher and 3) Per Capita Adjusted Equalized Net Grand List (AENGL) to arrive at its ranking.

Data sources: Census 2000, Census 2010, 2010-2014 Census American Community Survey (ACS) 5-year Estimates, DOL, DOE  
 Prepared by DECD Research  
 August 18, 2016

<http://www.ct.gov/e cd/cwp/view.asp?a=1105&q=251248>

<sup>10</sup> Home Energy Affordability in Connecticut, <http://www.operationfuel.org/wp-content/uploads/Connecticut-2014-HEAG-Final.pdf>.

**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - COMMUNITIES**

**Table 9. Project Performance – Clean Energy Approved, Closed, and Completed Projects in Connecticut (FY 2016)<sup>11</sup>**

	# Projects	Investment (Project Cost)	Investment /Capita*	MW	Watts /Capita*	Annual MMBTU	Total Job Years	Lifetime CO2 Emissions (tons)
<b>Not Distressed</b>	5,719	\$226,847,885	\$194.33	52.9	45.3	232,607	3,212	642,677
<b>Distressed</b>	2,548	\$86,016,759	\$35.74	21.3	8.9	186,002	1,227	240,111
<b>Unknown</b>	4	\$1,221,600	-	0.2	-	609	5	2,315
<b>Total</b>	8,271	\$314,086,243	\$87.54	74.4	20.8	419,219	4,444	885,103
<b>% Distressed</b>	31%	27%		29%				

**Table 10. Project Performance – Clean Energy Approved, Closed, and Completed Projects in Connecticut (FY 2012-2016)**

	# Projects	Investment (Project Cost)	Investment /Capita*	MW	Watts /Capita*	Annual MMBTU	Total Job Years	Lifetime CO2 Emissions (tons)
<b>Not Distressed</b>	14,039	\$616,511,153	\$528.15	135.1	115.8	863,166	7,933	1,573,531
<b>Distressed</b>	4,728	\$298,095,849	\$123.86	57.0	23.7	1,089,678	3,655	609,933
<b>Unknown</b>	4	\$1,221,600	-	0.2	-	609	5	2,315
<b>Total</b>	18,771	\$915,828,602	\$255.90	192.3	53.8	1,953,454	11,594	2,185,779
<b>% Distressed</b>	25%	33%		30%				

\* Calculated using the 2016 distressed community designations

<sup>11</sup> The Connecticut Green Bank tracks projects through three phases as they move through the pipeline to construction completion and operation – 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. Closed indicates all financial and legal documents have been executed and any additional funding has been secured. Completion indicates all construction and installation is complete and the project is operational.

**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - INCOME**

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In addition to looking at funding and clean energy deployment in distressed municipalities, CGB works to ensure that low to moderate income (LMI) census tracts across the entire state are benefiting from its programs. CGB defines low to moderate income as 100% or less of area median income. Tables 11 through 12 group CGB’s projects based upon the average income of their census tract.

**Table 11. Projects by Area Median Income – Clean Energy Deployment in the Residential Sector (FY 2016)**

Income Bands	FY 2016			
	# Projects	Projects /1,000 Households	Installed Capacity (MW)	Watts /Household
<60% AMI	633	2.8	6.4	28.4
60%-80% AMI	1,057	4.9	7.3	33.9
80%-100% AMI	1,477	6.4	11.7	50.5
100%-120% AMI	2,223	8.0	17.4	62.7
>120% AMI	2,672	6.6	22.4	55.2
Unknown	122	-	1.0	-
Total	8,184	6.0	66.2	48.8

**Table 12. Projects by Area Median Income – Clean Energy Deployment in the Residential Sector (FY 2012-2016)**

Income Bands	FY 2012 -2016			
	# Projects	Projects /1,000 Households	Installed Capacity (MW)	Watts /Household
<60% AMI	1,011	5.4	25.6	114.1
60%-80% AMI	1,906	8.8	13.2	61.1
80%-100% AMI	3,110	13.5	24.5	106.1
100%-120% AMI	5,004	18.0	45.6	164.1
>120% AMI	7,430	18.3	61.8	152.1
Unknown	125	-	1.0	-
Total	18,586	13.6	171.7	125.9

Through such products and initiatives as the LMI solar incentive, its partnership with PosiGen, and its affordable multifamily housing energy financing products, CGB has focused on increasing its penetration in the LMI market. Tables 13 through 15 illustrate that CGB has made progress on this goal but still has work to do.

**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET - INCOME**

**Table 13. Projects by Area Median Income – Number of Clean Energy Projects Above or Below 100% (FY 2012-2016)**

# Projects	100% or Below AMI	Over 100% AMI	Total	100% or Below AMI
FY 2012	62	355	417	15%
FY 2013	184	934	1,118	16%
FY 2014	649	1,773	2,422	27%
FY 2015	1,995	4,545	6,540	31%
FY 2016	3,209	4,925	8,134	39%
Unknown AMI	-	-	140	-
Total	6,099	12,532	18,771	32%

**Table 14. Deployment – Clean Energy Installed Capacity (MW) Above or Below 100% (FY 2012-2016)**

MW	100% or Below AMI	Over 100% AMI	Total	100% or Below AMI
FY 2012	0.4	2.5	2.9	14%
FY 2013	16.6	6.9	23.5	71%
FY 2014	9.5	16.6	26.1	36%
FY 2015	17.1	48.3	65.5	26%
FY 2016	28.1	43.3	72.1	40%
Unknown AMI	-	-	2.4	-
Total	72.4	117.5	192.3	38%

**Table 15. Investment – Clean Energy Investment Above or Below 100% Area Median Income (FY 2012-2016)**

Investment (Project Cost)	100% or Below AMI	Over 100% AMI	Total	100% or Below AMI
FY 2012	\$1,901,884	\$13,087,685	\$14,989,569	13.0%
FY 2013	\$79,017,723	\$32,046,769	\$111,064,486	71%
FY 2014	\$69,598,876	\$70,553,491	\$140,152,366	50%
FY 2015	\$113,254,360	\$222,190,050	\$335,444,411	34%
FY 2016	\$125,461,942	\$179,261,682	\$304,723,625	41%
Unknown AMI	-	-	\$9,454,145	-
Total	\$389,234,786	\$517,139,671	\$915,828,602	38%

**CONNECTICUT GREEN BANK**  
**2. BACKGROUND AND MARKET**  
**SMALL TO MINORITY OWNED BUSINESS PROCUREMENT**

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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 16. Small Business Procurement (FY 2012-2016)**

Year	Small Business		
	Goal	Actual	Percentage
FY 2012	\$ 59,775	\$ 39,520	66%
FY 2013	\$ 62,598	\$ 59,340	95%
FY 2014	\$ 135,320	\$ 120,560	89%
FY 2015	\$ 221,750	\$ 251,980	113%
FY 2016	\$ 238,550	\$ 510,797	214%

**Table 17. Minority Business Enterprise Procurement (FY 2012-2016)**

Year	Minority Business Enterprises		
	Goal	Actual	Percentage
FY 2012	\$ 14,944	\$ 31,474	211%
FY 2013	\$ 15,649	\$ 52,308	334%
FY 2014	\$ 33,830	\$ 88,427	261%
FY 2015	\$ 55,438	\$ 153,319	277%
FY 2016	\$ 59,638	\$ 96,020	161%

**CONNECTICUT GREEN BANK**

**3. MEASURES OF SUCCESS - ATTRACT AND DEPLOY CAPITAL**

**Project Status**

The Connecticut Green Bank tracks projects through three phases as they move through the pipeline to construction completion and operation – 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 and all construction and installation is complete and the project is operational. The table highlights the fact that projects can take some time to move through this pipeline (see Table 18). The full energy, economic, and environmental benefits from these projects begin to be fully realized after they are completed.

**Table 18. Clean Energy Project Status (FY 2012-2016)<sup>12</sup>**

<b># PROJECTS</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	12	43	63	118
Closed	2	2	60	587	4,186	4,837
Completed	415	1,116	2,350	5,913	4,022	13,816
<b>Total</b>	<b>417</b>	<b>1,118</b>	<b>2,422</b>	<b>6,543</b>	<b>8,271</b>	<b>18,771</b>

**Clean Energy Investment**

The Connecticut 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. The Green Bank tracks its progress towards this vision as “E3” metrics – Energy, Economic, and Environmental. Investment represents the total amount of private and public funding for clean energy projects, shown in Tables 19 and 20 below.

**Table 19. Clean Energy Investment by Source - Public and Private (FY 2012-2016)**

	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Total CGB Investment	\$4,809,813	\$18,595,710	\$37,834,791	\$55,698,896	\$48,042,380	\$164,981,590
Total Private Investment	\$10,179,757	\$92,655,897	\$102,829,679	\$281,861,775	\$268,299,049	\$755,826,156
Total Project Investment	\$14,989,569	\$111,064,486	\$140,152,366	\$335,535,937	\$314,086,243	\$915,828,602

<sup>12</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).



**CONNECTICUT GREEN BANK**

**3. MEASURES OF SUCCESS - ATTRACT AND DEPLOY CAPITAL**

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**Leverage Ratio**

One of the main goals of the Connecticut Green Bank is to attract and deploy private capital to finance the green energy goals for Connecticut. To that end, the greater the leverage ratio of private to public funds, the better. The leverage ratios for the Connecticut Green Bank are increasing over time. Not only that, but a greater percentage of public funds being used are in the form of loans and leases rather than subsidies and grants.

**Table 20. Leverage Ratio of Private to Public Funds by Sector**

<b>Leverage Ratio of Public to Private Funds by Sector</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Commercial, Industrial & Institutional <sup>13</sup>	0.0	3.7	1.8	4.5	2.0	2.9
Statutory and Infrastructure	3.1	6.1	4.3	6.4	10.9	6.6
Residential	0.0	0.8	10.5	6.3	5.6	6.2
<b>Total</b>	3.1	6.0	3.7	6.1	6.6	5.6

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<sup>13</sup> Leverage ratio does not reflect private funding warehouse created in fiscal year 2016. Green Bank C-PACE assets will be transferred to this warehouse, shifting the leverage ratio towards private funding.

**CONNECTICUT GREEN BANK**

**3. MEASURES OF SUCCESS - ATTRACT AND DEPLOY CAPITAL**

**Clean Energy Produced and Energy Saved**

Similar to clean energy investment, the data below show the energy benefits in terms of capacity (megawatts [MW]), clean energy production (lifetime megawatt hours [MWh]), and annual energy savings (MMBTU) – see Tables 21 through 23.

**Table 21. Installed Capacity (MW) of Clean Energy (FY 2012-2016)<sup>14</sup>**

<b>MW</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0.0	0.0	3.2	3.8	3.5	10.5
Closed	0.0	0.0	0.3	10.6	38.8	49.7
Completed	2.9	23.5	22.6	51.1	32.1	132.1
<b>Total</b>	<b>2.9</b>	<b>23.5</b>	<b>26.1</b>	<b>65.5</b>	<b>74.4</b>	<b>192.3</b>

**Table 22. Lifetime Production (MWh) of Clean Energy (FY 2012-2016)<sup>15</sup>**

<b>MWh (lifetime)</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	260,864	318,157	252,554	831,575
Closed	408	143	6,258	282,920	979,350	1,269,078
Completed	67,980	1,419,204	740,526	1,223,733	763,659	4,215,103
<b>Total</b>	<b>68,388</b>	<b>1,419,346</b>	<b>1,007,648</b>	<b>1,824,810</b>	<b>1,995,564</b>	<b>6,315,757</b>

**Table 23. Annual Energy Savings (MMBTU) of Clean Energy (FY 2012-2016)<sup>16</sup>**

<b>MMBTU (annual)</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	143,872	438,296	134,684	716,851
Closed	56	19	1,905	464,980	176,220	643,181
Completed	9,278	59,462	233,100	183,267	108,315	593,421
<b>Total</b>	<b>9,334</b>	<b>59,481</b>	<b>378,877</b>	<b>1,086,544</b>	<b>419,219</b>	<b>1,953,454</b>

<sup>14</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

<sup>15</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

<sup>16</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

**CONNECTICUT GREEN BANK**

**3. MEASURES OF SUCCESS - ATTRACT AND DEPLOY CAPITAL**

**Renewable 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 (see Table 24).

**Table 24. Renewable Energy Technology Deployment (FY 2012-2016)**

RENEWABLE ENERGY TECHNOLOGY*	Commercial & Industrial Sector		Statutory and Infrastructure Sector		Residential Sector		Total	
	MW	MWh (lifetime)	MW	MWh (lifetime)	MW	MWh (lifetime)	MW	MWh (lifetime)
Anaerobic Digesters			7.2	587,384			7.2	587,384
Biomass	0.6	14,257					0.6	14,257
CHP	0.1	6,874	7.1	646,601			7.1	653,475
Fuel Cell			14.8	1,166,832			14.8	1,166,832
Hydro	0.5	43,898					0.5	43,898
Solar PV	17.9	426,062	119	2,836,940	16.0	380,030	153.3	3,643,032
Wind			5.0	118,260			5.0	118,260
<b>Total</b>	<b>19.1</b>	<b>491,090</b>	<b>157.2</b>	<b>5,444,220</b>	<b>16.0</b>	<b>380,030</b>	<b>192.3</b>	<b>6,315,340</b>

\*Residential solar projects that receive financing also receive an incentive under the Residential Solar Incentive Program so they are counted in each sector's results. They have been removed from the total to avoid double counting.

The Connecticut Green Bank's efforts have led to a significant amount of solar PV deployment in the state (about 80% of all green energy projects deployed is from solar PV). When comparing deployment to green energy production, solar PV produces the most energy (58% of all green energy production), fuel cells also contribute a large proportion given the efficiency of the technology (over 18% of all green energy production).

**CONNECTICUT GREEN BANK**  
**3. MEASURES OF SUCCESS - GREEN BANK**

**Assets – Current and Non-Current**

The Connecticut Green Bank’s success in shifting to a financing model from a subsidy model is evident in the 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.

**Table 25: Current and Non-Current Assets (FY 2012-2016)**

	Year Ended June 30,				
	2016	2015	2014	2013	2012
<b>Current Assets</b>					
Cash and Cash Equivalents	\$ 48,072,061	\$ 39,893,649	\$ 71,411,034	\$ 68,105,014	\$ 64,672,910
Receivables	4,531,258	2,867,233	8,253,318	4,545,661	3,305,301
Prepaid Expenses	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	845,479	803,573	766,086	704,032	670,645
Current portion of program loans	1,378,242	10,264,825	652,447	-	-
<b>Total Current Assets</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>Non-Current Assets</b>					
Portfolio Investments	1,000,000	1,000,000	1,000,000	1,000,000	2,155,525
Bonds Receivable	3,492,282	1,600,000	1,600,000	-	-
Solar Lease Notes - Less current portion	8,162,635	9,015,437	9,778,315	10,536,136	11,064,879
Program Loans - Less current portion	31,889,275	30,253,119	12,750,457	3,788,094	-
Renewable Energy Certificates	812,770	933,054	1,069,390	1,217,491	1,324,614
Capital Assets, Net of Depreciation and Amortization	58,114,914	26,971,087	3,074,337	362,505	91,329
Asset retirement obligation, net	2,261,472	1,029,196	-	-	-
Restricted Assets:					
Cash and Cash Equivalents	9,749,983	8,799,005	9,513,715	9,536,656	8,540,684
<b>Total Non-Current Assets</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>\$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 the first Green Bank in the country, the Connecticut Green Bank seeks to use limited public resources to attract private capital investment in clean energy. The Connecticut Green Bank does this by moving away from the subsidy-based model of supporting clean energy and towards a financing model. As highlighted below (see Table 26), the Connecticut Green Bank has quickly moved towards this model, with fewer and fewer funds devoted to subsidies. This trend has developed even as total investment in clean energy has increased to over \$915 million in total from 2012 through 2016, enabling the Connecticut Green Bank to do more at a faster pace while managing ratepayer resources more efficiently.

**CONNECTICUT GREEN BANK**  
**3. MEASURES OF SUCCESS - GREEN BANK**

**Table 26. Ratio of Capital Invested as Subsidies, Credit Enhancements, and Loans and Leases (FY 2012-2016)**

<b>GREEN BANK FUNDS INVESTED*</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
<b>Subsidies (Grants)</b>	\$4,809,813	\$12,419,798	\$17,992,300	\$27,816,544	\$20,552,219	\$83,590,674
<b>% Green Bank Funds Invested in Subsidies</b>	100%	67%	48%	50%	43%	51%
<b>Credit Enhancements (LLR &amp; IRBS)</b>	\$0	\$187,122	\$512,104	\$2,024,733	\$2,255,186	\$4,979,145
<b>% Green Bank Funds Invested in Credit Enhancements</b>	0%	1%	1%	4%	5%	3%
<b>Loans and Leases (includes sell downs)</b>	\$0	\$5,988,790	\$19,330,387	\$25,857,619	\$25,234,975	\$76,411,772
<b>% Green Bank Funds Invested in Loans and Leases</b>	0%	32%	51%	46%	53%	46%
<b>Total</b>	\$4,809,813	\$18,595,710	\$37,834,791	\$55,698,896	\$48,042,380	\$164,981,590

\* Approved/Closed/Completed

**Credit Quality of Residential Borrowers**

The credit quality of Green Bank’s residential borrowers reflects the relatively high FICO scores in the state; 78% of single family house households have a FICO of 680 or higher. The Green Bank has recently begun to focus on ensuring that credit challenged customers have access to energy financing products through such initiatives as its partnership with PosiGen and bringing Capital 4 Change, which has experience serving this market, into the Smart-E program.

**Table 27. Credit Quality of Residential Borrowers by product (FY 2012-2016)**

	<b>Credit Score Ranges</b>						<b>Total</b>
	<b>Below 640</b>	<b>640-679</b>	<b>680-699</b>	<b>700-719</b>	<b>720+</b>	<b>Unknown</b>	
Smart-E Loan	26	75	45	65	501	25	737
CT Solar Lease	1	45	39	78	1,029		1,192
CT Solar Loan	-	-	11	15	253		279
<b>Total</b>	<b>27</b>	<b>120</b>	<b>95</b>	<b>158</b>	<b>1,783</b>	<b>25</b>	<b>2,208</b>
	1%	5%	4%	7%	82%	1%	

**CONNECTICUT GREEN BANK**  
**3. MEASURES OF SUCCESS – PUBLIC BENEFITS**

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**Jobs Created**

The organization tracks economic benefits similar to its tracking of investment and environmental impact. The data below highlights the economic benefits supported by the Connecticut Green Bank’s projects (see Tables 28 through 29). Investment represents the total amount of private and public funding for clean energy projects and direct and indirect and induced jobs quantifies the resulting job creation<sup>17</sup>.

**Table 28. Estimated Direct Job-Years Supported (FY 2012-2016)<sup>18</sup>**

<b>Direct Jobs</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	0	6	37	43
Closed	1	0	10	148	871	1,030
Completed	88	559	540	1,301	795	3,283
<b>Total</b>	<b>88</b>	<b>559</b>	<b>550</b>	<b>1,455</b>	<b>1,703</b>	<b>4,355</b>

**Table 29. Estimated Indirect and Induced Job-Years Supported (FY 2012-2016)<sup>19</sup>**

<b>Indirect &amp; Induced Jobs</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	0	9	61	70
Closed	1	0	16	237	1,400	1,655
Completed	142	1,131	868	2,093	1,279	5,514
<b>Total</b>	<b>142</b>	<b>1,132</b>	<b>885</b>	<b>2,340</b>	<b>2,740</b>	<b>7,239</b>

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<sup>17</sup> Jobs estimates are based on multipliers determined as a result of work performed by Navigant Consulting for the Connecticut Renewable Energy and Energy Efficiency Economy Baseline Study completed in March 2009 and subsequently updated in 2010. This Navigant Study was an independent, third party analysis of Connecticut’s clean energy economy. Data were acquired as a result of primary research. Navigant performed a census of over 300 companies, institutions, and organizations identified as active players in Connecticut’s renewable energy and energy efficiency economy. Seventy-four (74) key renewable energy and energy efficiency companies were interviewed; 95 additional key companies were researched in detail. All renewable companies in Connecticut were identified and analyzed. Key energy efficiency companies were identified and analyzed, with the overall market size estimated by extrapolation. Company interviews included questions about customers, supply chain, number of jobs, corresponding salaries, and revenue. Detailed interview questionnaires are available in the Methodology section of the Baseline Study, pages 58-81.

<http://www.ctcleanenergy.com/Portals/0/Phase%201%20Deliverable%20Final%20Full.pdf>

DECD has approved of the methodology for estimating the economic development benefits (i.e., job-years created) from the investment in clean energy projects.

[http://ctcleanenergy.com/Portals/0/board-materials/4\\_DECD%20Findings\\_Economic%20Development%20Estimates\\_FY%202013%20Results\\_CEFIA\\_121613.pdf](http://ctcleanenergy.com/Portals/0/board-materials/4_DECD%20Findings_Economic%20Development%20Estimates_FY%202013%20Results_CEFIA_121613.pdf)

<sup>18</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

<sup>19</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

**CONNECTICUT GREEN BANK**  
**3. MEASURES OF SUCCESS – PUBLIC BENEFITS**

**CO2 Emission Reductions Supported and Equivalencies**

The data below highlight the environmental benefits supported by these projects as a reduction in carbon (CO2) emissions and standard equivalencies<sup>20</sup> (see Tables 30 through 33).

**Table 30. Estimated Lifetime CO2 Emissions Reductions (FY 2012-2016)<sup>21</sup>**

<b>Lifetime CO2 Emission Reductions (Tons)</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	86	462	14,769	15,317
Closed	211	74	3,240	173,149	473,491	650,166
Completed	35,248	178,363	267,853	641,990	396,843	1,520,297
<b>Total</b>	<b>35,459</b>	<b>178,437</b>	<b>271,179</b>	<b>815,600</b>	<b>885,103</b>	<b>2,185,779</b>

<sup>20</sup> All emissions reductions from renewable energy projects are determined using ISO-New England information, because that is where the energy will be displaced. This produces results that may be significantly different from emissions savings based on a comparison to national averages. In addition, the generation characteristics of each technology have an impact on the emissions reduction that can be expected. Solar-powered systems will produce only during the daylight hours, which normally coincide with the peak demand period for the utilities. The generating fleet during this time may include peaking plants and reserve plants, which will have lower efficiencies than the “baseload” plants which run 24 hours per day. Consequently, emissions are higher, and the renewable energy systems look better by comparison. The calculations are based on the results of the 2007 New England Marginal Emission Rate Analysis ([http://www.iso-ne.com/genrtion\\_resrcs/reports/emission/2007\\_mea\\_report.pdf](http://www.iso-ne.com/genrtion_resrcs/reports/emission/2007_mea_report.pdf)). The appropriate marginal emissions rates for Connecticut are used to determine the net avoided emissions for each of the technologies evaluated.

- a. PV systems are analyzed using the average of the Marginal Emission Rates (in Lbs/MWh) for “On-Peak Ozone Season” and “On-Peak Non-Ozone Season”. The underlying assumptions are that PV systems will be operating primarily during the on-peak periods, and that their output in the five months of the “Ozone Season” (May – September) is about the same as in the seven months of the “Non-Ozone Season.”
- b. Fuel cells are also evaluated using the “Annual Average (all hours) Marginal Emission Rates”, because they are expected to produce power continually as “base load” generators. Fuel Cell emissions assume that 50% of the thermal output (“waste heat”) is used to displace natural gas used for heating. This is conservative, since 50% thermal utilization is the minimum standard for CCEF’s acceptance of a fuel cell project.

Emissions estimates for anaerobic digester, wind, and energy efficiency projects were not estimated.

To determine the exact avoided CO2 for CHP projects one needs to know what the CHP system is displacing (i.e. boiler, grid, etc.), as well as the efficiencies, in order to determine the existing CO2 emissions and then do the calculation to get the avoided emissions. For general purposes a typical 3.7 MW system operating on natural gas would generate about 13,000 tons of CO2 annually and 195,000 tons over its 15-year life. Typically avoiding 35-50% CO2 overall from the existing infrastructure. Not factoring in the utility transmission and distribution losses.

It should be noted that a methodology for estimating the environmental protection benefits from the investment in clean energy projects (i.e., GHG emissions reduced) has not yet been proposed to or approved by DEEP. The Connecticut Green Bank is currently looking into the EPA’s AVERT (Avoided Emissions and Generation Tool) for future estimations of emissions reductions - <http://www3.epa.gov/avert/>

<sup>21</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

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**3. MEASURES OF SUCCESS – PUBLIC BENEFITS**

**Table 31. Estimated Lifetime CO2 Emissions Reduction Energy for Home Equivalents (FY 2012-2016)<sup>22</sup>**

<b>Energy for # of Homes</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	2,070	2,522	1,930	6,522
Closed	2	1	30	1,723	4,925	6,680
Completed	324	15,292	4,399	5,871	3,636	29,522
<b>Total</b>	<b>326</b>	<b>15,293</b>	<b>6,499</b>	<b>10,116</b>	<b>10,491</b>	<b>42,724</b>

**Table 32. Estimated Lifetime CO2 Emissions Reduction Cars Off the Road Equivalents (FY 2012-2016)<sup>23</sup>**

<b>Cars off the Road</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	1	3	81	85
Closed	1	0	22	1,251	3,098	4,372
Completed	235	1,966	1,608	4,178	2,637	10,624
<b>Total</b>	<b>236</b>	<b>1,967</b>	<b>1,630</b>	<b>5,432</b>	<b>5,816</b>	<b>15,080</b>

**Table 33. Estimated Lifetime CO2 Emissions Reduction Acres of Trees Planted Equivalents (FY 2012-2016)<sup>24</sup>**

<b>Planting # Acres of Trees</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Total</b>
Approved	0	0	1	6	162	169
Closed	3	1	43	2,504	6,202	8,753
Completed	470	3,936	3,219	8,365	5,279	21,269
<b>Total</b>	<b>473</b>	<b>3,937</b>	<b>3,263</b>	<b>10,875</b>	<b>11,643</b>	<b>30,191</b>

<sup>22</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

<sup>23</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

<sup>24</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).



**CONNECTICUT GREEN BANK**  
**4. MARKET TRANSFORMATION – PROGRAM LOGIC MODEL**

The Connecticut Green Bank has published an Evaluation Framework<sup>25</sup> and developed a Program Logic Model (PLM) that presents the green bank model of attracting and deploying private capital through financing (see Figure 1). This PLM serves as a foundation for evaluating clean energy deployment through subsidy and financing programs of the Connecticut Green Bank.

**Figure 1. Connecticut Green Bank Program Logic Model – Including Subsidies and Financing**



This figure is a generalized market transformation and impact logic model that can be adapted to apply to a specific program of a green bank, as its market transformation strategies and associated evaluation frameworks are developed. An example of the green bank model and the financing market transformation process is the CT Solar Loan.<sup>26</sup>

As the Green Bank’s capital availability expands to support further clean energy deployment, one can anticipate that there will be increased coordination between the Green Bank’s programs and those administered by the utilities. It is thus important to include the various other key participants in this overall logic model, in order to be able to identify the variety of interactions that can occur between them, that over the short, medium, and long term can lead to the transformation of the funding of clean energy projects. In addition, it is important to identify known interventions in the clean energy environment which can influence the ways in which the Green Bank’s financing efforts might play out 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.

<sup>25</sup> Evaluation Framework – Assessing, Monitoring, and Reporting of Program Impacts and Processes by Opinion Dynamics and Dunskey Energy Consulting for the Connecticut Green Bank (July 2016)

<sup>26</sup> [Comprehensive Annual Financial Report for FY 2015](#) – Market Transformation: Financial Warehouse and Credit Enhancement Structures Case of the CT Solar Loan (pp. 133-136)

## CONNECTICUT GREEN BANK

### 4. MARKET TRANSFORMATION – PROGRAM LOGIC MODEL

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#### 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 easy 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 are used to incent 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 300MW by 2022, also markets and delivers its clean energy programs to residential customers. It too relies on information, marketing, direct incentives, and financing opportunities.<sup>27</sup>

Of the Green Bank programs, currently only participants in the Residential Solar Investment Program (RSIP) are required to receive a home energy assessment (i.e., supported by the utility efficiency programs), BPI audit, or equivalent. The program participants in the RSIP, with their individual energy saving projects, may thus receive rebates or incentives from the utilities (which are intended to overcome barriers to customer participation and to encourage increased selection of energy efficient measures), the Green Bank, or other levels of government (e.g., state incentives and Federal tax credits for solar PV and other technologies) as well as opportunities to finance some or all of the remaining portion of their clean energy project. In the context of a PLM, one can anticipate similar links between the Green Bank programs and those of the investor owned utilities (IOU's).

An impetus for coordination between the utility administered energy efficiency programs and the Green Bank programs is threefold: 1) more energy savings, and resulting emissions reductions, could potentially be acquired more economically both to the programs and to the project 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>28</sup> It is important to note that there are a number of other ongoing market activities that 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.

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<sup>27</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>28</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.

## CONNECTICUT GREEN BANK

### 4. MARKET TRANSFORMATION – PROGRAM LOGIC MODEL

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#### 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 a number of 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.

Here 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 benefits of the Green Bank’s Supply of Capital interventions can lead to, but are not limited to:

- 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 to increase eligibility for and expand access to financing; and
- d. Increased marketing 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 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, the Green Bank drives demand for clean energy by marketing financing programs and increasing awareness of the potential benefits stemming from clean energy projects. Green Bank programs that deliver rebates and incentives – or connect with customers to support energy savings projects that are eligible for rebates and incentives – can further help to drive demand for natural gas conversions (e.g., Energize Norwich in partnership with Norwich Public Utilities)<sup>29</sup> as well as reduce the installed costs of and drive demand for solar PV projects (e.g., Solarize Connecticut). 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 the number of clean energy projects; and
  - b. Increase the average savings and/or clean energy production per project.

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<sup>29</sup> Section 52 of Public Act 13-298

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 financing performance is expected to play a central part in attracting more private capital investment to offer affordable and attractive financing offerings on their own. As the Green Bank increases the access to affordable and attractive capital, and more customers use financing for their clean energy projects, data demonstrating strong and reliable performance of these projects may indicate lower and more predictable risk.

- **Financing Risk Profile** – Green Bank can help reduce clean energy financing risk profiles in a number of ways. For example, it can absorb a portion or all of 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 may allow them to (1) design more affordable and attractive financing products and (2) select projects for financing to reduce risks.

This element of the PLM plays the key linking role in the Market Transformation feedback loop, leading to longer term impacts, as the market (1) recognizes the potentially 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>30</sup>

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<sup>30</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](#)

## CONNECTICUT GREEN BANK

### 4. MARKET TRANSFORMATION – PROGRAM LOGIC MODEL

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#### 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 of the PLM elements ultimately aim to contribute to Green Bank program impacts and benefits. These include the direct impacts resulting from more clean energy investments supported by Green Bank financing that result in an increase in energy savings and improvement of public health (e.g., asbestos remediation, lead abatement, etc.) to the customer,<sup>31</sup> increase in the creation of local in-state jobs,<sup>32</sup> and the reduction of greenhouse gas emissions<sup>33</sup> 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. Figure 2 below represents the transition over time of the Green Bank's clean energy impacts and associated creation of societal benefits.

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<sup>31</sup> Green Bank will be working with the Connecticut Department of Energy and Environmental Protection and the U.S. Environmental Protection Agency to develop and approve a methodology for estimating public health benefits from the reduction of criteria pollutants as a result of the production of clean energy and reduction of energy consumption through the use of the Co-Benefits Risk Assessment (COBRA) model – <https://www.epa.gov/statelocalclimate/co-benefits-risk-assessment-cobra-screening-model>

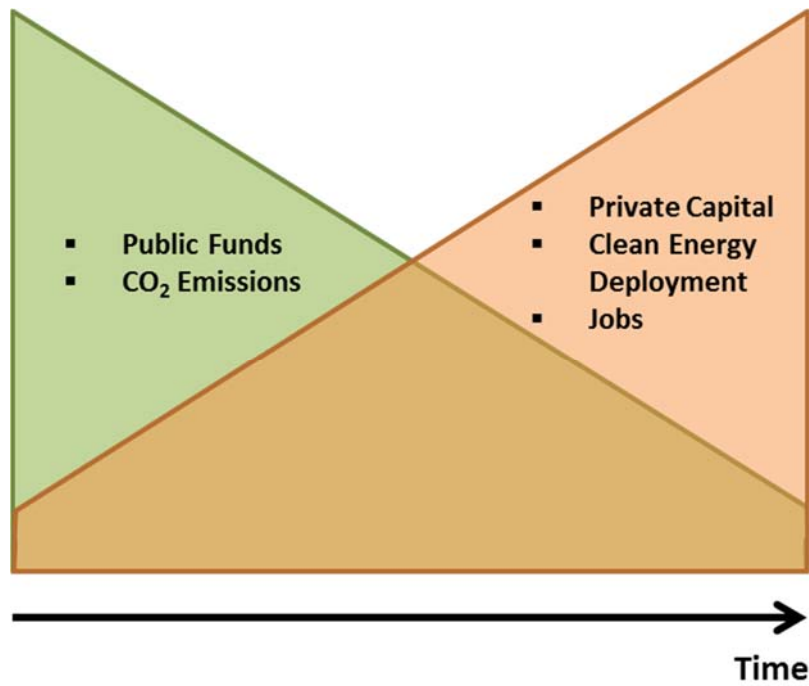
<sup>32</sup> Green Bank is working with the Connecticut Department of Economic and Community Development and Navigant Consulting to update and approve a methodology for estimating economic development benefits from the investment in clean energy projects.

<sup>33</sup> Green Bank is working with the Connecticut Department of Energy and Environmental Protection to develop and approve a methodology for estimating greenhouse gas emission reduction benefits from the production of clean energy and reduction of energy consumption through the use of the AVOIDED Emissions and geneRation Tool (AVERT) - <https://www.epa.gov/statelocalclimate/avoided-emissions-and-generation-tool-avert>

**CONNECTICUT GREEN BANK**  
**4. MARKET TRANSFORMATION – PROGRAM LOGIC MODEL**

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**Figure 2. Societal Benefits – Environmental Protection and Economic Development – from Greater Private Capital Investment**



As the Green Bank continues to attract more private investment in Connecticut’s clean energy economy through the issuance of green bonds, the deployment of clean energy will be accelerated. The more clean energy that is being deployed, the greater the societal benefits will be.

**CONNECTICUT GREEN BANK**

**4. MARKET TRANSFORMATION – COST EFFECTIVENESS OF SUBSIDIES  
CASE OF THE RESIDENTIAL SOLAR INVESTMENT PROGRAM**

The Connecticut Green Bank contracted with Cadmus Group, Inc., to conduct a cost-effectiveness analysis of its Residential Solar Investment Program (RSIP).<sup>34</sup> As the Connecticut Green Bank’s only subsidy program, we are applying the Program Logic Model that focuses on rebates and incentives as the financial driver for customer action rather than financing (see Figure 3).

**Figure 3. Program Logic Model for the Residential Solar Investment Program**



**RSIP Growth and Cost Trends**

To provide perspective on program growth, cost and incentive trends, Table 34 illustrates the increase in RSIP project volume while installed costs and incentives have decreased from fiscal years 2012 through 2016, grouped by non-Solarize projects, Solarize<sup>35</sup> projects and RSIP in total.

**Table 34. RSIP Volume, Capacity and Cost Data by Fiscal Year<sup>36, 37</sup>**

Fiscal Year	Non-Solarize				Solarize				RSIP Total			
	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)
2012	290	1,956	\$5.11	\$1.75					290	1,956	\$5.11	\$1.75
2013	788	5,481	\$4.65	\$1.54	327	2,444	\$3.84	\$1.45	1,115	7,924	\$4.32	\$1.51
2014	1,677	12,116	\$4.27	\$1.18	715	5,070	\$3.80	\$1.15	2,392	17,186	\$4.07	\$1.17
2015	5,631	42,275	\$3.91	\$0.67	940	7,864	\$3.88	\$0.74	6,571	50,139	\$3.90	\$0.68
2016	7,598	59,088	\$3.42	\$0.35	103	916	\$3.84	\$0.43	7,701	60,004	\$3.43	\$0.35
<b>Total</b>	<b>15,984</b>	<b>120,917</b>	<b>\$3.76</b>	<b>\$0.62</b>	<b>2,085</b>	<b>16,294</b>	<b>\$3.85</b>	<b>\$0.96</b>	<b>18,069</b>	<b>137,211</b>	<b>\$3.78</b>	<b>\$0.66</b>

Tables 35 and 36 provide program growth and cost trend data by installer for fiscal years 2016 and for 2012-2016 combined, grouped by non-Solarize and Solarize projects, and RSIP in total. Data points provided include # Projects, Installed Capacity (kW), Installed Cost (\$/W), and Incentive (\$/W). Installed costs vary widely and depend on many factors including equipment/panel quality and efficiency, type of

<sup>34</sup> Per Section 106 of Public Act 11-80 (and revised through Public Act 15-194), the Connecticut Green Bank administers the Residential Solar Investment Program.

<sup>35</sup> Solarize is a community-based marketing program (visit [www.solarizect.com](http://www.solarizect.com) for more information)

<sup>36</sup> Based on RSIP Market Watch data as of June 30, 2016, end of FY 2015. Cost data includes all reported installed costs without including those projects where financing costs for some third party ownership installers are included as part of the total system cost. Installed capacity data is provided in kW-STC.

<sup>37</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

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installation (e.g., roof-mount, ground-mount, pole-mount), project location, site and installation characteristics and other factors.

**Table 35. RSIP FY 2016 Volume, Capacity and Cost Data by Installer<sup>38</sup>**

Installer	Non-Solarize				Solarize				RSIP Total			
	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)
31Solar	1	11	\$3.44	\$0.49	-	-	\$0.00	\$0.00	1	11	\$3.44	\$0.49
Aegis Electrical Systems, LLC	90	803	\$3.92	\$0.43	-	-	\$0.00	\$0.00	90	803	\$3.92	\$0.43
All Electric Const. & Comm. LLC	1	15	\$3.51	\$0.45	-	-	\$0.00	\$0.00	1	15	\$3.51	\$0.45
AllGreenIT, Inc.	19	182	\$3.46	\$0.46	2	14	\$3.54	\$0.49	21	197	\$3.47	\$0.46
Apex Solar Energy	2	24	\$2.76	\$0.45	-	-	\$0.00	\$0.00	2	24	\$2.76	\$0.45
BeFree Green Energy, LLC	51	471	\$3.78	\$0.43	15	130	\$3.84	\$0.48	66	601	\$3.79	\$0.44
Bonner Electric	2	18	\$3.85	\$0.42	-	-	\$0.00	\$0.00	2	18	\$3.85	\$0.42
Boston Solar	13	120	\$3.51	\$0.43	-	-	\$0.00	\$0.00	13	120	\$3.51	\$0.43
Consulting Engineering Services, Inc.	1	13	\$3.55	\$0.46	1	9	\$4.12	\$0.12	2	22	\$3.78	\$0.32
CT Solar Power, LLC	2	17	\$3.71	\$0.48	-	-	\$0.00	\$0.00	2	17	\$3.71	\$0.48
C-TEC Solar LLC	164	1,468	\$3.76	\$0.43	5	44	\$3.78	\$0.45	169	1,512	\$3.76	\$0.43
Direct Energy Solar	175	1,552	\$3.56	\$0.39	-	-	\$0.00	\$0.00	175	1,552	\$3.56	\$0.39
Dow Solar	3	16	\$7.84	\$0.34	-	-	\$0.00	\$0.00	3	16	\$7.84	\$0.34
Duck Feet Solar	-	-	\$0.00	\$0.00	1	11	\$3.71	\$0.47	1	11	\$3.71	\$0.47
Earthlight Technologies	111	997	\$4.03	\$0.46	1	13	\$4.25	\$0.58	112	1,010	\$4.03	\$0.46
Eastern CT Solar	5	45	\$3.37	\$0.46	-	-	\$0.00	\$0.00	5	45	\$3.37	\$0.46
EcoSolar Installations, LLC	2	8	\$4.07	\$0.47	-	-	\$0.00	\$0.00	2	8	\$4.07	\$0.47
Emmett O'Brien Technical High School	1	5	\$2.14	\$0.47	-	-	\$0.00	\$0.00	1	5	\$2.14	\$0.47
Encon, Inc.	15	144	\$4.68	\$0.43	23	156	\$3.91	\$0.42	38	300	\$4.28	\$0.43
Evergreen Energy, LLC	3	25	\$3.47	\$0.48	-	-	\$0.00	\$0.00	3	25	\$3.47	\$0.48
Florenton River LLC	1	13	\$4.25	\$0.47	-	-	\$0.00	\$0.00	1	13	\$4.25	\$0.47
Green Earth Energy	14	132	\$3.75	\$0.38	-	-	\$0.00	\$0.00	14	132	\$3.75	\$0.38
JD Solar Solutions, LLC	36	291	\$3.46	\$0.47	-	-	\$0.00	\$0.00	36	291	\$3.46	\$0.47
Litchfield Hills Solar, LLC	11	114	\$4.26	\$0.45	-	-	\$0.00	\$0.00	11	114	\$4.26	\$0.45
Modern Solar Company	1	14	\$5.33	\$0.46	-	-	\$0.00	\$0.00	1	14	\$5.33	\$0.46
New England Clean Energy	1	7	\$5.87	\$0.50	-	-	\$0.00	\$0.00	1	7	\$5.87	\$0.50
Northeast Energy Design Solutions	1	9	\$3.25	\$0.49	1	8	\$4.37	\$0.49	2	17	\$3.77	\$0.49
Northeast Smart Energy LLC	-	-	\$0.00	\$0.00	1	13	\$3.75	\$0.47	1	13	\$3.75	\$0.47
One Roof Energy / Direct Energy Solar	41	276	\$3.77	\$0.29	-	-	\$0.00	\$0.00	41	276	\$3.77	\$0.29
One Source Solar, LLC	2	15	\$4.00	\$0.48	-	-	\$0.00	\$0.00	2	15	\$4.00	\$0.48
OneRoof Energy, Inc.	97	734	\$4.36	\$0.30	-	-	\$0.00	\$0.00	97	734	\$4.36	\$0.30
PosiGen	334	2,205	\$4.48	\$0.42	-	-	\$0.00	\$0.00	334	2,205	\$4.48	\$0.42
PurePoint Energy, LLC	30	247	\$4.74	\$0.47	1	21	\$5.99	\$0.44	31	268	\$4.84	\$0.47
R. Pelton Builders	8	94	\$3.41	\$0.45	-	-	\$0.00	\$0.00	8	94	\$3.41	\$0.45
Real Goods Solar, Inc	20	159	\$4.14	\$0.36	-	-	\$0.00	\$0.00	20	159	\$4.14	\$0.36
Roof Diagnostics Solar and Electric of CT	457	3,019	\$3.20	\$0.37	-	-	\$0.00	\$0.00	457	3,019	\$3.20	\$0.37
Ross Solar Group	124	1,300	\$3.92	\$0.44	30	306	\$3.67	\$0.42	154	1,606	\$3.87	\$0.44

<sup>38</sup> Based on RSIP Market Watch data as of June 30, 2016. Cost data includes all reported installed costs without including those projects where financing costs for some third party ownership installers are included as part of the total system cost. Installed capacity data is provided in kW-STC.



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Installer	Non-Solarize				Solarize				RSIP Total			
	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)
Shippee Solar and Construction LLC	5	45	\$3.98	\$0.44	-	-	\$0.00	\$0.00	5	45	\$3.98	\$0.44
Sicuranza Electric	1	10	\$4.53	\$0.38	-	-	\$0.00	\$0.00	1	10	\$4.53	\$0.38
Skyline Solar	8	56	\$4.09	\$0.40	-	-	\$0.00	\$0.00	8	56	\$4.09	\$0.40
SolarCity	3,023	22,462	\$5.21	\$0.33	-	-	\$0.00	\$0.00	3,023	22,462	\$5.21	\$0.33
SON Energy Systems, LLC	1	9	\$3.00	\$0.49	-	-	\$0.00	\$0.00	1	9	\$3.00	\$0.49
Sound Solar Systems, LLC	1	6	\$5.52	\$0.49	-	-	\$0.00	\$0.00	1	6	\$5.52	\$0.49
Summer Hill Solar	8	74	\$2.92	\$0.44	-	-	\$0.00	\$0.00	8	74	\$2.92	\$0.44
SunEdison	96	603	\$2.74	\$0.33	-	-	\$0.00	\$0.00	96	603	\$2.74	\$0.33
Sungevity, Inc.	365	2,871	\$3.67	\$0.36	-	-	\$0.00	\$0.00	365	2,871	\$3.67	\$0.36
Sunlight Solar Energy, Inc.	43	386	\$3.61	\$0.43	11	83	\$3.77	\$0.43	54	469	\$3.64	\$0.43
Sunrun Inc	777	6,039	\$2.31	\$0.30	-	-	\$0.00	\$0.00	777	6,039	\$2.31	\$0.30
Sun-Wind Solutions, LLC	2	16	\$3.59	\$0.48	-	-	\$0.00	\$0.00	2	16	\$3.59	\$0.48
The Roofing Store, LLC	1	7	\$5.50	\$0.47	-	-	\$0.00	\$0.00	1	7	\$5.50	\$0.47
Trinity Solar	1,410	11,817	\$3.44	\$0.34	10	97	\$3.83	\$0.36	1,420	11,914	\$3.45	\$0.34
Tuscany Design Build, Inc.	1	20	\$3.84	\$0.44	1	11	\$4.22	\$0.31	2	30	\$3.98	\$0.39
Vivint Solar Developer, LLC	13	85	\$4.97	\$0.29	-	-	\$0.00	\$0.00	13	85	\$4.97	\$0.29
Waldo Renewable Electric, LLC	3	17	\$3.98	\$0.52	-	-	\$0.00	\$0.00	3	17	\$3.98	\$0.52
White Oak Development, LLC	1	5	\$4.30	\$0.46	-	-	\$0.00	\$0.00	1	5	\$4.30	\$0.46
<b>Total</b>	<b>7,598</b>	<b>59,088</b>	<b>\$4.10</b>	<b>\$0.35</b>	<b>103</b>	<b>916</b>	<b>\$3.84</b>	<b>\$0.43</b>	<b>7,701</b>	<b>60,004</b>	<b>\$4.10</b>	<b>\$0.35</b>

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**Table 36. RSIP FY 2012-2016 Volume, Capacity and Cost Data by Installer<sup>39</sup>**

Installer	Non-Solarize				Solarize				RSIP Total			
	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)
31Solar	19	154	\$3.88	\$1.02	-	-	\$0.00	\$0.00	19	154	\$3.88	\$1.02
A Better Way Solar	1	10	\$3.37	\$0.59	-	-	\$0.00	\$0.00	1	10	\$3.37	\$0.59
Aegis Electrical Systems, LLC	381	3,066	\$4.18	\$0.77	-	-	\$0.00	\$0.00	381	3,066	\$4.18	\$0.77
All Electric Const. & Comm. LLC	3	33	\$3.61	\$0.65	-	-	\$0.00	\$0.00	3	33	\$3.61	\$0.65
AllGreenIT, Inc.	75	629	\$3.68	\$0.83	116	939	\$3.53	\$0.91	191	1,568	\$3.59	\$0.88
Alteris, Inc.	1	5	\$3.00	\$1.05	-	-	\$0.00	\$0.00	1	5	\$3.00	\$1.05
American Solar Partners	3	16	\$3.55	\$1.73	-	-	\$0.00	\$0.00	3	16	\$3.55	\$1.73
Apex Solar Energy	5	39	\$3.04	\$0.61	-	-	\$0.00	\$0.00	5	39	\$3.04	\$0.61
Astrum Solar	27	238	\$4.32	\$1.84	2	21	\$4.21	\$1.85	29	258	\$4.31	\$1.84
Atlantic Solar	1	6	\$4.41	\$1.11	-	-	\$0.00	\$0.00	1	6	\$4.41	\$1.11
BeFree Green Energy, LLC	129	1,156	\$4.02	\$0.75	363	3,181	\$3.74	\$0.98	492	4,337	\$3.82	\$0.92
Bella Casa Verde	2	15	\$4.35	\$1.13	-	-	\$0.00	\$0.00	2	15	\$4.35	\$1.13
Bonner Electric	14	123	\$3.95	\$0.88	-	-	\$0.00	\$0.00	14	123	\$3.95	\$0.88
Boston Solar	25	225	\$3.59	\$0.45	-	-	\$0.00	\$0.00	25	225	\$3.59	\$0.45
Bright Side Solar, LLC	1	4	\$5.07	\$1.93	-	-	\$0.00	\$0.00	1	4	\$5.07	\$1.93
Burrington Solar Edge	1	6	\$3.88	\$0.72	-	-	\$0.00	\$0.00	1	6	\$3.88	\$0.72
CatchinRays 2 LLC	30	235	\$4.04	\$0.76	-	-	\$0.00	\$0.00	30	235	\$4.04	\$0.76
Centurion Solar	16	110	\$4.05	\$0.83	31	193	\$3.98	\$1.18	47	303	\$4.01	\$1.05
Chabot Electric	2	16	\$3.14	\$0.90	-	-	\$0.00	\$0.00	2	16	\$3.14	\$0.90
Connecticut Solar Electric, LLC	2	14	\$3.71	\$1.24	-	-	\$0.00	\$0.00	2	14	\$3.71	\$1.24
Consulting Engineering Services, Inc.	4	33	\$3.43	\$0.72	1	9	\$4.12	\$0.12	5	42	\$3.58	\$0.59
CS Energy Systems, Inc.	2	26	\$3.75	\$0.73	-	-	\$0.00	\$0.00	2	26	\$3.75	\$0.73
CT Electrical, LLC	14	94	\$5.39	\$1.24	-	-	\$0.00	\$0.00	14	94	\$5.39	\$1.24
CT Solar Power, LLC	19	165	\$4.18	\$0.90	-	-	\$0.00	\$0.00	19	165	\$4.18	\$0.90
C-TEC Solar LLC	371	3,032	\$3.99	\$0.70	421	2,952	\$3.99	\$0.90	792	5,984	\$3.99	\$0.80
DCS	34	185	\$4.09	\$1.54	1	7	\$3.50	\$0.61	35	192	\$4.07	\$1.50
Deak Electric, Inc.	2	16	\$5.20	\$1.02	-	-	\$0.00	\$0.00	2	16	\$5.20	\$1.02
Direct Energy Solar	434	3,733	\$3.73	\$0.61	199	1,608	\$3.54	\$1.08	633	5,341	\$3.68	\$0.75
Dow Solar	6	29	\$7.99	\$0.62	-	-	\$0.00	\$0.00	6	29	\$7.99	\$0.62
Duck Feet Solar	-	-	\$0.00	\$0.00	1	11	\$3.71	\$0.47	1	11	\$3.71	\$0.47
Earthlight Technologies	178	1,594	\$4.08	\$0.56	55	450	\$4.00	\$0.85	233	2,044	\$4.06	\$0.63
Eastern CT Solar	7	66	\$3.39	\$0.52	-	-	\$0.00	\$0.00	7	66	\$3.39	\$0.52
EcoSolar Installations, LLC	15	84	\$4.51	\$1.18	-	-	\$0.00	\$0.00	15	84	\$4.51	\$1.18
Elektron Solar, LLC	8	64	\$4.75	\$1.39	-	-	\$0.00	\$0.00	8	64	\$4.75	\$1.39
Emmett O'Brien Technical High School	1	5	\$2.14	\$0.47	-	-	\$0.00	\$0.00	1	5	\$2.14	\$0.47
Encon, Inc.	95	743	\$5.41	\$0.98	280	1,945	\$3.95	\$0.96	375	2,688	\$4.35	\$0.96
Endless Mountains Solar Services	10	74	\$4.86	\$1.38	-	-	\$0.00	\$0.00	10	74	\$4.86	\$1.38

<sup>39</sup> Based on RSIP Market Watch data as of June 30, 2016. Cost data includes all reported installed costs without including those projects where financing costs for some third party ownership installers are included as part of the total system cost. Installed capacity data is provided in kW-STC.

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Installer	Non-Solarize				Solarize				RSIP Total			
	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)
Evergreen Energy, LLC	17	137	\$3.89	\$0.95	1	9	\$3.48	\$0.61	18	146	\$3.87	\$0.93
Executive Electric	1	7	\$3.91	\$1.37	-	-	\$0.00	\$0.00	1	7	\$3.91	\$1.37
Florenton River LLC	1	13	\$4.25	\$0.47	-	-	\$0.00	\$0.00	1	13	\$4.25	\$0.47
Giuffrida Electric Company, Inc.	4	26	\$4.59	\$1.43	-	-	\$0.00	\$0.00	4	26	\$4.59	\$1.43
GM Industries, Inc.	26	256	\$8.00	\$1.37	-	-	\$0.00	\$0.00	26	256	\$8.00	\$1.37
Green Earth Energy	23	199	\$3.93	\$0.58	-	-	\$0.00	\$0.00	23	199	\$3.93	\$0.58
Harness the Sun	16	97	\$4.15	\$1.37	22	193	\$3.71	\$1.08	38	289	\$3.86	\$1.18
Infinite Energy Systems	1	11	\$5.38	\$1.52	-	-	\$0.00	\$0.00	1	11	\$5.38	\$1.52
Intina Energy	3	22	\$3.86	\$1.13	-	-	\$0.00	\$0.00	3	22	\$3.86	\$1.13
JD Solar Solutions, LLC	147	1,174	\$3.71	\$0.85	-	-	\$0.00	\$0.00	147	1,174	\$3.71	\$0.85
Leach Services	2	12	\$3.70	\$1.53	-	-	\$0.00	\$0.00	2	12	\$3.70	\$1.53
Lenz Electric	1	4	\$5.71	\$1.96	-	-	\$0.00	\$0.00	1	4	\$5.71	\$1.96
Litchfield Hills Solar, LLC	71	557	\$4.54	\$0.96	-	-	\$0.00	\$0.00	71	557	\$4.54	\$0.96
Macri Roofing, Inc.	2	13	\$5.79	\$1.58	-	-	\$0.00	\$0.00	2	13	\$5.79	\$1.58
Made in USA Solar LLC	11	79	\$4.69	\$1.26	-	-	\$0.00	\$0.00	11	79	\$4.69	\$1.26
Mercury Solar Systems, Inc.	2	16	\$4.93	\$1.63	-	-	\$0.00	\$0.00	2	16	\$4.93	\$1.63
Mister Sparky	6	20	\$6.83	\$1.90	-	-	\$0.00	\$0.00	6	20	\$6.83	\$1.90
Modern Solar Company	5	41	\$5.08	\$1.15	-	-	\$0.00	\$0.00	5	41	\$5.08	\$1.15
Moore Energy	4	27	\$4.98	\$1.59	-	-	\$0.00	\$0.00	4	27	\$4.98	\$1.59
Mystic Solar (Natural Energy Alternatives, LLC)	4	36	\$5.09	\$1.61	-	-	\$0.00	\$0.00	4	36	\$5.09	\$1.61
New England Clean Energy	1	7	\$5.87	\$0.50	-	-	\$0.00	\$0.00	1	7	\$5.87	\$0.50
Next Step Living	129	795	\$6.29	\$0.88	-	-	\$0.00	\$0.00	129	795	\$6.29	\$0.88
Northeast Energy Design Solutions	1	9	\$3.25	\$0.49	1	8	\$4.37	\$0.49	2	17	\$3.77	\$0.49
Northeast Smart Energy LLC	12	92	\$3.24	\$1.18	1	13	\$3.75	\$0.47	13	106	\$3.30	\$1.09
One Roof Energy / Direct Energy Solar	41	276	\$3.77	\$0.29	-	-	\$0.00	\$0.00	41	276	\$3.77	\$0.29
One Source Solar, LLC	2	15	\$4.00	\$0.48	-	-	\$0.00	\$0.00	2	15	\$4.00	\$0.48
OneRoof Energy, Inc.	97	734	\$4.36	\$0.30	-	-	\$0.00	\$0.00	97	734	\$4.36	\$0.30
Paradise Energy Solutions	1	10	\$4.08	\$0.60	-	-	\$0.00	\$0.00	1	10	\$4.08	\$0.60
PosiGen	383	2,517	\$4.49	\$0.47	-	-	\$0.00	\$0.00	383	2,517	\$4.49	\$0.47
PurePoint Energy, LLC	90	719	\$4.73	\$0.77	19	162	\$4.49	\$0.55	109	881	\$4.69	\$0.73
R. Pelton Builders	60	457	\$4.07	\$1.00	-	-	\$0.00	\$0.00	60	457	\$4.07	\$1.00
Real Goods Solar, Inc	190	1,449	\$4.14	\$0.99	146	1,058	\$3.79	\$1.24	336	2,507	\$3.99	\$1.10
Renewable Resources, Inc.	21	130	\$4.16	\$1.47	11	66	\$3.87	\$1.29	32	195	\$4.06	\$1.40
Roof Diagnostics Solar and Electric of CT	1,027	7,030	\$3.40	\$0.55	-	-	\$0.00	\$0.00	1,027	7,030	\$3.40	\$0.55
Ross Solar Group	392	3,721	\$4.15	\$0.82	290	2,524	\$3.98	\$0.87	682	6,245	\$4.08	\$0.84
Shippee Solar and Construction LLC	105	815	\$3.72	\$1.05	14	113	\$3.91	\$0.60	119	928	\$3.75	\$0.99
Sicuranza Electric	2	20	\$5.45	\$0.95	-	-	\$0.00	\$0.00	2	20	\$5.45	\$0.95
Sky View Solar	1	5	\$6.03	\$1.37	-	-	\$0.00	\$0.00	1	5	\$6.03	\$1.37
Skyline Solar	38	299	\$4.21	\$0.82	-	-	\$0.00	\$0.00	38	299	\$4.21	\$0.82
SolarCity	6,820	49,515	\$5.16	\$0.61	4	21	\$5.15	\$0.59	6,824	49,536	\$5.16	\$0.61
SON Energy Systems, LLC	2	16	\$3.55	\$0.87	-	-	\$0.00	\$0.00	2	16	\$3.55	\$0.87
Sound Solar Systems, LLC	6	52	\$4.80	\$1.20	-	-	\$0.00	\$0.00	6	52	\$4.80	\$1.20

**CONNECTICUT GREEN BANK**

**4. MARKET TRANSFORMATION – COST EFFECTIVENESS OF SUBSIDIES**

**CASE OF THE RESIDENTIAL SOLAR INVESTMENT PROGRAM**

Installer	Non-Solarize				Solarize				RSIP Total			
	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)	# Projects	Installed Capacity (kW)	Installed Cost (\$/W)	Incentive (\$/W)
Summer Hill Solar	24	177	\$3.19	\$0.89	-	-	\$0.00	\$0.00	24	177	\$3.19	\$0.89
Sun Harvest Renewable Resources, LLC	10	76	\$6.07	\$1.62	-	-	\$0.00	\$0.00	10	76	\$6.07	\$1.62
Sundoor Solar	2	14	\$4.00	\$0.86	-	-	\$0.00	\$0.00	2	14	\$4.00	\$0.86
SunEdison	96	603	\$2.74	\$0.33	-	-	\$0.00	\$0.00	96	603	\$2.74	\$0.33
Sungevity, Inc.	811	6,156	\$3.96	\$0.65	-	-	\$0.00	\$0.00	811	6,156	\$3.96	\$0.65
Sunlight Solar Energy, Inc.	197	1,517	\$4.15	\$0.91	94	700	\$3.89	\$1.00	291	2,217	\$4.07	\$0.94
Sunrun Inc	777	6,039	\$2.31	\$0.30	-	-	\$0.00	\$0.00	777	6,039	\$2.31	\$0.30
Sun-Wind Solutions, LLC	17	138	\$3.88	\$0.96	-	-	\$0.00	\$0.00	17	138	\$3.88	\$0.96
Super Green Solutions	8	70	\$3.58	\$0.63	-	-	\$0.00	\$0.00	8	70	\$3.58	\$0.63
The Roofing Store, LLC	1	7	\$5.50	\$0.47	-	-	\$0.00	\$0.00	1	7	\$5.50	\$0.47
Today Electronics USA	1	9	\$3.82	\$0.71	-	-	\$0.00	\$0.00	1	9	\$3.82	\$0.71
Trinity Solar	2,213	17,766	\$3.50	\$0.47	10	97	\$3.83	\$0.36	2,223	17,863	\$3.50	\$0.47
Tuscany Design Build, Inc.	8	82	\$5.38	\$0.93	1	11	\$4.22	\$0.31	9	93	\$5.24	\$0.86
US Energy Concierge	13	72	\$4.38	\$0.89	-	-	\$0.00	\$0.00	13	72	\$4.38	\$0.89
Verengo Solar	35	272	\$3.61	\$1.00	-	-	\$0.00	\$0.00	35	272	\$3.61	\$1.00
Vivint Solar Developer, LLC	13	85	\$4.97	\$0.29	-	-	\$0.00	\$0.00	13	85	\$4.97	\$0.29
Waldo Renewable Electric, LLC	42	302	\$4.82	\$1.13	1	6	\$3.82	\$0.49	43	308	\$4.81	\$1.11
White Oak Development, LLC	10	61	\$5.84	\$1.46	-	-	\$0.00	\$0.00	10	61	\$5.84	\$1.46
<b>Total</b>	<b>15,984</b>	<b>120,917</b>	<b>\$4.33</b>	<b>\$0.62</b>	<b>2,085</b>	<b>16,294</b>	<b>\$3.85</b>	<b>\$0.96</b>	<b>18,069</b>	<b>137,211</b>	<b>\$4.28</b>	<b>\$0.66</b>

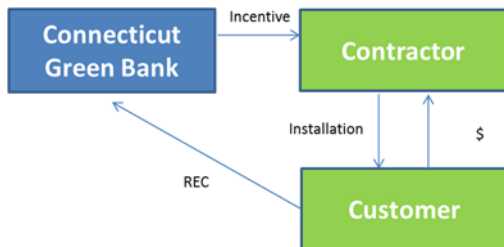
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**4. MARKET TRANSFORMATION – COST EFFECTIVENESS OF SUBSIDIES  
CASE OF THE RESIDENTIAL SOLAR INVESTMENT PROGRAM**

**Rebates and Incentives**

The RSIP is a subsidy program that provides incentives to offset the cost for homeowners to install solar photovoltaic (PV) systems. Incentives are provided either upfront (i.e., through an expected performance based buy-down or EPBB) for homeowners that want to own a system or over time based on system production (i.e., through a performance based incentive or PBI) for homeowners who want to lease a system from a third-party owner. With either incentive type, the Renewable Energy Credits (RECs) are owned by the Connecticut Green Bank (see Figure 4).

**Figure 4. Legal Structure and Flows of Capital for the RSIP<sup>40</sup>**



The subsidy under the RSIP has decreased over time (see Table 37) with the intention of increasing the number of projects and increasing the amount of clean energy produced (see Table 38) while at the same time supporting the goal of reducing the market reliance on rebates and incentives and moving it towards innovative low-cost financing (see Market Transformation: Financial Warehouse and Credit Enhancement Structures for CT Solar Loan and CT Solar Lease).

**Table 37. 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	\$1.750	\$0.550	\$0.000	\$0.225	\$0.000	N/A	N/A
	4/1/2013 PBI							
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	\$0.513		\$0.400	\$0.054	\$0.054	\$0.110	\$0.055
Step 9	2/1/2016	\$0.487		\$0.400	\$0.046	\$0.046	\$0.110	\$0.055

<sup>40</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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**4. MARKET TRANSFORMATION – COST EFFECTIVENESS OF SUBSIDIES**

**CASE OF THE RESIDENTIAL SOLAR INVESTMENT PROGRAM**

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**Table 38. Residential Solar PV Systems Approved, In Progress or Completed through the RSIP Subsidy by Step**

<b>RSIP Subsidy by Step</b>	<b>Approved (kW)</b>	<b>Completed (kW)</b>	<b>Total (kW)</b>	<b>Average Incentive (\$/W-STC)</b>
Step 1	0.0	1,380.7	1,380.7	\$1.79
Step 2	0.0	5,991.5	5,991.5	\$1.63
Step 3	88.2	13,097.5	13,185.7	\$1.23
Step 4	644.2	19,002.9	19,647.1	\$1.03
Step 5	930.2	12,748.7	13,678.9	\$0.75
Step 6	1,767.6	11,001.1	12,768.6	\$0.51
Step 7	2,614.8	17,122.3	19,737.1	\$0.40
Step 8	626.2	2,476.7	3,102.9	\$0.38
Step 8.1	2,850.0	6,658.8	9,508.8	\$0.39
Step 8.2	8,671.1	8,775.8	17,446.9	\$0.33
Step 9	18,662.2	2,100.4	20,762.5	\$0.32
<b>Total</b>	<b>36,854.5</b>	<b>100,356.3</b>	<b>137,210.8</b>	<b>\$0.66</b>

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**CASE OF THE CT SOLAR LOAN**

As the Connecticut Green Bank’s residential solar PV loan program, we are applying the Program Logic Model that focuses on financing and credit enhancements (see Figure 5).

**Figure 5. Program Logic Model for the CT Solar Loan**



**Financing Program**

The CT Solar Loan was a financing product developed in partnership with Sungage Financial<sup>41</sup> that used credit enhancements (i.e., \$300,000 loan loss reserve and \$168,000 interest rate buy-downs)<sup>42</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. 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>43</sup> servicing,<sup>44</sup> and financing features in combination with the support of the Connecticut Green Bank (see Figure 6).

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.

<sup>41</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

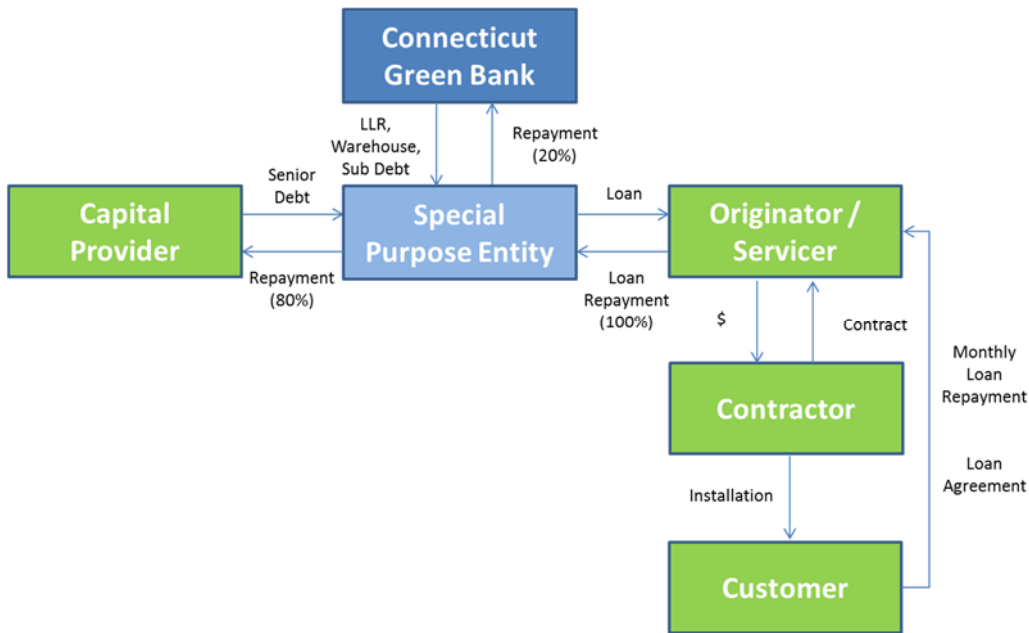
<sup>42</sup> From repurposed American Recovery and Reinvestment Act funds

<sup>43</sup> Sungage Financial in partnership with local contractors

<sup>44</sup> Concord Servicing Corporation

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**Figure 6. Legal Structure and Flows of Capital for the CT Solar Loan**



The CT Solar Loan provided financing for 279 projects totaling nearly \$6.0 million of investment and 2,193.1 kW of residential solar PV deployment (see Table 39). To date there are no defaults and as of June 30, 2016 there are 5 delinquencies or 1.8% of loans.

**Table 39. CT Solar Loan Metrics**

Year	# of Projects	Investment	Installed Capacity (kW)
2013	3	\$58,974	17.7
2014	140	\$2,774,655	1,107.9
2015	136	\$3,120,143	1,068.2
Total <sup>45</sup>	279	\$5,953,772	2,193.1

<sup>45</sup> Includes approved, closed and completed projects.



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The CT Solar Loan yields an appropriate rate of return to the capital providers commensurate with the risks they are taking, provided 19 contractors with an important sales tool, and gave nearly 300 customers the ability to own solar PV through low-interest and long-term financing along with access to the federal ITC and state incentives (i.e., the RSIP Expected Performance Based Buydown). Of the \$6.0 million invested by the Connecticut Green Bank into the CT Solar Loan, \$1.0 million has been sold to the crowd-funding platform Mosaic, \$2.6 million to a Community Development Financial Institution in The Reinvestment Fund, and the remaining is on the balance sheet of the Connecticut Green Bank.

In structuring the solar loan product, the Green Bank's objective was to enable homeowners of varying financial means to own their own solar PV systems. Prior to the CT Solar Loan's creation, a homeowner would need to use their own savings or their own home equity (most often though a home equity line of credit) to pay for the system, which, at that time, often required an investment exceeding \$25,000. The requirement for such a level of personal financial resources dramatically constrained the "ownership" market for solar PV. So the Green Bank with its partner Sungage Financial, developed the CT Solar Loan which made 15-year financing available at affordable interest rates without the need to have a lien on the home or limit the purchase to certain manufacturers who offered financing solely for their panels. In developing the CT Solar Loan, the Green Bank had to overcome the risk of being unable to sell the loans to private investors which would have tied up capital resources of the Green Bank and limited its ability to deploy investment of additional clean energy. Ultimately, the Green Bank became confident that a sufficient rate of return could be offered to enable the investments to "clear" the market without a discount (or loss) to the Green Bank. The combination of crowdsourced funding and a structured private placement enabled the Green Bank to sell the investments with recourse limited to the underlying consumer loans as well as a limited loan loss reserve using American Recovery and Reinvestment Act funds from the US Department of Energy.

The CT Solar Loan was the Connecticut Green Bank's first residential product graduation. It started off being the first crowd-funded residential solar PV transaction with Sungage Financial through Mosaic.<sup>46</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>47</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.

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<sup>46</sup> <http://www.businesswire.com/news/home/20140206005031/en/Sungage-Financial-CEFIA-Mosaic-Announce-5-Million#.VgRTgVIXL4Y>

<sup>47</sup> <http://www.ctgreenbank.com/ct-solar-loan-partner-graduates-connecticut-green-bank/>

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**Marketing Programs**

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. 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 40).

**Table 40. Number of Projects, Investment, and Installed Capacity through Solarize Connecticut for the CT Solar Loan Financing Product<sup>48</sup>**

	<b># of Projects</b>	<b>Investment</b>	<b>Installed Capacity (kW)</b>
Solarize	168	\$3,273,609	1,285.7
Non-Solarize	111	\$2,680,163	907.4
<b>Total</b>	<b>279</b>	<b>\$5,953,772</b>	<b>2,193.1</b>
% Solarize	60	55	59

The 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.

**Data Accessibility**

There were 462 applications into the CT Solar Loan – 279 closed, 96 withdrew, and 87 declined in underwriting. The household customers that accessed the CT Solar Loan since its launch in 2013 had varying credit scores – see Table 41.

**Table 41. Credit Scores of Household Customers Using the CT Solar Loan**

	<b>Credit Score Ranges</b>					<b>Total</b>
	<b>Below 640</b>	<b>640-679</b>	<b>680-699</b>	<b>700-719</b>	<b>720+</b>	
CT Solar Loan			11	15	253	279
			3.9%	5.4%	90.7	

Of the CT Solar Loans approved and closed with household customers, the following table is a breakdown of the contractors offering the financing product – see Table 42.

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<sup>48</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

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**Table 42. Residential Solar PV Contractors and the CT Solar Loan**

<b>Contractor</b>	<b># of Loans</b>	<b>\$ of Loans</b>	<b>% of Loans</b>
31Solar	1	\$20,298	0.34%
Aegis Electrical Systems, LLC	24	\$539,766	9.07%
AllGreenIT, Inc.	7	\$112,604	1.89%
BeFree Green Energy, LLC	2	\$46,606	0.78%
Catchin Rays	7	\$175,248	2.94%
Centurion Solar	4	\$107,025	1.80%
C-TEC Solar LLC	45	\$926,307	15.56%
DCS	1	\$16,440	0.28%
Direct Energy	28	\$572,721	9.62%
Earthlight Technologies	8	\$191,189	3.21%
EcoSmart Home Services	2	\$55,366	0.93%
Encon, Inc.	13	\$217,599	3.65%
Northeast Smart Energy LLC	1	\$19,960	0.34%
PurePoint Energy, LLC	6	\$174,016	2.92%
RGS Energy	18	\$360,238	6.05%
Ross Solar Group	72	\$1,571,531	26.40%
Shippee Solar and Construction LLC	3	\$61,543	1.03%
Sunlight Solar Energy, Inc.	36	\$764,760	12.84%
US Energy Concierge	1	\$20,556	0.35%
<b>Total</b>	<b>279</b>	<b>\$5,953,772</b>	<b>100.00%</b>

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**CASE OF THE CT SOLAR LEASE**

As the Connecticut Green Bank’s residential and commercial solar PV lease program, we are applying the Program Logic Model that focuses on financing and credit enhancements (see Figure 7).

**Figure 7. Program Logic Model for the CT Solar Lease**



**Financing Programs**

The CT Solar Lease was a financing product developed in partnership with a tax equity investor (i.e., US Bank) and a syndicate of local lenders (i.e. First Niagara Bank and Webster Bank) that uses a credit enhancement (i.e., \$3,500,000 loan loss reserve),<sup>49</sup> in combination with \$2.3 million in subordinated debt and sponsor equity from the Connecticut Green Bank as the “member manager” to provide up to \$75 million in lease financing for residential and commercial solar PV projects. Through the product, the Connecticut Green Bank lowers 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, capital provided to consumers through the CT Solar Lease is 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 includes origination by contractors, servicing of lease payments,<sup>50</sup> insurance and “one call” system performance and insurance resolution,<sup>51</sup> and financing features in combination with the support of the Connecticut Green Bank (see Figure 8).

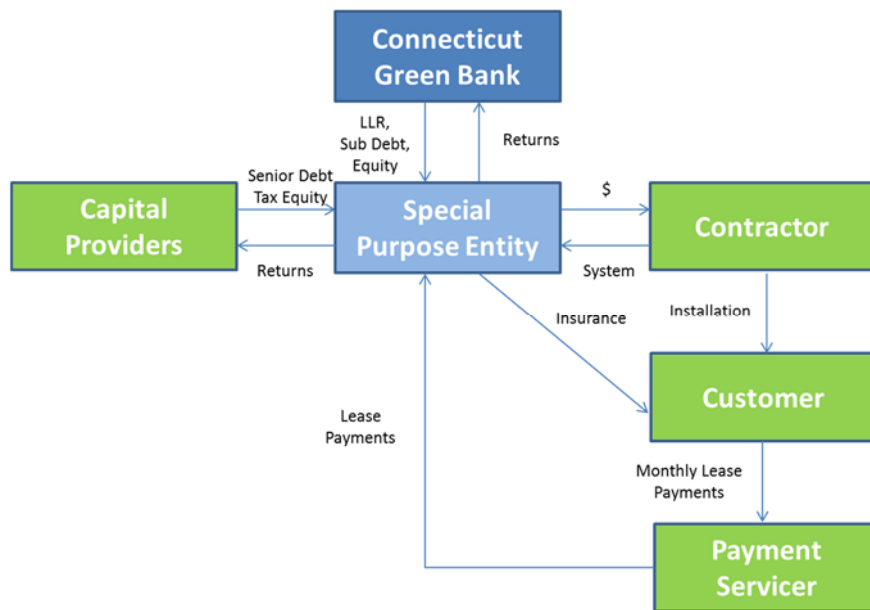
<sup>49</sup> From repurposed American Recovery and Reinvestment Act funds

<sup>50</sup> AFC First Financial

<sup>51</sup> Assurant

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**Figure 8. Legal Structure and Flows of Capital for the CT Solar Lease<sup>52</sup>**



Through 6/30/2016, the CT Solar Lease provided financing for 1,192 residential solar PV projects and 36 commercial solar PV projects totaling \$67.3 million of investment and 17,095 kW of clean energy deployment (see Tables 43 and 44). To date there are no defaults and as of 6/30/2016 there are 2 delinquencies or 0.2% of the portfolio.

**Table 43. CT Solar Lease Metrics – Residential**

Year	# of Projects	Investment	Installed Capacity (kW)
2014	60	\$2,306,025	461.2
2015	486	\$18,370,999	3,966.6
2016	646	\$23,187,919	5,145.0
Total <sup>53</sup>	1,192	\$43,864,942	9,572.7

**Table 44. CT Solar Lease Metrics – Commercial**

Year	# of Projects	Investment	Installed Capacity (kW)
2015	22	\$9,836,739	3,154.3
2016	14	\$13,663,830	4,367.8
Total	36	\$23,500,568	7,522.2

<sup>52</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.

<sup>53</sup> Includes approved, closed and completed projects.

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The CT Solar Lease yields an appropriate rate of return to the capital providers commensurate with the risks they are taking, provided 27 contractors with an important sales tool, and gave 1,228 customers the ability to lease solar PV and lower their energy costs. The CT Solar Lease is the second “solar PV fund” established using a combination of ratepayer funds and private capital. In developing this fund, the Green Bank sought to innovate both in the types of credits that would be underwritten and broaden 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 difficult to finance: too small to attract investment funds and similarly if aggregated to a size worthy of investment, the pool of offtakers that for the most part are non-investment grade or “unrated” credits 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. The CT Solar Lease is 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 Cleave Energy States Alliance “State Leadership in Clean Energy” award in 2016.

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**CT Solar Lease and QECBs**

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The Connecticut Housing Finance Authority (CHFA) is partnering with the Green Bank to identify buildings among the State Sponsored Housing Portfolio (SSHP), as well as other affordable multifamily properties, that are well positioned to “go solar”. The Green Bank will own, operate, and maintain these systems while providing owners with discounted electricity for 20 years through Power Purchase Agreements. Originally, the Green Bank intended to secure the power purchase agreements and solar leases for these SSHP systems using C-PACE. When a conflict with CHFA’s bond indenture for the financing for these SSHPs with C-PACE as the security mechanism was identified, the Green Bank needed to secure an alternative financing arrangement in order to complete the financing for the SSHP systems. Working with CHFA, the Green Bank structured incremental debt funding using proceeds from Qualified Energy Conservation Bonds (QECBs) that CHFA could make available for this purpose. The Green Bank was able to carve out the SSHP repayment streams from the lenders’ collateral package under the Connecticut Solar Lease fund, thereby providing repayment assurance that permitted CHFA to issue the QECBs to Bank of America. With the funding structure in place, the Green Bank was able to move forward with local contractors to provide financing for more than a dozen solar PV systems for the SSHP properties, resulting in more than 750 kW of clean renewable energy for these multifamily dwellings.

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With respect to the CT Solar Lease and the commercial market, over \$23 million is being used to deploy solar PV systems in the commercial sector (see Table 45).

**Table 45. CT Solar Lease Commercial Contractors**

<b>Contractor</b>	<b># of Leases</b>	<b>\$ of Leases</b>	<b>% of Leases</b>
64 Solar	3	\$949,536	4.04%
American Solar	9	\$4,383,607	18.65%
C-TEC Solar LLC	3	\$7,690,234	32.72%
Davis Hill	1	\$652,860	2.78%
Deutsche Eco USA Corp.	2	\$3,300,960	14.05%
Encon, Inc.	10	\$2,667,653	11.35%
Entersolar	1	\$1,047,153	4.46%
Northeast Energy Design Solutions	1	\$802,125	3.41%
Northeast Smart Energy LLC	3	\$589,453	2.51%
Renewable Resources, Inc.	1	\$239,883	1.02%
Ross Solar Group	2	\$1,177,105	5.01%
<b>Total</b>	<b>36</b>	<b>\$23,500,568</b>	<b>100.00%</b>

Given the growth in the market from consumers and the level of interest in providing financing from local capital providers, the CT Solar Lease is under consideration for expansion as it applies to commercial customers.

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**Marketing Programs**

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. 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 46).

**Table 46. Number of Projects, Investment, and Installed Capacity through Solarize Connecticut for the CT Solar Lease Financing Product**

	<b># of Projects</b>	<b>Investment</b>	<b>Installed Capacity (kW)</b>
Solarize	326	\$11,766,734	2,553.8
Non-Solarize	866	\$32,098,208	7,018.9
<b>Total</b>	<b>1,192</b>	<b>\$43,864,942</b>	<b>9,572.7</b>
% Solarize	27	27%	27%

The 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.

**Data Accessibility**

1,192 household customers accessed the CT Solar Lease since its launch in 2013 – see Table 47.

**Table 47. Credit Scores of Household Customers Using the CT Solar Lease**

	<b>Credit Score Ranges</b>					<b>Total</b>
	<b>Below 640</b>	<b>640-679</b>	<b>680-699</b>	<b>700-719</b>	<b>720+</b>	
Solar Lease	1	45	39	78	1,029	1,192
	0.1%	3.8%	3.3%	6.5%	86.3%	



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There were 2,833 applications received through the CT Solar Lease – 1,192 were approved, closed, or completed, 1,026 withdrawn, and 615 declined. To date, there have been no defaults and there is presently one delinquency. Of the CT Solar Leases approved and closed with household customers, the following table is a breakdown of the contractors offering the financing product – see Table 48.

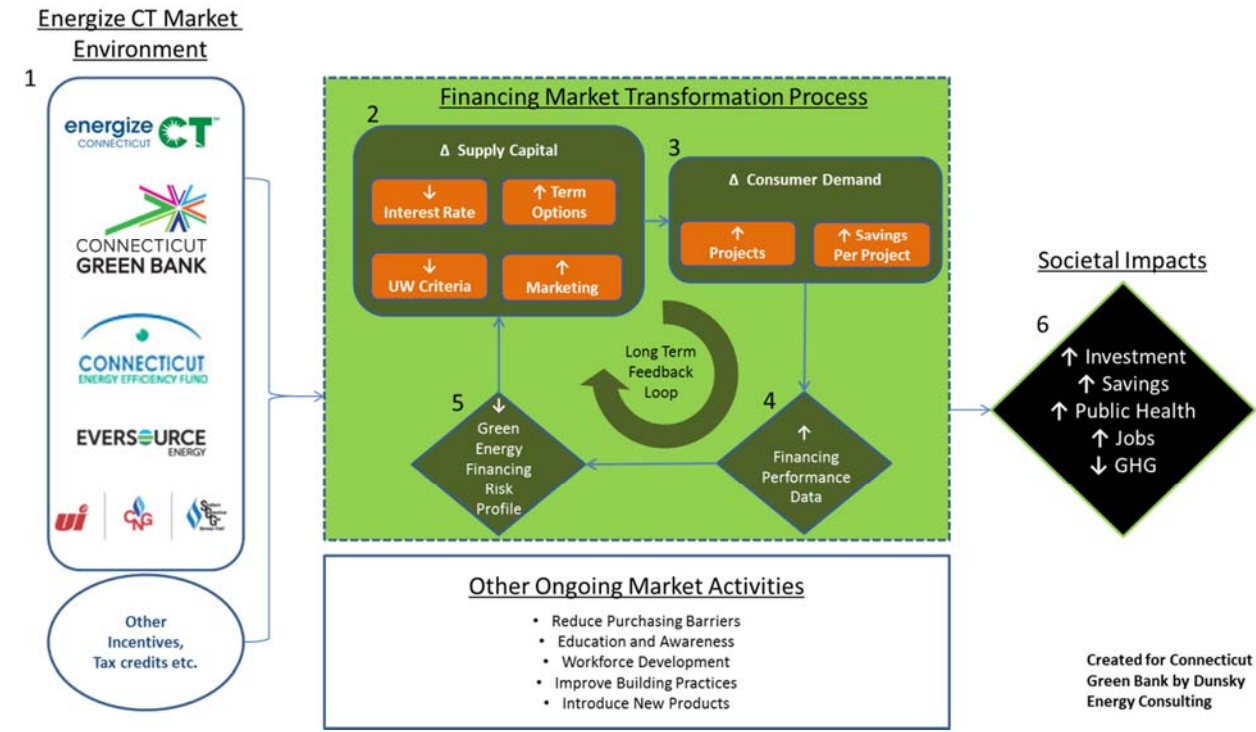
**Table 48. Residential Solar PV Contractors and the CT Solar Lease**

<b>Contractor</b>	<b># of Leases</b>	<b>\$ of Leases</b>	<b>% of Leases</b>
Aegis Electrical Systems, LLC	60	\$2,158,610	4.92%
AllGreenIT, Inc.	9	\$387,576	0.88%
Astrum Solar	54	\$2,137,763	4.87%
BeFree Green Energy, LLC	84	\$3,535,688	8.06%
Boston Solar	6	\$230,580	0.53%
Connecticut Solar Power, LLC	2	\$76,523	0.17%
C-TEC Solar LLC	85	\$3,061,148	6.98%
Direct Energy	114	\$4,373,528	9.97%
Earthlight Technologies	19	\$721,551	1.64%
EcoSmart Home Services	3	\$118,035	0.27%
Encon, Inc.	139	\$4,641,335	10.58%
Litchfield Hills Solar, LLC	17	\$682,940	1.56%
PurePoint Energy, LLC	7	\$270,117	0.62%
Real Goods Solar, Inc	7	\$229,775	0.52%
Renewable Resources, Inc.	4	\$136,773	0.31%
RGS Energy	100	\$3,547,073	8.09%
Ross Solar Group	88	\$3,516,632	8.02%
Sunlight Solar Energy, Inc.	35	\$1,251,128	2.85%
Trinity Solar	356	\$12,672,388	28.89%
Tuscany Solar	3	\$115,785	0.26%
<b>Total</b>	<b>1,192</b>	<b>\$43,864,942</b>	<b>100.00%</b>

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For the Energize CT Smart-E residential loan program, underwritten and administered by Connecticut Green Bank, we are applying the Program Logic Model that focuses on financing and credit enhancements (see Figure 9).

**Figure 9. Program Logic Model for the Smart-E Loan**



**Financing Program**

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., \$1,800,000 loan loss reserve)<sup>54</sup> and interest rate buy-downs (\$4,300,000 program)<sup>55</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 \$1.8 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. The Interest Rate Buy-downs further encourage additional energy savings as they are reserved primarily for customers coupling multiple retrofits (e.g. solar and efficiency).

The Smart-E Loan was designed to make it easy and affordable for homeowners to make energy efficiency and renewable energy improvements to their homes with no cash out of pocket 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

<sup>54</sup> \$1,000,000 from repurposed American Recovery and Reinvestment Act funds, \$800,000 from Green Bank funds

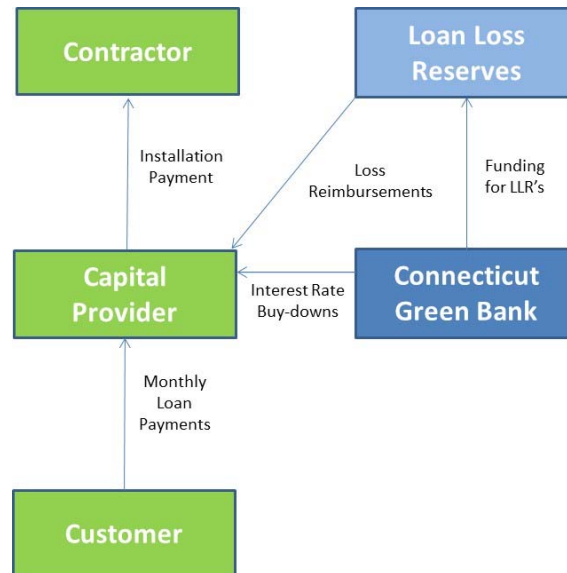
<sup>55</sup> From repurposed American Recovery and Reinvestment Act funds

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lengthen their terms and lower their rates. The end result is a successful loan product that has enabled hundreds 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>56</sup> servicing,<sup>57</sup> and financing features in combination with the support of the Connecticut Green Bank (see Figure 10).

**Figure 10. Legal Structure and Flows of Capital for the Smart-E Loan**



The Smart-E Loan provided financing for 737 projects totaling \$13 million of investment and 2,780.9 kW of residential solar PV deployment (see Table 49). To date there have been 2 defaults totaling \$51,127 or 0.4% of the portfolio and as of 6/30/2016 there are 0 delinquencies. To date the secondary loan loss reserve has not had to reimburse any of the participating lenders.

**Table 49. Smart-E Loan Metrics**

Year	# EE	# RE	# RE/EE	Unknown	Total # of Projects	Investment	Installed Capacity (kW)	Annual Saved/Produced (MMBtu)
2013	1	1	-	1	3	\$52,400	6.0	38
2014	90	40	6	15	151	\$1,910,087	355.9	2,906
2015	123	84	69	44	320	\$6,000,452	1,366.9	7,872
2016	113	52	75	23	263	\$5,291,436	1,052.0	7,056
Total <sup>58</sup>	327	177	150	83	737	\$13,254,375	2,780.9	17,871

<sup>56</sup> Network of participating community banks and credit unions with local contractors

<sup>57</sup> Network of participating community banks and credit unions

<sup>58</sup> Includes approved, closed and completed projects.

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**Marketing Programs**

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. 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 50).

**Table 50. Number of Projects, Investment, and Installed Capacity through Solarize Connecticut for the Smart-E Loan Financing Product**

	<b># of Projects</b>	<b>Investment</b>	<b>Installed Capacity (kW)</b>
Solarize	106	\$2,509,259	964.1
Non-Solarize	631	\$10,745,116	1,816.8
<b>Total</b>	<b>737</b>	<b>\$13,254,375</b>	<b>2,780.9</b>
% Solarize	14%	19%	35%

The Solarize Connecticut program provided a significant marketing channel and origination catalyst for the Smart-E Loan comprising nearly 15 to 20 percent of the total projects and investment and 35% of the installed capacity.<sup>59</sup>

**Data Accessibility**

There were 1,260 applications into the Smart-E Loan – 737 closed, 168 withdrew, and 355 declined in underwriting. The household customers that accessed the Smart-E Loan since its launch in 2013 had varying credit scores – see Table 51.

**Table 51. Credit Scores of Household Customers Using the Smart-E Loan**

	<b>Credit Score Ranges</b>						<b>Total</b>
	<b>Below 640</b>	<b>640-679</b>	<b>680-699</b>	<b>700-719</b>	<b>720+</b>	<b>Unknown</b>	
Smart- E Loan	26	75	45	65	501	25	737
	3.4%	10.2%	6.1%	8.8%	68.0	3.4%	

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<sup>59</sup> It should also be noted that Solarize was adapted to support a transition from propane and heating oil to natural gas through a pilot community-based marketing partnership with Norwich Public Utilities and SmartPower through Energize Norwich. Over 100 Smart-E Loans were originated through this pilot demonstrating that community-based marketing approaches could be adapted to support loan origination strategies.

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Of the Smart-E Loans approved and closed with household customers, the following tables are a breakdown of the contractors and lenders offering the financing product – see Tables 52 and 53.

**Table 52. Residential Contractors and the Smart-E Loan**

<b>Contractor</b>	<b># of Loans</b>	<b>\$ of Loans</b>	<b>% of Loans</b>
20/20 Save Green Now	3	\$22,550	0.17%
31Solar	8	\$141,953	1.07%
72 Degrees Air Conditioning & Heating	1	\$11,000	0.08%
A&B Cooling & Heating	1	\$14,350	0.11%
A.R. Fonda Mechanical Services	1	\$8,275	0.06%
Absolute Air Services	3	\$48,907	0.37%
Aegis Electrical Systems, LLC	4	\$119,487	0.90%
Aiello Home Services LLC	1	\$11,800	0.09%
Air Inc	2	\$26,795	0.20%
All Phase Heating & Cooling Contractors	3	\$46,332	0.35%
All Time Manufacturing Co Inc	2	\$9,000	0.07%
AllGreenIT, Inc.	4	\$75,536	0.57%
American Heating and Cooling LLC	1	\$10,000	0.08%
American Windows & Siding LLC	4	\$81,085	0.61%
Apex Solar	2	\$13,500	0.10%
Aspen Heating and Cooling	1	\$10,000	0.08%
Bartol Heating & A/C	1	\$6,359	0.05%
Bay State Fuel Oil	1	\$7,792	0.06%
BeFree Green Energy, LLC	40	\$1,096,136	8.27%
Benvenuti Oil	3	\$34,289	0.26%
Better Building Performance	1	\$4,000	0.03%
Better Way Solar	1	\$25,000	0.19%
Billy Carlson Heating & AC, LLC	1	\$10,500	0.08%
Bonner Electric	6	\$152,593	1.15%
Boston Solar	7	\$190,900	1.44%
Brayman Heating & Cooling, Inc.	3	\$38,690	0.29%
Brooks Oil	1	\$14,531	0.11%
Caprio Homes	1	\$13,000	0.10%
Caso HVAC	1	\$11,045	0.08%
Cawley's Plumbing & Heating	1	\$30,000	0.23%
Chabot Electric	1	\$6,626	0.05%
Charter Oak Mechanical Service LLC	3	\$35,125	0.27%
Chickos Energy Services	5	\$77,443	0.58%
Climate Partners, LLC	12	\$188,152	1.42%
Conditioned Air Systems Inc	2	\$13,550	0.10%
CT Electrical, LLC	1	\$22,000	0.17%
CT Exteriors	1	\$4,615	0.03%
C-TEC Solar LLC	67	\$1,459,883	11.01%
Currie's Plumbing and Heating	2	\$20,656	0.16%
D&D Heating and A/C	2	\$65,000	0.49%
Daniels Energy	1	\$10,803	0.08%
DeLia Mechanical	7	\$61,200	0.46%

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<b>Contractor</b>	<b># of Loans</b>	<b>\$ of Loans</b>	<b>% of Loans</b>
Depco Mechanical LLC	1	\$6,450	0.05%
Dependable Energy	1	\$11,540	0.09%
Diamond Plumbing & Heating	1	\$7,000	0.05%
Direct Energy	23	\$497,659	3.75%
Douglas Mechanical	1	\$6,200	0.05%
Dr. Energy Saver	7	\$145,426	1.10%
Duct Works	2	\$36,250	0.27%
Dunklee	3	\$34,175	0.26%
Dutch	1	\$11,700	0.09%
Dziengiel Plumbing Unlimited	3	\$35,133	0.27%
Earthlight Technologies	4	\$110,000	0.83%
East Coast Mechanical	3	\$46,686	0.35%
East Hartford Heating and Cooling	2	\$15,876	0.12%
Eastern Mechanical	1	\$21,100	0.16%
EcoSmart Home Services	9	\$243,484	1.84%
Edward M Sikorski	1	\$6,350	0.05%
Elm City Energy Solutions	1	\$40,000	0.30%
Encon, Inc.	8	\$195,381	1.47%
Evergreen Energy, LLC	3	\$64,200	0.48%
F.F. Hitchcock Oil Company	1	\$9,819	0.07%
Fahan Brothers	1	\$40,000	0.30%
For U Builders	3	\$67,795	0.51%
Gelo	1	\$13,300	0.10%
Giordano Heating and Cooling	1	\$10,500	0.08%
Glasco Heating & Air Conditioning, Inc.	24	\$203,630	1.54%
GMI Solar	1	\$25,000	0.19%
Good Life Energy Savers	3	\$35,785	0.27%
Green Earth Energy	2	\$32,032	0.24%
Greystone Home Services LLC	1	\$14,096	0.11%
Gulick Building & Development, LLC	1	\$7,200	0.05%
Harness the Sun	8	\$173,784	1.31%
HARP Mechanical	4	\$32,928	0.25%
Home Depot	3	\$89,334	0.67%
Home Doctor of America	1	\$14,250	0.11%
HomePro Rx	1	\$24,000	0.18%
Hurlburt's Plumbing and Heating	1	\$7,500	0.06%
Independent Mechanical Inc.	1	\$1,800	0.01%
Insulation Solutions of CT	1	\$39,227	0.30%
Ireland Oil Co., Inc.	1	\$8,095	0.06%
Izbicki Plumbing and Heating	8	\$74,100	0.56%
Jack Cipriano Plumbing & Heating	1	\$8,400	0.06%
James Carboni Plumbing and Heating, Inc.	6	\$61,956	0.47%
James Onze	1	\$12,280	0.09%
JD Solar Solutions, LLC	27	\$733,546	5.53%
John C. Fiderio & Sons, Inc.	1	\$3,325	0.03%
Kevin Caswell & Sons Contracting	1	\$5,000	0.04%

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<b>Contractor</b>	<b># of Loans</b>	<b>\$ of Loans</b>	<b>% of Loans</b>
King Energy Associates	2	\$50,500	0.38%
Lantern Energy	3	\$31,417	0.24%
Link Mechanical Services, Inc.	3	\$29,157	0.22%
M&G Plumbing and Heating	1	\$6,550	0.05%
M. Wallenta	2	\$23,200	0.18%
Made in USA Solar LLC	3	\$71,000	0.54%
Mainline Heating and Supply	1	\$15,648	0.12%
Master Mechanical LLC	1	\$7,227	0.05%
MDK	7	\$60,706	0.46%
Michael White	1	\$13,000	0.10%
Miller Plumbing and Heating	1	\$11,000	0.08%
Modern Heating & AC	1	\$6,257	0.05%
MTL Heating and Cooling LLC	2	\$16,400	0.12%
Nero A/C, Heating & Refrigeration, Inc.	3	\$34,199	0.26%
New England Conservation Services, LLC	1	\$40,000	0.30%
NP Brulotte & Sons	1	\$20,045	0.15%
Nutmeg Mechanical Services, Inc.	5	\$110,805	0.84%
One Hour	2	\$10,500	0.08%
One Source Solar	1	\$40,000	0.30%
Peoples Products	1	\$19,267	0.15%
Peter Tavino, PE, PC	1	\$30,000	0.23%
Precision Mechanical	2	\$12,444	0.09%
PurePoint Energy, LLC	2	\$61,821	0.47%
R&W Heating Energy Solutions LLC	65	\$732,715	5.53%
Real Goods Solar, Inc	4	\$115,940	0.87%
Renewal by Andersen of Southern New England	1	\$25,000	0.19%
Riley's Heating Service Inc.	15	\$141,020	1.06%
Ross Solar Group	51	\$1,257,530	9.49%
Ryan Oil Company Inc.	1	\$12,600	0.10%
Santa Energy	5	\$59,575	0.45%
Schede Plumbing & Heating	1	\$14,850	0.11%
Scotland Heating & A/C	1	\$8,000	0.06%
Secondino Mechanical Services	2	\$37,500	0.28%
Shippee Solar and Construction LLC	10	\$316,824	2.39%
Silver City Furnace	1	\$22,275	0.17%
SLS Heating	1	\$8,600	0.06%
Solv It Now	1	\$27,710	0.21%
Sonic Development Inc.	1	\$30,000	0.23%
Stafford Mechanical Services, Inc.	1	\$9,450	0.07%
Stan Pollack Building & Remodeling	1	\$25,000	0.19%
Steve Basso Plumbing Heating & A/C LLC	1	\$7,345	0.06%
Strohmaier Builders	1	\$40,000	0.30%
Summer Hill Solar	7	\$83,602	0.63%
Sunlight Solar Energy, Inc.	5	\$96,350	0.73%
Super Green Solutions	1	\$30,000	0.23%
Superior Fuel	2	\$24,208	0.18%

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<b>Contractor</b>	<b># of Loans</b>	<b>\$ of Loans</b>	<b>% of Loans</b>
The Heat People	3	\$30,989	0.23%
The Roofing Store, LLC	1	\$40,000	0.30%
Tom Buehler Plumbing & Heating	2	\$14,920	0.11%
Tomax Heating and Cooling	2	\$16,615	0.13%
Total Energy Solutions	3	\$59,718	0.45%
Total Mechanical Systems LLC	2	\$16,129	0.12%
Tri-City	2	\$23,753	0.18%
Tyler Air	1	\$6,054	0.05%
Uplands Construction Group LLC	1	\$25,000	0.19%
Viglione Heating & Cooling Inc.	8	\$75,437	0.57%
Waldo Renewable Electric, LLC	3	\$76,859	0.58%
Wesson Energy, Inc.	6	\$90,559	0.68%
West Hartford Windows LLC	1	\$5,500	0.04%
Westville Crest Plumbing and Heating, Inc.	1	\$9,100	0.07%
Wilcox Fuel, Inc.	1	\$5,005	0.04%
William Perotti & Sons, Inc.	1	\$16,007	0.12%
Yankee Gas	1	\$8,000	0.06%
Unknown	79	\$1,353,742	10.21%
<b>Total</b>	<b>737</b>	<b>\$13,254,375</b>	<b>100.00%</b>

**Table 53. Lenders and the Smart-E Loan**

<b>Lender</b>	<b># of Loans</b>	<b>\$ of Loans</b>	<b>% of Loans</b>
CorePlus Federal Credit Union	183	\$ 2,511,003	18.94%
Eastern Savings Bank	182	\$ 4,527,516	34.16%
First National Bank of Suffield	38	\$ 812,860	6.13%
Ion Bank	40	\$ 488,138	3.68%
Liberty Bank	29	\$ 380,814	2.87%
Mutual Security Credit Union	10	\$ 224,769	1.70%
Nutmeg State Financial Credit Union	157	\$ 2,832,971	21.37%
Patriot Bank	41	\$ 533,664	4.03%
Quinnipiac Bank & Trust	7	\$ 84,056	0.63%
Thomaston Savings Bank	16	\$ 238,644	1.80%
Union Savings Bank	23	\$ 413,460	3.12%
Workers Federal Credit Union	11	\$ 206,481	1.56%
<b>Total</b>	<b>737</b>	<b>\$ 13,254,375</b>	<b>100.00%</b>



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**AGREEMENT (ESA)**

For the Connecticut Green Bank’s residential solar PV low-income lease program, we are applying the Program Logic Model that focuses on financing and credit enhancements (see Figure 11).

**Figure 11. Program Logic Model for the Low Income Solar Lease**



**Financing Program**

The Connecticut Green Bank offers a solar PV lease product targeted to the low-to-moderate income (LMI) population of the state through the solar developer PosiGen, a respondent to the solar financing RFP soliciting proposals addressing underserved markets. The product is a partnership with PosiGen, a senior lender (Enhanced Capital) and a tax equity investor (U.S. Bank). Connecticut Green Bank supplied the initial senior debt of \$5,000,000 which has been subordinated to an additional \$5,000,000 lent to the lease fund by Enhanced Capital to provide \$20 million in lease financing for solar projects targeting LMI homeowners. The Connecticut Green Bank is committed to lend an additional \$5 million as needed for future growth once an additional \$5 million in private capital is secured. The RSIP program’s tiered LMI performance based incentive (PBI) provides PosiGen a significantly higher incentive for customers demonstrating these income requirements.

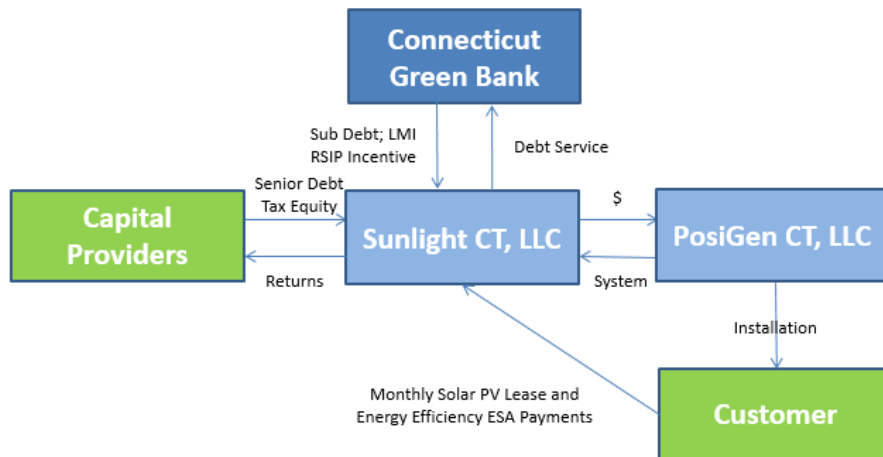
Through the partnership with PosiGen, the Connecticut Green Bank lowers the barriers to Connecticut low-to-moderate income residential customers seeking to install solar PV with no up-front investment. PosiGen’s model also includes an alternative underwriting approach that does not rely on credit scores and a community-based marketing model – two key ingredients for targeting this hard to reach market segment. Capital provided to PosiGen to be able to offer consumers a solar PV lease and energy efficiency ESA is returned to the Connecticut Green Bank, the tax equity investor and the lenders through consumer lease repayments. This is in contrast to traditional energy program subsidies targeted to LMI homeowners, which are typically in the form of grants only.

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The financial structure of the Low Income Solar Lease product includes origination, servicing, and financing features<sup>60</sup> in combination with the support of the Connecticut Green Bank (see Figure 12).

**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 low and moderate income 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 being “anchor capital” for PosiGen together with PosiGen’s own resources along with 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 ultimately facilitate funding by a senior lender, providing for the subordination of the Green Bank’s loans once this senior lender could be secured. The Green Bank also integrated a working capital module within the financing arrangements to enable PosiGen to focus its capital resources on expanding to Connecticut. 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 to resolve supply chain issues. By using its balance sheet as anchor 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 was able to establish operations, get a market started and its rapid success in Connecticut enabled the Green Bank and PosiGen to secure a senior lender and a new source of tax equity to enable operations to expand to several cities throughout Connecticut.

The Low Income Solar Lease provided financing for 333 projects totaling \$9.8 million<sup>61</sup> of investment and 2,199 kW of residential solar PV deployment (see Table 54).

<sup>60</sup> Origination, servicing and financing managed by PosiGen

<sup>61</sup> Fair Market Value of systems installed

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**AGREEMENT (ESA)**

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**Table 54. Low Income Solar Lease<sup>62</sup>**

<b>Year</b>	<b>Total # of Projects</b>	<b>Investment<sup>63</sup></b>	<b>Installed Capacity (kW)</b>
2016	333	\$9,843,865	2,199.1
<b>Total<sup>64</sup></b>	<b>333</b>	<b>\$9,843,865</b>	<b>2,199.1</b>

Of the low income households that installed solar PV, over 65% of them also participated in the energy efficiency ESA, resulting in more comprehensive energy efficiency measures being included in the project.

**Marketing Programs**

To build the pipeline of projects for the lease, Connecticut Green Bank supports PosiGen’s marketing campaigns, leveraging the institution’s local experience. This includes assisting with PosiGen’s outreach efforts through its Solar for All campaigns which are modeled after Solarize campaigns.

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<sup>62</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

<sup>63</sup> Fair Market Value of systems installed

<sup>64</sup> Includes approved, closed and completed projects.

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As the Connecticut Green Bank’s commercial and industrial financing program, we are applying the Program Logic Model that focuses on financing and credit enhancements (see Figure 13).

**Figure 13. Program Logic Model for the C-PACE Program**



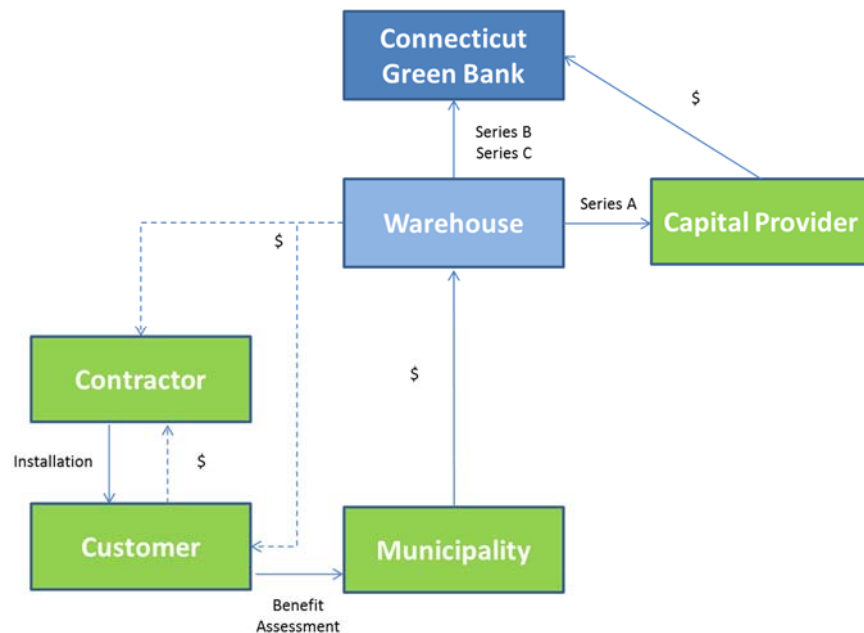
**Financing Program**

Commercial Property Assessed Clean Energy (C-PACE) is a structure through which commercial property owners can finance energy efficiency and renewable energy improvements through financing secured by a voluntary benefit assessment on their property and repaid via the property tax bill. A tax lien, or benefit assessment, is placed on the improved property as security for the loan, and the Connecticut Green Bank requires lender consent from existing mortgage holders prior to approving a C-PACE project. It should be noted, that to date 32 unique banks and 5 specialized lending institutions have provided lender consent to over 70 projects – demonstrating that existing mortgage holders see C-PACE as adding value to the property and net income to the business occupying the building as a result of lower energy prices.

The Connecticut Green Bank maintains warehouse of capital from which it finances C-PACE transactions and sells to capital markets upon completion (see Figure 14). Through the warehouse, funds are advanced to either the customer or 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 other property taxes are paid on the property. As the benefit assessment payments are made by the property owners, they are then remitted from the various municipalities to the Connecticut Green Bank or its designated servicer to repay the capital providers for the energy improvements financed through C-PACE.

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**Figure 14. Legal Structure and Flows of Capital for C-PACE**



Prior to the establishment of C-PACE in a given municipality, its legislative body must pass a resolution enabling the municipality to enter into agreement with the Connecticut Green Bank to assess, collect, remit, and assign benefit assessments against C-PACE borrowers' liabilities. As of June 30, 2016, there are 123 cities and towns signed up for C-PACE representing more than 90% of commercial and industrial building space in Connecticut. Over 200 contractors have been trained to participate in the C-PACE program. Additionally, as of June 30, 2016, over \$72 million in C-PACE assessment advances have been approved of which \$68 million has closed.

A portfolio of \$17.5 million in benefit assessment liens comprised of 30 energy efficiency and renewable energy projects across 22 municipalities was sold in two tranches to the Public Finance Authority (WI) ("PFA") under a bond conduit structure financed by Clean Fund. Using an auction process, bids for the portfolio were competitively solicited across all of the Connecticut Green Bank's capital providers. Bidders were encouraged to offer various structures and pricing, with or without credit enhancement, and to bid for one or more projects. The selected structure has the PFA use proceeds from Clean Fund (in return for a single class of Senior "A" bonds) to fund 80 percent of the portfolio purchase price. To credit enhance the transaction, the Connecticut Green Bank has taken back, in equal measure, Subordinated "B" and "C" bonds. The structure is, in effect, a "private securitization" of the underlying portfolio.

Building on this experience and the growth of the Connecticut C-PACE market, the Green Bank again solicited proposals from several financial institutions. In the end, the Green Bank established a strategic financing partnership with Hannon Armstrong Sustainable Infrastructure (Hannon), publicly listed on the NYSE. The Green Bank and Hannon structure uses a special purpose entity (SPE) established by Hannon specifically for the Green Bank C-PACE portfolio. The SPE purchases the benefit assessment liens in tranches that are financed from between 80% and 90% by Hannon up to a maximum of \$100 million with the residual capital provided by the Green Bank.

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**Data Accessibility**

114 customers accessed the C-PACE since its launch in 2013 – see Tables 55 and 56.

**Table 55. CPACE Metrics<sup>65</sup>**

Year	# EE	# RE	# RE/EE	Total # of Projects	Investment	Installed Capacity (kW)	Annual Saved/Produced (MMBtu)
2013	1	-	1	2	\$943,952	101.0	1,362
2014	7	14	3	24	\$20,429,943	3,416.0	36,923
2015	11	30	10	51	\$29,452,897	6,925.3	41,363
2016	7	21	9	37	\$21,628,858	5,272.7	32,476
Total <sup>66</sup>	26	65	23	114	\$72,455,651	15,715.0	112,123

**Table 56. Types of End-Use Customers Participating in C-PACE<sup>67</sup>**

End-Use	# of Properties (#)	Annual Savings/Production (MMBtu)	Square Footage (ft <sup>2</sup> )	C-PACE Investment (\$)
Industrial	33	37,667	1,464,131	\$22,803,305
Multi-family/apartment (> 5 units)	5	4,680	218,044	\$3,184,523
Non-profit	11	4,559	319,269	\$3,127,755
Office	20	39,771	1,577,251	\$21,067,720
Public assembly	2	748	40,000	\$642,194
Retail	36	22,300	975,603	\$19,200,221
Warehouse & storage	6	2,275	136,420	\$2,393,904
Other	1	123	5,804	\$36,029
Total	114	112,123	4,736,522	\$72,455,651

To date, there have been 3 delinquencies totaling \$4,986,119 or 6.9% of the portfolio and no defaults.

<sup>65</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

<sup>66</sup> Includes approved, closed and completed projects.

<sup>67</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

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Of the 114 C-PACE projects, the following is a breakdown of projects by municipality – see Table 57.

**Table 57. Cities and Towns Supporting C-PACE Projects<sup>68</sup>**

<b>Municipality</b>	<b># of Properties (#)</b>	<b>Annual Savings/Production (MMBtu)</b>	<b>Square Footage (ft<sup>2</sup>)</b>	<b>C-PACE Investment (\$)</b>
Ansonia	1	411	38,896	\$205,652
Avon	2	2,649	89,764	\$1,059,417
Bloomfield	1	3,227	0	\$3,234,075
Bridgeport	14	13,912	693,713	\$6,684,513
Bristol	4	2,311	90,951	\$2,579,989
Brookfield	1	-93	36,772	\$1,164,790
Canaan	1	406	16,200	\$425,527
Canton	1	176	15,000	\$154,507
Clinton	1	623	0	\$624,260
Cromwell	1	4,084	109,032	\$2,114,163
Danbury	1	847	19,640	\$87,938
Deep River	1	123	5,804	\$36,029
East Haddam	2	694	41,450	\$732,597
East Lyme	2	192	16,225	\$147,185
East Windsor	3	1,904	94,000	\$1,693,944
Ellington	1	764	25,760	\$502,504
Enfield	1	1,105	57,000	\$881,993
Fairfield	2	658	11,700	\$673,360
Glastonbury	2	760	49,000	\$676,037
Groton	2	5,133	48,500	\$921,682
Hartford	9	5,159	363,604	\$2,832,671
Killingly	1	171	0	\$153,258
Killingworth	1	257	20,000	\$261,649
Manchester	4	5,260	97,104	\$5,055,353
Meriden	2	6,800	470,000	\$3,306,233
Middletown	2	5,256	146,368	\$4,100,595
Naugatuck	1	48	53,158	\$541,582
New Britain	1	4,113	150,000	\$2,842,049
New Haven	1	1,343	28,000	\$836,128
New London	6	2,519	258,369	\$2,296,519
Newington	1	562	53,200	\$794,873
Newtown	2	4,465	202,814	\$2,973,807
North Stonington	1	439	30,000	\$344,252
Norwalk	1	661	10,000	\$559,952
Norwich	1	545	50,000	\$366,586
Plainville	4	3,989	236,000	\$2,695,236
Putnam	1	9,218	125,000	\$2,350,000
Shelton	1	637	37,600	\$271,147
Simsbury	1	824	42,456	\$685,316

<sup>68</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

**CONNECTICUT GREEN BANK****4. MARKET TRANSFORMATION****FINANCIAL WAREHOUSE AND CREDIT ENHANCEMENT STRUCTURES****CASE OF THE COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)**

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<b>Municipality</b>	<b># of Properties (#)</b>	<b>Annual Savings/Production (MMBtu)</b>	<b>Square Footage (ft<sup>2</sup>)</b>	<b>C-PACE Investment (\$)</b>
Somers	1	691	48,360	\$997,269
South Windsor	1	135	0	\$135,200
Southington	2	534	24,325	\$457,792
Stamford	5	4,489	258,900	\$1,602,497
Stonington	1	230	16,400	\$230,636
Stratford	2	897	48,000	\$549,244
Torrington	1	116	19,000	\$132,325
Trumbull	1	1,066	100,000	\$1,012,004
Vernon	1	787	30,044	\$519,890
Waterbury	3	1,569	45,953	\$1,969,966
Watertown	2	1,010	34,756	\$604,107
West Haven	1	267	13,000	\$243,296
Westport	2	590	22,700	\$265,353
Willington	1	50	10,432	\$55,421
Windsor	2	3,855	197,572	\$2,175,617
Windsor Locks	1	392	34,000	\$336,703
Woodbridge	2	3,294	0	\$3,300,960
<b>Total</b>	<b>114</b>	<b>112,123</b>	<b>4,736,522</b>	<b>\$72,455,651</b>



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Of the C-PACE approved and closed projects, the following table is a breakdown of the contractors offering the financing product – see Table 58.

**Table 58. C-PACE Contractors<sup>69</sup>**

<b>Contractor</b>	<b># of C-PACE Transactions</b>	<b>\$ of C-PACE Transactions</b>	<b>% of C-PACE Transactions</b>
3x Solution Inc	1	\$1,164,790	1.61%
64 Solar	3	\$949,536	1.31%
Action Air Systems Inc.	1	\$179,980	0.25%
American Solar	4	\$1,554,554	2.15%
Antonio LLC	1	\$20,500	0.03%
BeFree Green Energy, LLC	1	\$232,714	0.32%
C&N Mechanical	1	\$30,434	0.04%
Chabot Electric	1	\$234,202	0.32%
Conserv-Inc	1	\$559,952	0.77%
Controlled Air	1	\$137,368	0.19%
C-TEC Solar LLC	2	\$7,306,975	10.08%
Davis Hill	1	\$652,860	0.90%
Deutsche Eco USA Corp.	2	\$3,300,960	4.56%
Direct Energy	2	\$633,103	0.87%
Earthlight Technologies	6	\$1,749,571	2.41%
ECNY	1	\$243,296	0.34%
Efficient Lighting and Maintenance, Inc.	1	\$30,620	0.04%
Efficient Lighting Consultants	1	\$541,582	0.75%
Emcor Services	3	\$2,973,427	4.10%
Encon, Inc.	6	\$2,091,775	2.89%
Energy Solutions Inc.	1	\$52,654	0.07%
Entersolar	1	\$1,116,629	1.54%
Environmental Systems Corp	1	\$107,556	0.15%
ESI Power Corp	3	\$905,109	1.25%
Fortunato Construction Group, Inc.	1	\$741,702	1.02%
GM Industries, Inc.	2	\$506,321	0.70%
Green Earth Energy	29	\$19,016,112	26.25%
H. Hulse, Inc.	1	\$166,236	0.23%
Harness the Sun	1	\$201,072	0.28%
High Performance Energy Solutions	1	\$87,938	0.12%
Inovateus	1	\$2,842,049	3.92%
JD Solar Solutions, LLC	2	\$370,396	0.51%
JK Energy Solutions	3	\$3,405,337	4.70%
Johnson Control	1	\$558,716	0.77%
Kurt Kuegler	1	\$120,109	0.17%
Lockheed Martin	1	\$2,974,349	4.11%
M.J. Fahy & Sons	1	\$36,350	0.05%
MSL Group	4	\$2,805,767	3.87%
NORESCO	2	\$2,274,881	3.14%

<sup>69</sup> The status represents the current disposition of projects as of June 30, 2016. Projects are displayed by the fiscal year in which they were Approved but not Closed, Closed but not Completed or Closed and Completed. (See Project Status in Measures of Success).

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<b>Contractor</b>	<b># of C-PACE Transactions</b>	<b>\$ of C-PACE Transactions</b>	<b>% of C-PACE Transactions</b>
Northeast Smart Energy LLC	3	\$589,453	0.81%
Nxegen	1	\$331,884	0.46%
Oatley Mechanical Services, Inc.	1	\$271,147	0.37%
Reliable Combustion Services LLC	1	\$384,000	0.53%
Renewable Resources, Inc.	1	\$239,883	0.33%
Ross Solar Group	2	\$840,889	1.16%
Sarracco Mechanical	1	\$218,814	0.30%
Seldera LLC	1	\$836,128	1.15%
Smart Energy Services	1	\$418,540	0.58%
Sound Solar Systems, LLC	1	\$261,649	0.36%
Trane	4	\$5,185,781	7.16%
<b>Total</b>	<b>114</b>	<b>\$72,455,651</b>	<b>100.00%</b>



# Memo

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

**From:** Mariana C. Trief, Senior Manager, Clean Energy Finance

**CC:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Ben Healey, Director, Clean Energy Finance

**Date:** January 13, 2017

**Re:** 193kW Hydroelectric Facility in Meriden, CT – Bond Issuance Update

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## *Background and Purpose*

On February 26, 2016, staff brought forward to the Connecticut Green Bank (“Green Bank”) Board of Directors (the “Board”) a proposal for the Green Bank to provide both construction and term financing through the issuance of New Clean Renewable Energy Bonds (“CREBs”) for a 193kW hydroelectric facility in Meriden, CT (the “Project”). The Board approved the original proposal, as subsequently modified on April 22, 2016, June 22, July 6, 2016, October 21, 2016 and December 16, 2016, including the authorization of:

- i) a guaranty to a third-party lender for construction financing in an amount not to exceed \$3.9 million,
- ii) funding from the Green Bank’s balance sheet in an amount not to exceed \$1,400,000,
- iii) a working capital guaranty in an amount not to exceed \$600,000 for the benefit of New England Hydropower Company (“NEHC”), the project developer, with a 24-month maturity, under the Green Bank’s existing working capital facility partnership with Webster Bank;
- iv) term financing based on the following prerequisites:
  - a. proceeding with the issuance of CREBs in an amount not to exceed \$3,000,000 within 405 days of the original date of authorization by the Board of Directors (that is, February 26, 2016); and,
  - b. supporting the CREBs issuance utilizing the Special Capital Reserve Fund (“SCRF”) subject to further Office of the Treasurer (“OTT”) and Office of Policy and Management (“OPM”) approval
  - c. adoption of the Project’s Findings of Self Sufficiency for the purposes of the SCRF;
- v) a \$100,000 annual Project contribution;
- vi) a minimum debt service reserve fund required for the SCRF in an amount not to exceed \$300,000; and,
- vii) the creation of a Special Purpose Entity to be wholly owned by the Green Bank, to own, operate, and manage the Project, as required by CREBs regulations.

Staff has continued to advance towards the issuance of CREBs and, in parallel, NEHC as Project developer has made significant progress towards the Project’s construction completion. The purpose of this memo is to share with the Board details about progress achieved to date on both fronts.

### *Construction Update*

After some initial delays, construction is progressing smoothly. The Archimedes Screw Generator (“ASG”), generator and powerhouse have been installed. The remaining work, including electrical work and utility interconnection, finalizing the intake and exit channels, and backfilling those areas that have been excavated, are expected to be complete by mid-March 2017, assuming fair weather conditions. NEHC has continued to coordinate construction efforts with local and federal oversight agencies, including: i) the Federal Energy Regulatory Commission’s (“FERC”) Office of Dam Safety; ii) the City of Meriden; and iii) the Connecticut Department of Energy and Environmental Protection (“DEEP”).

### *CREBs Update*

Green Bank staff has continued to make progress on the CREBs issuance and has agreed on the following sequence for the issuance and purchase of the CREBs by Banc of America Capital Corp, LLC. (the CREBs purchaser, “BAPCC”) as described below.

- BAPCC and Green Bank are scheduled to **have executed the CREBs Purchase Agreement** (the “BPA”) on Thursday, January 19, 2017. The tax credit in effect for the bond will be determined on the date of the BPA execution per the published tax credit rate on the [US Treasury’s website](#) and will feed into the final model for self-sufficiency as outlined in Exhibit A.
- BAPCC and Green Bank are scheduled to “**pre-close**” the purchase of the CREBs on Tuesday, January 31, 2017 by executing all relevant CREBs documentation. Green Bank is continuing to coordinate SCRF approval, as documented by certificates from OPM and OTT, as such will be a condition precedent to closing.
- Final cash closing is scheduled for Wednesday, February 1, 2017, with proceeds flowing from BAPCC to an escrow account held for the benefit of the Green Bank and to be released to the Green Bank upon the completion of the hydroelectric facility by NEHC, the Project developer. The reason for closing to escrow instead of using the proceeds to repay First Niagara/KeyBanc (the construction lender) is that (a) the rate lock agreed in August 2016 will expire on February 5, 2017 unless we close on the CREBs and (b) BAPCC’s credit approval requires that the funds only be released based on “final completion” (i.e., the mid-March time frame). As such, there will be a brief period of approximately 6 weeks where the Green Bank will have a simultaneous exposure to the guarantee of the construction loan, as well as the CREBs, but no incremental risk as the CREBs proceeds will remain in escrow to secure BAPCC’s position.

Green Bank staff looks forward to issuing our first bonds and will continue to update the Board on progress achieved, both from a financing and construction perspective.

## **Summary Changes to Findings of Self Sufficiency for The Hanover Pond Project upon Federal Tax Credit Rate in Effect upon Execution of Bond Purchase Agreement**

Green Bank is issuing New Clean Renewable Energy Bonds (“CREBs”) in a principal amount not to exceed \$3,000,000 to finance a 193kW hydroelectric facility in Meriden, Connecticut (the “Project”).

The following figures in the Project’s Projected Annual Revenues and Expenditures will be modified based on the federal tax credit rate in effect for the CREBs issuance upon the execution of the bond purchase agreement (currently scheduled of January 19, 2017). These are also marked in yellow in the Annual Revenues and Expenses Projections approved by the Green Bank’s board as part of the Self Sufficiency Findings attached hereto as Exhibit A.

- CREBs bond issuance amount
- Annual interest rate buy-down amount from Connecticut’s Public Utility Regulatory Authority (“PURA Buy-down”) applied to the entire CREBs amount during the Project’s first ten (10) years
- Treasury Subsidy
- Debt Service (interest and principal) payments
- Coverage ratio (debt service and total coverage)

Notwithstanding the final Federal Tax Credit rate upon execution of the bond purchase agreement, the following requirements, per the Findings, will be met:

Debt Service Coverage is not less than 1.25x; and the final agreed CREBs issuance will not exceed \$3,000,000 and the revenues of the Project will be sufficient to

- (1) pay the principal of and interest on the CREBs issued to finance the Project,
- (2) establish, increase and maintain any reserves deemed by the Green Bank to be advisable to secure the payment of principal of and interest on the CREBs,
- (3) pay the cost of maintaining the Project in good repair and keeping it properly insured, and
- (4) pay such other costs of the Project as may be required.

The Green Bank will update the Annual Revenues and Expenses Projections upon the execution of the bond purchase agreement for final approval by the Secretary of the Office of Policy and Management and Office of the Treasurer of the State, prior to bond closing (currently schedule for January 31, 2017).

**Exhibit A: Annual revenues and Expenses Projections**

Figures in yellow will be modified upon the federal tax credit rate in effect upon the execution of the bond purchase agreement (January 19, 2016)

CREBs Bond Issuance Amount	2,943,661
SCRF Reserve (MADS)	259,864

**Annual Revenues and Expenses - PROJECTIONS**

Year	1	2	3	4	5	6	7	8	9	10	
<b>Revenues</b>											
PPA Revenue	105,579	126,695	126,695	126,695	135,398	139,425	142,213	145,058	147,959	150,918	
REC Revenue	32,250	64,499	64,499	64,499	64,499	64,499	64,499	64,499	64,499	64,499	
Capacity Revenue	-	-	-	-	-	18,528	18,528	18,528	18,528	18,528	
PURA Subsidy	17,926	17,926	17,926	17,926	17,926	17,926	17,926	17,926	17,926	17,926	
Treasury Subsidy	86,420	85,095	81,994	78,809	75,193	71,265	66,622	61,824	56,869	51,790	
Project Support Agreement Reserve	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	
Total Deposits to Revenue Fund	342,175	394,216	391,115	387,930	393,018	411,643	409,789	407,835	405,781	403,662	
<b>Operating Expenses</b>	(26,318)	(25,971)	(24,996)	(24,027)	(23,064)	(22,107)	(21,156)	(20,212)	(20,540)	(20,874)	
Net Revenues Available for Debt Service	315,857	368,245	366,119	363,903	369,953	389,536	388,633	387,624	385,242	382,788	
Taxable Payment - Interest	(123,339)	(121,449)	(117,022)	(112,477)	(107,317)	(101,710)	(95,083)	(88,236)	(81,164)	(73,916)	
Taxable Payment - Principal	(45,121)	(105,644)	(108,475)	(123,167)	(133,814)	(158,154)	(163,415)	(168,783)	(172,993)	(177,297)	
Taxable Payment (P&I)	(168,460)	(227,092)	(225,498)	(235,644)	(241,130)	(259,864)	(258,499)	(257,019)	(254,157)	(251,213)	
Debt Service Coverage	1.87	1.62	1.62	1.54	1.53	1.50	1.50	1.51	1.52	1.52	
Other Subordinated Operating Costs*	(47,397)	(41,153)	(40,621)	(28,259)	(28,823)	(29,672)	(30,134)	(30,605)	(31,085)	(31,575)	
Total Coverage - All Expenses	1.59	1.44	1.44	1.42	1.41	1.38	1.39	1.39	1.39	1.40	
Net Income - Distributable to Green Bank	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	
<b>Year</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>Total</b>
<b>Revenues</b>											
PPA Revenue	153,936	157,015	160,155	163,358	166,625	169,958	173,357	176,824	180,361	183,968	3,032,194
REC Revenue	64,499	64,499	64,499	64,499	41,464	18,428	18,428	18,428	18,428	18,428	1,004,348
Capacity Revenue	18,528	18,528	18,528	18,528	18,528	18,528	18,528	18,528	18,528	18,528	277,920
PURA Subsidy	-	-	-	-	-	-	-	-	-	-	179,263
Treasury Subsidy	46,585	41,777	36,844	31,782	26,589	21,924	17,793	13,538	9,156	4,645	966,514
Project Support Agreement Reserve	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	2,000,000
Total Deposits to Revenue Fund	383,549	381,820	380,026	378,168	353,206	328,838	328,106	327,319	326,473	325,569	7,460,239
<b>Operating Expenses</b>	(21,216)	(21,564)	(21,919)	(22,281)	(22,651)	(23,027)	(23,412)	(23,804)	(24,204)	(24,612)	(457,955)
Net Revenues Available for Debt Service	362,333	360,256	358,107	355,886	330,555	305,811	304,694	303,515	302,269	300,957	7,002,285
Taxable Payment - Interest	(66,487)	(59,625)	(52,584)	(45,359)	(37,948)	(31,290)	(25,394)	(19,321)	(13,068)	(6,629)	(1,379,417)
Taxable Payment - Principal	(163,772)	(168,047)	(172,419)	(176,893)	(158,893)	(140,715)	(144,932)	(149,251)	(153,674)	(158,204)	(2,943,661)
Taxable Payment (P&I)	(230,258)	(227,671)	(225,003)	(222,252)	(196,841)	(172,005)	(170,326)	(168,572)	(166,742)	(164,832)	(4,323,078)
Debt Service Coverage	1.57	1.58	1.59	1.60	1.68	1.78	1.79	1.80	1.81	1.83	
Other Subordinated Operating Costs*	(32,075)	(32,584)	(33,104)	(33,635)	(33,715)	(33,806)	(34,368)	(34,942)	(35,528)	(36,125)	(679,207)
Total Coverage - All Expenses	1.43	1.44	1.44	1.45	1.51	1.58	1.59	1.59	1.60	1.61	
Net Income - Distributable to Green Bank	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	

\*paid after debt service

Source: Green Bank



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## **Report Out: USDA Rural Utilities Service – Energy Efficiency and Conservation Loan Financing Program**

A Capital Sourcing Program for Rural Program Development

Program Summary and Application

January 20, 2017

**Document Purpose:** This document contains background information and due diligence on the USDA Rural Utilities Service Energy Efficiency and Conservation Loan Program. This information is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing progress and courses of action undertaken by the staff of the Connecticut Green Bank, and to prepare the Board of Directors for a pending request for approval that staff will require to proceed with potential capital allocations.

# Program Qualification Memo

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

**From:** Matt Macunas, Legislative Liaison; Chris Magalhaes, Senior Manager, Clean Energy Finance

**Cc:** Bryan Garcia, President & CEO; Bert Hunter, EVP & CIO; Brian Farnen, General Counsel & CLO; Eric Shrago, Director of Operations; Mackey Dykes, VP, Commercial & Industrial Programs; Kerry O’Neill, Managing Director, Residential Programs

**Date:** January 20, 2017

**Re:** USDA Rural Utilities Service – Energy Efficiency and Conservation Loan Financing Program

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## Purpose

The purpose of this memo is to notify the Connecticut Green Bank (“Green Bank”) Board of Directors of progress that has taken place with regards to the Green Bank’s eligibility for the USDA Rural Utilities Service (RUS) Energy Efficiency and Conservation Loan Program (EECLP), a low-cost federal source of capital available from the USDA RUS that the Green Bank can utilize to extend current energy efficiency and renewable energy financing programs into rural areas (i.e., less than 20,000) across Connecticut.

Once organizational eligibility for the EECLP is confirmed by the USDA, Green Bank staff intends to submit a business plan and authorization request to the Board of Directors that will allow for Green Bank to apply for, and receive, a capital allocation from the USDA (in the range of \$25 - \$50 million), to be utilized for the purposes of extending select current financing programs into rural areas by means of low-cost loan reimbursements drawn from the Green Bank’s allotted EECLP capital provisions. Given the flexibility of the EECLP, qualified Green Bank programs would include any current residential, commercial and industrial, institutional, or infrastructure financing program that has a target market in geographic areas composed of less than (or equal to) 20,000 inhabitants as of the 2010 U.S. Census.

Green Bank’s organizational eligibility is currently being reviewed by the USDA RUS administration, and once approved, staff intends to deliver the business plan and authorization request to the Board of Directors for review - either at a subsequent, regularly-scheduled Board of Directors meeting, or at a requested special meeting, given the relevant timing milestones for eligibility and capital allocation criteria set forth by USDA.

## Program Background & Summary

The EECLP is a financing program established by the USDA RUS and implemented in 2014<sup>1</sup> to help eligible borrowers, who have either a direct, or indirect, responsibility for providing retail electric service to rural energy

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<sup>1</sup> Federal Register, Vol. 78, No. 234, Part III. [https://www.rd.usda.gov/files/UEP\\_EE\\_FinalRule.pdf](https://www.rd.usda.gov/files/UEP_EE_FinalRule.pdf)



consumers, to further to goals of the RUS which include helping rural energy consumers to save money on energy bills, reducing power-related emissions, and strengthening rural economies through job creation<sup>2</sup>.

The EECLP works as a re-lending platform in the form of capital reimbursements to eligible borrowers (e.g. Green Bank) that are accessed from a USDA capital allotment and drawn against investments:

- in eligible activities, such as energy efficiency measures and on-grid and off-grid renewable energy installations
- by eligible ultimate recipients, such as any commercial, industrial, or residential retail energy consumers
- within eligible areas, having populations of not greater than 20,000 inhabitants or current outstanding EECLP loans

The terms and conditions associated with capital drawn from EECLP allotments to service rural areas are quite attractive relative to traditional private capital financing available to counterparties in those areas, making this program an ideal tool to expand the market-generating capabilities of current Green Bank programs into otherwise underserved rural markets. Loan tenors can be extended to align with project useful life, interest rates are priced slightly above corresponding U.S. Treasury interest rates, and the Green Bank has full discretion over underwriting guidelines and security structure/interests.

### Eligibility and Next Steps

Staff has engaged with USDA officials, previously successful applicants to the EECLP, and market professionals with knowledge of the program, to gauge the viability of a successful EECLP application and the steps required for completion. USDA is currently assessing Green Bank eligibility for the program, which will determine whether Green Bank can move forward with a formal application for EECLP funds.

Staff discussed whether it is an eligible borrower with USDA RUS in December 2016. Staff explained that we could potentially qualify on the basis of certain utility-like characteristics, and on the basis of its fiscal strength. Cited rationales included the Green Bank's: 1) governance and statutory funding mechanism; 2) joint committee with the Energy Conservation Management Board; 3) SHREC policy with the utilities; 4) ownership of solar lease assets, putting us in a position of supplying power at the retail level and feeding excess to the distribution system; 5) on-bill financing statute; 6) statewide administration of C-PACE; and 7) role in microgrid financing. In anticipation of potential USDA approval for Green Bank eligibility staff has been working on (i.) identifying eligible rural areas of the state and target markets/borrowers within those areas, and (ii.) developing a business plan that will guide opportunities, operations, and management of any potential EECLP used to expand current Green Bank programs into rural areas.

If Green Bank is deemed eligible for the EECLP, staff intends to deliver to the Board of Directors in a future session the EECLP business plan in association with a request for approval to engage with the USDA and apply for an initial

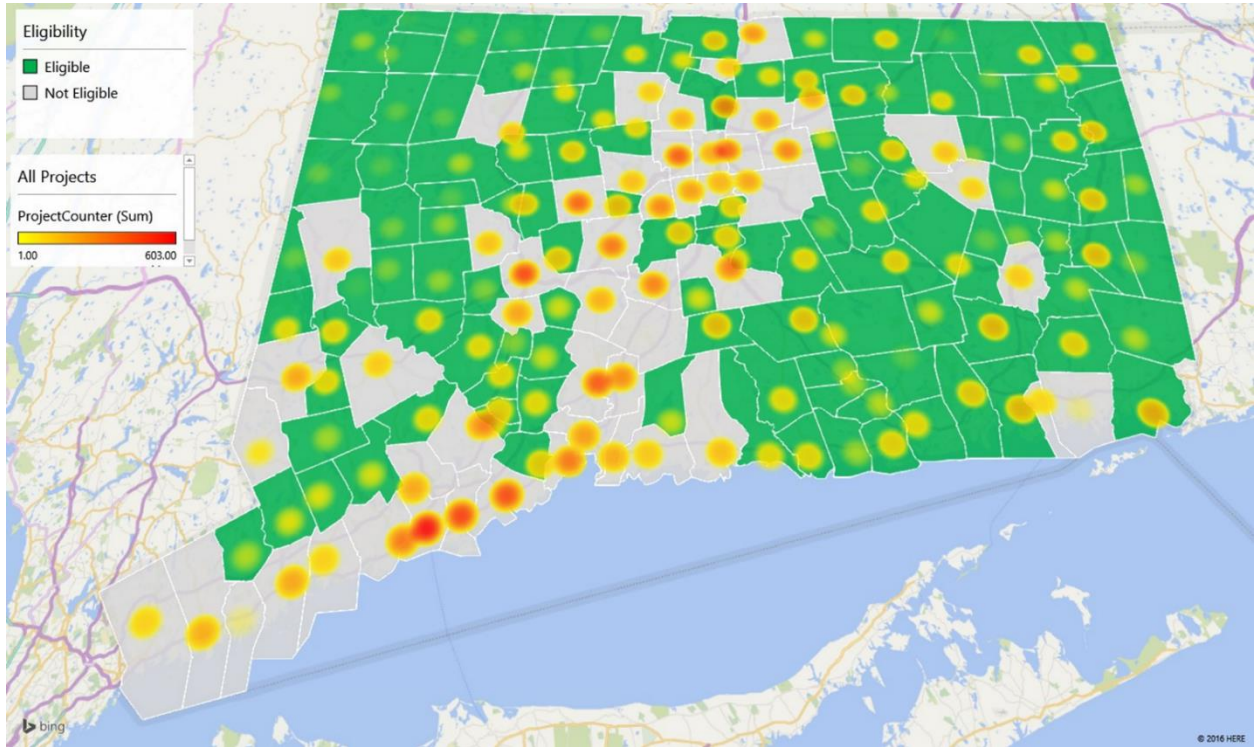
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<sup>2</sup> USDA Rural Development, "*Energy Efficiency and Loan Conservation Program*," <https://www.rd.usda.gov/programs-services/energy-efficiency-and-conservation-loan-program>, (January 12, 2017).

allocation of EECLP funds to be used by a specified set of existing Green Bank programs to meet the goals defined in the business plan. Becoming an eligible borrower and carrying an open line of credit with the USDA will be to the Green Bank's advantage, as it may continue freely accessing this capital source thereafter, contingent on its availability through federal budget appropriations.

Appendix – Rural Eligibility by Town

**Exhibit A: Map of Eligibility**



## Exhibit B: Table of Eligibility

**CONNECTICUT POPULATION ESTIMATES AS OF: April 1, 2010**

BY COUNTY AND TOWN

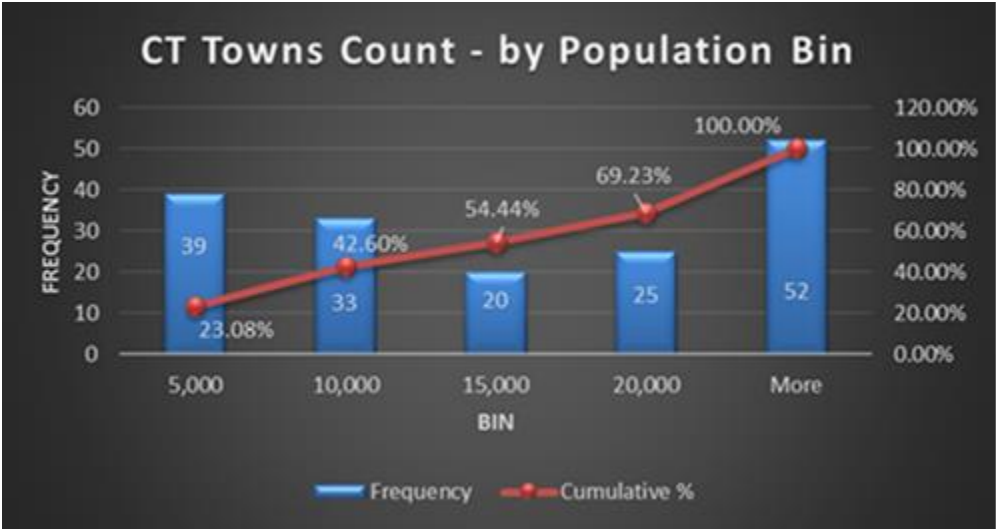
**State Total: 3,574,097**

County	Est. Pop.	County	Est. Pop.
FairfieldCounty	916,829	NewHavenCounty	862,477
HartfordCounty	894,014	NewLondonCounty	274,055
LitchfieldCounty	189,927	TollandCounty	152,691
MiddlesexCounty	165,676	WindhamCounty	118,428

Town	Est. Pop.	Town	Est. Pop.	Town	Est. Pop.	Town	Est. Pop.
Andover	3,303	EastHartford	51,252	Monroe	19,479	Sherman	3,581
Ansonia	19,249	EastHaven	29,257	Montville	19,571	Simsbury	23,511
Ashford	4,317	EastLyme	19,159	Morris	2,388	Somers	11,444
Avon	18,098	Easton	7,490	Naugatuck	31,862	Southbury	19,904
Barkhamsted	3,799	EastWindsor	11,162	NewBritain	73,206	Southington	43,069
BeaconFalls	6,049	Ellington	15,602	NewCanaan	19,738	SouthWindsor	25,709
Berlin	19,866	Enfield	44,654	NewFairfield	13,881	Sprague	2,984
Bethany	5,563	Essex	6,683	NewHartford	6,970	Stafford	12,087
Bethel	18,584	Fairfield	59,404	NewHaven	129,779	Stamford	122,643
Bethlehem	3,607	Farmington	25,340	Newington	30,562	Sterling	3,830
Bloomfield	20,486	Franklin	1,922	NewLondon	27,620	Stonington	18,545
Bolton	4,980	Glastonbury	34,427	NewMilford	28,142	Stratford	51,384
Bozrah	2,627	Goshen	2,976	Newtown	27,560	Suffield	15,735
Branford	28,026	Granby	11,282	Norfolk	1,709	Thomaston	7,887
Bridgeport	144,229	Greenwich	61,171	NorthBranford	14,407	Thompson	9,458
Bridgewater	1,727	Griswold	11,951	NorthCanaan	3,315	Tolland	15,052
Bristol	60,477	Groton	40,115	NorthHaven	24,093	Torrington	36,383
Brookfield	16,452	Guilford	22,375	NorthStonington	5,297	Trumbull	36,018
Brooklyn	8,210	Haddam	8,346	Norwalk	85,603	Union	854
Burlington	9,301	Hamden	60,960	Norwich	40,493	Vernon	29,179
Canaan	1,234	Hampton	1,863	OldLyme	7,603	Voluntown	2,603
Canterbury	5,132	Hartford	124,775	OldSaybrook	10,242	Wallingford	45,135
Canton	10,292	Hartland	2,114	Orange	13,956	Warren	1,461
Chaplin	2,305	Harwinton	5,642	Oxford	12,683	Washington	3,578
Cheshire	29,261	Hebron	9,686	Plainfield	15,405	Waterbury	110,366
Chester	3,994	Kent	2,979	Plainville	17,716	Waterford	19,517
Clinton	13,260	Killingly	17,370	Plymouth	12,243	Watertown	22,514
Colchester	16,068	Killingworth	6,525	Pomfret	4,247	Westbrook	6,938
Colebrook	1,485	Lebanon	7,308	Portland	9,508	WestHartford	63,268
Columbia	5,485	Ledyard	15,051	Preston	4,726	WestHaven	55,564
Cornwall	1,420	Lisbon	4,338	Prospect	9,405	Weston	10,179
Coventry	12,435	Litchfield	8,466	Putnam	9,584	Westport	26,391
Cromwell	14,005	Lyme	2,406	Redding	9,158	Wethersfield	26,668
Danbury	80,893	Madison	18,269	Ridgefield	24,638	Willington	6,041
Darien	20,732	Manchester	58,241	RockyHill	19,709	Wilton	18,062
DeepRiver	4,629	Mansfield	26,543	Roxbury	2,262	Winchester	11,242
Derby	12,902	Marlborough	6,404	Salem	4,151	Windham	25,268
Durham	7,388	Meriden	60,868	Salisbury	3,741	Windsor	29,044
Eastford	1,749	Middlebury	7,575	Scotland	1,726	WindsorLocks	12,498
EastGranby	5,148	Middlefield	4,425	Seymour	16,540	Wolcott	16,680
EastHaddam	9,126	Middletown	47,648	Sharon	2,782	Woodbridge	8,990
EastHampton	12,959	Milford	52,759	Shelton	39,559	Woodbury	9,975
						Woodstock	7,964

### Exhibit C: Eligibility Stats

Potential USDA RUS (EECLP) Population Constraints	
Population Constraint:	<b>20,000</b>
Total # of Towns in CT	169
# of Towns with $\leq$ pop. constraint	117
% of Towns with $\leq$ pop. constraint	<b>69.2%</b>
Total Est. Pop. in CT	3,574,097
Total pop. Of Towns with $\leq$ pop. constraint	1,054,973
% of Pop. Of Towns with $\leq$ pop. constraint	<b>29.5%</b>





# Memo

**To:** Connecticut Green Bank Board of Directors  
**From:** Eric Shrago, Director of Operations  
**CC:** Bryan Garcia, President and CEO  
**Date:** January 11, 2017  
**Re:** Q2 Progress to Targets

The following memo outlines Connecticut Green Bank (CGB) progress to combined Q1 and Q2 goals for fiscal year 2017 as of December 31, 2016, the end of the second quarter.

## Statutory and Infrastructure Sector

The Statutory and Infrastructure sector is below its target for the first part of the year due to slower growth than anticipated in the Residential Solar Investment Program (RSIP). The leading installer in the RSIP has reduced the number of projects it has submitted into the program in comparison to years passed, which has had an adverse impact on meeting the target. It should also be noted that the installed cost of residential solar PV has come down from the estimated \$4.37/W assumed in the target to an actual of \$3.59/W – a reduction of nearly 20% which has resulted in lower capital deployment than anticipated.

The Anaerobic Digester and Combined Heat and Power programs have four (4) approved projects that staff is working with the developers to close. We expect at least one (1) of these projects to close this fiscal year. In the first half of FY2017, the Green Bank closed financing on 1 CHP project representing \$3,401,392 in capital and 0.8 MW of clean energy capacity deployed as well as 304,445 MMBTU's of energy savings.

*Table 1. Statutory and Infrastructure Sector Q2 Progress to Targets*

Product/Program	Projects		Capital Deployment		Capacity	
	Closed	Target	Closed	Target	Closed	Target
Anaerobic Digesters	-	1	\$ -	\$ 18,000,000	-	1.60
CHP	1	-	\$ 3,401,392	\$ -	0.80	-
Residential Solar	2,851	6,378	\$ 80,149,962	\$ 282,302,000	22.30	64.60
<b>S&amp;I Total</b>	<b>2,852</b>	<b>6,379</b>	<b>\$ 83,551,354</b>	<b>\$ 300,302,000</b>	<b>23.10</b>	<b>66.20</b>

## Residential Sector

Smart-E targets performance to date reflects the overall drag on consumer demand for energy upgrades due to continued low fuel prices and more moderate temperatures on average for the past 2

years<sup>1</sup>. Strong performance in the HVAC Channel is due to the hard work developing contractors in that space by CGB staff. The C4C/HES channel launched on December 1st after nearly a year delay and is ramping much slower than expected. Activity in this channel is most likely to be credit-challenged solar customers referred by contractors – it is not clear to what extent we will see any volume from the HES channel this fiscal year.

The Low-to-Moderate-Income (LMI) lease program offered through PosiGen is on track to meet targets. In the first 6 months of the fiscal year, 80% of PosiGen sales were to LMI customers. We are presently seeing a high percentage uptake by PosiGen customers of the Energy Savings Agreement (ESA) offering representing further energy savings.

The Multifamily programs expect to finance a smaller number of projects that are much larger in size than we had originally forecast. There is a robust pipeline of early stage projects that have not yet materialized into pre-development or term loans, including 16 pre-development projects (these become loans at phase 3 or a 3-part process). Benchmarking feeds the top of the pipeline and we currently have ~10% of all multifamily units in CT benchmarked.

Multifamily project timelines are taking significantly longer than expected due to the complexity of affordable housing capital stacks and the technical nature of the energy projects and interplay with other capital improvement needs. Each project in the pipeline requires a high degree of hand holding, for example any given project require input and coordination from numerous parties including the owner, contractors, utilities, and multiple capital providers – not once, but often at several stages along the path to closing. This makes the project cycle from inception to close as long as 2-3 years, based on activity that is now coming to fruition. Also much activity in the affordable multifamily space has seized up due to uncertainty created by the change in administration and perceived threats to tax credit programs in this space. Additionally, the 2nd version of Solarize with CHFA and GRID Alternatives has been delayed several months and we don't expect any solar projects from this initiative to close this fiscal year.

Table 2. Residential Sector Q2 Progress to Targets

Product/Program	Projects		Capital Deployment		Capacity	
	Closed	Target	Closed	Target	Closed	Target
Smart-E	122	538	\$ 2,822,901	\$ 9,039,000	0.50	1.10
Low Income Loans/Leases (PosiGen)	327	500	\$ 9,253,080	\$ 15,250,000	2.00	3.40
Multifamily (Term Only)	7	55	\$ 4,185,109	\$ 12,310,000	0.90	0.90
<b>Resi Total</b>	<b>456</b>	<b>1,093</b>	<b>\$ 16,261,090</b>	<b>\$ 36,599,000</b>	<b>3.40</b>	<b>5.40</b>

Table 3. Smart-E Channel Breakout

Channel	Projects	
	Closed	Target
Smart-E	122	538
CHIF/HES	3	250

<sup>1</sup> [January EIA data](#) indicates that Northeast heating oil prices are down 47% from 2 years ago, propane is down 24% and natural gas is down 12%. 52% of homes heat with oil in the state. This [article](#) provides a good overview of the interplay of low fuel prices and warmer winters.

EE/HVAC	68	145
Solar	49	143
Blank	2	-

### Commercial, Industrial, & Institutional Sector

The Commercial, Industrial, & Institutional Sector continues to see growth while the Green Bank staff continues to build a pipeline of projects. In the first half of FY 2017, we saw the closure of 24 CPACE projects representing \$9.3 million in capital and 0.65 MW of capacity deployed. Additionally, staff achieved their annual Commercial lease (non-CPACE backed) is half way to their annual target of 30 projects representing \$9.5 million in capital and 3.28 MW in capacity deployed.

Table 4. Commercial and Industrial Q2 Progress to Targets

Product/Program	Projects		Capital Deployment		Capacity	
	Closed	Target	Closed	Target	Closed	Target
CPACE	24	79	\$ 9,360,328	\$ 45,550,000	0.65	11.10
Commercial Lease	15	30	\$ 9,579,228	\$ 11,250,000	3.28	3.70
Comprehensive Energy Strategy	1		\$ 4,538,212	\$ -	0.19	-
CEBS	1		\$ 1,648,000	\$ -	-	-
<b>C&amp;I Total</b>	<b>38</b>	<b>94</b>	<b>\$ 23,932,115</b>	<b>\$ 56,800,000</b>	<b>4.12</b>	<b>14.80</b>

### CGB Total

Table 5. CGB Q2 Progress to Targets

Product/Program	Projects		Capital Deployed		Capacity Installed (MW)	
	Closed	Target	Closed	Target	Closed	Target
Commercial, Industrial and Institutional	38	94	\$ 23,932,115	\$ 56,800,000	4.12	14.8
Residential	456	1,093	\$ 16,261,090	\$ 36,599,000	3.4	5.4
Infrastructure	2,852	6,379	\$ 83,551,354	\$ 300,302,000	23.1	66.2
<b>Total CGB*</b>	<b>3,046</b>	<b>6,923</b>	<b>\$ 115,624,677</b>	<b>\$ 374,447,000</b>	<b>29.6</b>	<b>81.9</b>

\* excludes duplicates for RSIP records using residential financing product, residential low income (Posigen) records from RSIP and commercial solar lease records using CPACE

### Adjustment of Targets

As we are halfway through fiscal year (FY) 2017, we have better insight into how each program, product and sector are shaping up for the year. With this experience and insight, we wish to make the following adjustments to our targets for FY 2017.

### Statutory and Infrastructure Sector



Based on the current observations of the solar market, we expect to see 6,000 RSIP projects, deploying \$191 million, resulting in 49 MW of capacity installed. This is a step down from the original low end target of 6,378 projects, \$300 million deployed, and 60 MW of capacity installed. This represents a 6% decrease in number of projects, 36% decrease in capital deployed, and a 26% decrease in capacity deployed.

#### Commercial, Industrial and Institutional Sector

The Board originally set the Sector's target for the year of completing 94 projects, deploying \$56.8 million, and 14.8 MW in capacity. Of these, 79 were CPACE projects and 15 were to be commercial lease projects. Due to the loss of 14 linked projects with one property owner and the overall difficulty in building the pipeline, CGB would like to set the new target at 74 projects for the sector, \$41.43 million in capital deployment, and 11.8 MW in capacity. This represents a 21% decrease in number of projects, 27% decrease in capital deployed, and a 20% decrease in capacity deployed.

#### Residential Sector

The Board approved target for FY 2017 from last summer is completing 1093 projects, deploying \$36.6 million, and 5.4 MW in capacity. We would like to revise the target to be completing 775 projects, deploying \$32.2 million, and 5.4 MW in capacity. These changes stem primarily from the inactivity of the HES channel of SMART-E and a decrease in project numbers in the multifamily numbers. Capacity and capital deployment targets for multifamily remain the same. This represents a 29% decrease in number of projects, 12% decrease in capital deployed, and a 0% decrease in capacity deployed.

Overall, we are decreasing our organizational project targets from 6,923 to 6,242 (a decrease of 10%), our capital deployed target from \$389.6 million to \$245 million (34% decrease), and our installed capacity from 86.4 MW to 61.7 MW (25% decrease).

Product/Program	Projects			Capital Deployment			Capacity		
	Original Target	New Target	Target Delta	Original Target	New Target	Target Delta	Original Target	New Target	Target Delta
CSPACE	79	56	-29%	\$ 45,550,000	\$ 27,930,000	-39%	11.10	7.30	-34%
Commercial Lease	15	18	20%	\$ 11,250,000	\$ 13,500,000	20%	3.70	4.50	22%
<b>C&amp;I Total</b>	<b>94</b>	<b>74</b>	<b>-21%</b>	<b>\$ 56,800,000</b>	<b>\$ 41,430,000</b>	<b>-27%</b>	<b>14.80</b>	<b>11.80</b>	<b>-20%</b>
Smart-E	538	254	-53%	\$ 9,039,000	\$ 5,873,447	-35%	1.10	1.10	0%
Low Income Loans/Leases (PosiGen)	500	500	0%	\$ 15,250,000	\$ 15,250,000	0%	3.40	3.40	0%
Multifamily (Term Only)	55	17	-69%	\$ 12,310,000	\$ 11,140,000	-10%	0.90	0.90	0%
<b>Resi Total</b>	<b>1,093</b>	<b>775</b>	<b>-29%</b>	<b>\$ 36,599,000</b>	<b>\$ 32,263,447</b>	<b>-12%</b>	<b>5.40</b>	<b>5.40</b>	<b>0%</b>
Anaerobic Digesters	1	1	0%	\$ 18,000,000	\$ 18,000,000	0%	1.60	1.60	0%
Residential Solar	6,378	6,000	-6%	\$282,302,000	\$173,165,071	-39%	64.60	47.40	-27%
<b>S&amp;I Total</b>	<b>6,379</b>	<b>6,001</b>	<b>-6%</b>	<b>\$300,302,000</b>	<b>\$191,165,071</b>	<b>-36%</b>	<b>66.20</b>	<b>49.00</b>	<b>-26%</b>
<b>CGB Total</b>	<b>6,923</b>	<b>6,242</b>	<b>-10%</b>	<b>\$374,447,000</b>	<b>\$245,821,877</b>	<b>-34%</b>	<b>81.90</b>	<b>61.70</b>	<b>-25%</b>

**RESOLVED**, the Connecticut Green Bank Board of Directors approves the fiscal year 2017 target adjustments outlined in Attachment A.

Product/Program	Projects			Capital Deployment		
	Original Target	New Target	Target Delta	Original Target	New Target	Target Delta
CPACE	79	56	-29%	\$ 45,550,000	\$ 27,930,000	-39%
Commercial Lease	15	18	20%	\$ 11,250,000	\$ 13,500,000	20%
<b>C&amp;I Total</b>	<b>94</b>	<b>74</b>	<b>-21%</b>	<b>\$ 56,800,000</b>	<b>\$ 41,430,000</b>	<b>-27%</b>
Smart-E	538	254	-53%	\$ 9,039,000	\$ 5,873,447	-35%
Low Income Loans/Leases (PosiGen)	500	500	0%	\$ 15,250,000	\$ 15,250,000	0%
Multi-Family (Term Only)	55	17	-69%	\$ 12,310,000	\$ 11,140,000	-10%
<b>Resi Total</b>	<b>1,093</b>	<b>775</b>	<b>-29%</b>	<b>\$ 36,599,000</b>	<b>\$ 32,263,447</b>	<b>-12%</b>
Anaerobic Digesters	1	1	0%	\$ 18,000,000	\$ 18,000,000	0%
Residential Solar	6,378	6,000	-6%	\$ 282,302,000	\$ 173,165,071	-39%
<b>S&amp;I Total</b>	<b>6,379</b>	<b>6,001</b>	<b>-6%</b>	<b>\$ 300,302,000</b>	<b>\$ 191,165,071</b>	<b>-36%</b>
<b>CGB Total</b>	<b>6,923</b>	<b>6,242</b>	<b>-10%</b>	<b>\$ 374,447,000</b>	<b>\$ 245,821,877</b>	<b>-34%</b>

Capacity		
Original Target	New Target	Target Delta
11.10	7.30	-34%
3.70	4.50	22%
<b>14.80</b>	<b>11.80</b>	<b>-20%</b>

1.10	1.10	0%
3.40	3.40	0%
0.90	0.90	0%
<b>5.40</b>	<b>5.40</b>	<b>0%</b>

1.60	1.60	0%
64.60	47.40	-27%
<b>66.20</b>	<b>49.00</b>	<b>-26%</b>

<b>81.90</b>	<b>61.70</b>	<b>-25%</b>
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# Memo

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

**From:** Eric Shrago, Director of Operations, Jane Murphy, Controller, and George Bellas, VP of Finance & Administration

**CC:** Bryan Garcia, President & CEO

**Date:** January 17, 2017

**Re:** Fiscal Year 2017 Budget Reallocations

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As we are halfway through fiscal year (FY) 2017, we have better insight into areas of the budget that will be under and over spent per their approved line item allocation. Broadly, on the expense side, we are under budget, with 30% of the total operating budget expended 5 months into the fiscal year. However, a few particular line items are on track to exceed their budgeted amounts. In addition, as priorities have changed throughout the year, dollars can be better put to use elsewhere. We are proposing reallocations of approved dollars for the most part but do seek to add to our budget to cover a large unforeseen expense resulting from prior year activities. Overall, we propose reallocating \$277,500 amongst line items. Additionally, we need to change the size of our budget by \$3,772,855.

These changes represent a 0.5% increase in expenditures for the organization and a decrease of 2.5% in revenue. Attachment B outlines the proposed changes at the organizational level.

## Marketing

\$40,000 will be reallocated from the Marketing budget, with \$20,000 moving from CPACE Program Marketing (50/50 between website development and collateral) and \$20,000 moving from RSIP Outreach to General Operations. We are using these funds to identify projects by sponsoring Environmental Defense Fund Climate Corps Fellows, similar to what we did last year.

Additionally, we are seeking to increase our budget by \$203,000 to cover \$403,000 in EnergizeCT marketing expenses incurred by United Illuminating (UI) from 2014 to present. UI only recently presented CGB with \$202,000 of these bills. We plan to offset \$200,000 of this expense by reallocating unspent funds from the Clean Energy Communities Program.

## Residential Programs

We will be reallocating \$10,000 from Program Development and \$27,500 from Program Administration to Residential EM&V. This is to cover CGB's portion of a market study

performed in a prior year by Opinion Dynamics. Costs for the study were split with Eversource who just recently billed CGB.

### **Revenue**

Due to a variety of changes in our outlook we foresee a downward shift in revenue of \$3,569,855 for FY 2017. Due to a delay on the Master Purchase Agreement, CGB will have to forego two and a half quarters worth of SHREC proceeds currently budgeted at \$2,312,181. This will be partially offset by an increased forecast of non-SREC REC proceeds of \$ 219,853. Additionally, as we have lost 14 CPACE projects from our pipeline, we are decreasing revenue projections for CPACE Closing Fees and CPACE Capitalized Interest by \$171,600 and \$305,927 respectively. Finally, as recent Regional Greenhouse Gas Initiative (RGGI) auction proceeds have declined and the State of Connecticut has will be diverting proceeds for the upcoming March Auction, CGB intends to decrease its revenue projections by \$1,000,000.

### **Recommendation**

The Budget and Operations Committee has authority to reallocate up to \$75,000 between budget line items. Because some of the changes exceed the \$75,000 limit, we asked on January 11, 2017 that the Budget and Operations (B&O) Committee recommend that the Board of Directors approve of the proposed budget reallocations. Upon review and consideration, the B&O Committee recommended review and approval of the allocations described above by the full Board of Directors.

### **Resolution**

**WHEREAS**, the Budget and Operations Committee of the Green Bank recommends approval of the allocations outlined in Attachment B as presented on January 11, 2017 and recommend these revised allocations for consideration by the entire Board of Directors.

**Now**, therefore be it:

**RESOLVED**, that the Connecticut Green Bank Board of Directors approves the fiscal year 2017 revisions and reallocations outlined in **Attachment B** .

## Memo

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

**From:** Mike Yu, Senior Manager, Clean Energy Finance, Ben Healey, Director of Clean Energy Finance

**CC:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Kerry O'Neill, Managing Director of Residential Programs

**Date:** January 13, 2017

**Re:** Solar Lease 3 Facility with US Bank

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At a special meeting of the Connecticut Green Bank ("Green Bank") Board of Directors (the "Board") held on June 26, 2013, the Board approved resolutions for the establishment of the CT Solar Lease 2 program ("Solar Lease 2"), a public-private partnership between the Green Bank and private capital providers including U.S. Bank (as tax equity investor) and a syndicate of local and regional banks. Solar Lease 2 enabled lease and power purchase agreement ("PPA") financing for residential and commercial-scale solar PV systems in Connecticut installed by an array of independent contractors. The demand for Solar Lease 2 was such that Green Bank staff requested and received an approval from the Board in April 2016 to increase the capacity of the program by \$7.6 million (\$2.4 million in tax equity, \$3.4 million in new debt, and \$1.8 million in Green Bank capital). Solar Lease 2 has been a programmatic success; its capacity has been fully utilized, and nearly 1,200 residential systems representing more than 9.5 megawatts and dozens of systems representing another 9.5+ megawatts of commercial-scale projects have been approved by U.S. Bank and are either already placed in service or soon to be completed.

While Solar Lease 2 is no longer financing new projects, it is clear that demand for the Green Bank's PPA financing remains robust. There is a pipeline of approximately 9.0 megawatts of projects (\$23.6 million in projected fair market value) that includes municipalities, public and private schools, commercial off-takers, housing authorities, and nonprofits that are in varying stages of development but are all expected to be placed into service in 2017. On the following page is a representative, non-exhaustive (and confidential) sample of projects that may require Green Bank financing in 2017.

**REDACTED**

Green Bank staff believes that establishing another solar PPA facility (“Solar Lease 3”) with U.S. Bank is the most expeditious route that would enable the development of many of these projects that for one reason or another will not fit into the new facility we are separately establishing with Onyx Renewable Partners (“Onyx”), as further described below. The new facility with U.S. Bank would be functionally similar to Solar Lease 2, with the primary difference being that there will be no upfront debt financing in this structure (and, again, it will only finance commercial-scale installations, rather than residential projects).

As currently envisioned, Solar Lease 3 will consist of:

- A special purpose limited liability company (the “Project Company”) whose sole business will be to design, develop, own, and operate commercial-scale solar facilities;
- A tax equity flip structure whereby U.S. Bank, as the tax equity investor, will be allocated 99% of the investment tax credits in exchange for an aggregate ~\$9 million equity investment into the Project Company, representing just under **REDACTED** of the term capital stack; and
- Approximately \$15 million in Green Bank sponsor capital, to be back-leveraged with debt after appropriate seasoning.

As the Board is aware, in Q2 2016, staff conducted an RFP for tax equity (and potentially debt capital) to source a new solution for C&I, nonprofit, and institutional customers in Connecticut interested in going solar via a lease or PPA structure. This RFP was awarded to Onyx, and staff will shortly close on definitive documentation with Onyx to finalize our partnership with them. Staff has high expectations for the Onyx partnership and anticipates financing multiple megawatts of new solar projects with Onyx in 2017 and beyond. However, in order to provide the market with a certain level of credit and pricing flexibility that is needed to continue to serve certain more difficult segments / off-taker types, staff believes concurrent development of the proposed U.S. Bank PPA facility will ensure, in the short term, that we can serve as broad a swath of the market as is commercially reasonable, while also providing a bridge to a C&I solar market that no longer requires (or requires increasingly less) Green Bank participation to thrive.

Accordingly, staff seeks approval from the Board to finalize term sheet negotiations with U.S. Bank (premised broadly on the draft term sheet attached hereto as Confidential Attachment A) and proceed to execute documentation thereafter so as to continue the success of the Solar Lease 2 program with a new Solar Lease 3 fund. The attached term sheet is the initial offer from



U.S. Bank. Green Bank staff anticipates negotiating on the following key terms before term sheet finalization and moving forward with definitive documentation:

- Length of commitment – extending the life of the facility into 2018 to give us a longer deployment timeframe and reduce penalties for unused capital
- Credit criteria – expanding the percentage of unrated, non-C-PACE secured credits allowed in the fund (so as to enable the participation of more unrated municipalities, affordable housing properties, etc.)
- Project requirements – adjusting the definition of “Large Systems” to set it at a higher threshold so as to make it easier for smaller systems to qualify for financing
- Tranching process – ensuring this process mirrors the existing Solar Lease 2 approach
- ZRECs – potentially including projects without ZREC contracts but with Class I REC sale contracts
- Fees – reducing the required expense deposit, as well as delivery and structuring fees

## Resolutions

**WHEREAS**, the Green Bank has successfully utilized all of the capacity of the CT Solar Lease 2 program (“Solar Lease 2”), which was authorized at a special meeting of the Board of Directors of the Connecticut Green Bank (“Green Bank”) held on June 26, 2013;

**WHEREAS**, the Green Bank has received a draft term sheet from U.S. Bank to extend the success of Solar Lease 2 by investing approximately \$9 million in tax equity financing into a new solar fund focused exclusively on commercial-scale systems (“Solar Lease 3”), in a manner materially consistent, absent debt financing at the project level, with the structure previously approved by the Board of Directors with respect to Solar Lease 2; and

**WHEREAS**, the Green Bank intends to create a new special purpose vehicle and fund structure for Solar Lease 3, utilizing U.S. Bank tax equity, as broadly set forth herein.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board of Directors (“Board”) authorizes the President of the Green Bank and any other duly authorized officer of the Green Bank, to execute term sheets and negotiate and deliver definitive documentation to enable U.S. Bank tax equity capital and Green Bank sponsor equity to create together a Solar Lease 3 fund consistent with the memorandum submitted to the Board dated January 13, 2017, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from the date of authorization by the Board;

**RESOLVED**, that the Green Bank may commit up to \$15 million to Solar Lease 3 for term financing, in anticipation that Solar Lease 3 will be back-levered once its capacity has been fully utilized and the portfolio appropriately seasoned; and

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

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Ben Healey, Director of Clean Energy Finance; Mike Yu, Sr. Manager, Clean Energy Finance

**ATTACHMENT A**  
**DRAFT U.S. BANK TERM SHEET FOR SOLAR LEASE 3**

**REDACTED**

# Memo

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

**From:** Anthony Clark, Senior Manager, Commercial and Industrial Programs; Mariana C. Trief, Senior Manager, Clean Energy Finance

**CC:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Mackey Dykes, Vice President, Commercial and Industrial Programs; Ben Healey, Director, Clean Energy Finance

**Date:** January 13, 2017

**Re:** \$3,000,000 Program Related Investment from Kresge Community Finance

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On June 30, 2016, the Connecticut Green Bank (“Green Bank”) submitted a proposal to the Kresge Foundation’s Community Finance Program (“Kresge”) for a Program Related Investment (“PRI”) in the amount of \$3,000,000 to support the deployment of renewable and resilient energy systems at affordable housing and other community institutions and buildings that might act as hubs during major grid outage events in coastal and urban Connecticut. Funding from the PRI would support projects that provide more affordable, clean, and resilient energy to property owners, tenants, and community residents. Additionally, these projects would serve as an important “proof of concept” model to attract private sector investment to the deployment of resilient renewable energy at scale in Connecticut. The full proposal submitted to Kresge is attached hereto as Exhibit A.

On November 28, 2016, the Green Bank received notice from Kresge that the proposal and PRI had been approved. On January 3, 2017, Kresge provided a draft term sheet outlining the terms and conditions of the financing (see Exhibit B), with a goal of closing by February 24, 2017. Although this term sheet remains subject to final negotiation, the most important material terms are as follows:

- Principal of \$3,000,000, to be drawn over an 18-month period;
- Interest rate of 2%, to be paid quarterly, with a back-ended amortization in the last three years of the loan; and
- Tenor of 10 years.

As discussed and requested by Kresge, the counterparty to the PRI would be a wholly owned subsidiary of the Green Bank. A wholly owned subsidiary will ensure that the funds are dedicated and remote from other funds of the Green Bank. Additionally, this structure would address concerns from Kresge about the applicability of state contracting rules associated with the Green Bank’s quasi-public status, which present compliance challenges for Kresge as an out-of-state charitable foundation. As authorized by the adoption of Public Act No. 16-212, the Green Bank would form a Special Purpose Entity (“Green Bank SPE”) fully controlled by the Green Bank to take on the Kresge PRI obligation.

The attractive terms of this financing and the Green Bank’s ability to leverage it with our existing Commercial, Industrial & Institutional and Multifamily programs will unlock new opportunities to support clean energy resilience in the state. This PRI also represents a key success in the Green Bank’s efforts to tap into new sources of patient capital to support financial and technological innovation that deliver additional value to our customers. Green Bank staff is looking forward to closing this loan and putting Kresge’s capital to work. For these reasons, the Green Bank is requesting formal Board authorization to a) take on the PRI obligation in an amount not to exceed \$3,000,000 and b) form the Green Bank SPE to serve as the Kresge counterparty for the PRI.

## Resolutions

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) is actively seeking to deploy private capital to support affordable, clean, and resilient energy to property owners;

**WHEREAS**, the Kresge Foundation (“Kresge”) is a private foundation that funds arts and culture, environment, education, health, community development and human resources;

**WHEREAS**, pursuant to Connecticut General Statutes Section 16-245n, as amended from time to time, the Green Bank is authorized to accept both charitable gifts and loans from philanthropic foundations;

**WHEREAS**, the Green Bank drafted a proposal to Kresge dated June 30, 2016, which the latter has accepted, for a \$3,000,000 Program Related Investment (“PRI”) to support the deployment of clean energy systems that provide energy resilience and are installed at affordable housing and other buildings that might act as hubs during major grid outage events in coastal and urban Connecticut; and

**WHEREAS**, Green Bank staff recommends that the Board authorize the creation of a Special Purpose Entity that will be wholly owned by the Green Bank to take on the Kresge PRI obligation.

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank, is authorized to execute and accept the Kresge PRI, and in so doing obligate the Green Bank in a total amount not to exceed \$3,000,000 with terms and conditions consistent with the memorandum and associated exhibits submitted to the Board of Directors dated January 13, 2017, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from January 13, 2017;

**RESOLVED**, that the Green Bank may establish a wholly owned Special Purpose Entity with all the requisite powers to take on the Kresge PRI obligation as described in the memorandum to the Board of Directors dated January 13, 2017; and

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

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Mackey Dykes and Anthony Clark, Commercial and Industrial Programs; Ben Healey and Mariana C. Trief, Clean Energy Finance.

## Connecticut Green Bank

R-PRI-1604-260544 | \$3,000,000

**Click on "Edit" above to work on your full proposal.**

**Note, you should save periodically, and If you choose to log off after saving your application, you can return to it at any time by clicking on the "PRI Request - To Submit" link in the left sidebar.**

*Please select the correct Primary Contact (the primary contact for this request), Chief Executive Officer and Authorized Financial Contact from the dropdown menus below. If either of their names are missing, check the appropriate boxes below to add their contact information. We will create a new record in the system and update your application after it is submitted.*

**Name of Investee (or Parent Organization)** Connecticut Green Bank

**Primary Contact:** Anthony Clark

**Chief Executive Officer:** Bryan Garcia

**Authorized Financial Contact:**

**Please select the program you are applying for:** Kresge Community Finance

Organization Information

**Add/Change Primary Contact:** No

**Add/Change CEO:** Yes

**CEO Contact Information**

Prefix	Mr
First Name	Bryan
Middle	
Last Name	Garcia
Suffix	
Title	President and CEO
Phone	860-257-2170
Email	bryan.garcia@ctgreenbank.com

**Check this box if this is a "new" CEO contact that needs a Fluxx login.** No

**Is the CEO's address different than the organization's address?** No

**Add/Change Authorized Finance Contact:** Yes

## Authorized Financial Contact Information

Prefix	Mr
First Name	George
Middle Name	
Last Name	Bellas
Suffix	
Title	Vice President, Finance & Administration
Phone	(860) 257-2341
Email	George.Bellas@ctgreenbank.com

**Check this box if this is a “new” Authorized Financial Contact that needs a Fluxx login.**  No

**Is the Finance contact's address different than the organization's address?**  No

If you need to update your organization’s information, please save your request first and then click on the Organization tab within the menu on the left.

## Current Organization Information on File

Legal Name	Connecticut Green Bank
AKA	
Street Address	845 Brook Street
City	Rocky Hill
State	CT
Postal Code (Zip)	06067
Phone	(860) 563-0015
Fax	Connecticut Green Bank
Website	<a href="http://www.ctgreenbank.com/">http://www.ctgreenbank.com/</a>
Mission Statement and Background	Vision To lead the green bank movement by accelerating private investment in clean energy deployment to help Connecticut achieve economic prosperity, create jobs, promote energy security and address climate change. Mission 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. Goals 1. To attract and deploy private capital investment to finance the clean energy 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 customers. 4.To support affordable and

Year Organization  
Established

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.

7/1/2011

**Note that a number of questions in the Request Information and the Narrative Questions sections below are prepopulated from your Letter-of-Inquiry submission (LOI). You can edit the answers previously provided. Any questions from the LOI that do not display (#s 3, 4 & 5), are not editable, and will not be considered when evaluating full proposals.**

Request Information

**Project Title:**

Accelerate Deployment of Renewable and Resilient Energy in Urban and Coastal Connecticut

**Purpose of the PRI:**

The Connecticut Green Bank (Green Bank) seeks to promote climate resilience initiatives by accelerating the deployment of renewable energy and energy storage in both affordable multifamily housing and community institutions in our state's urban and coastal communities.

<b>Term of the requested Kresge Social Investment in number of years (max 10 years)</b>	10
<b>Amount of the Requested Kresge Social Investment (min \$500,000; max \$3,000,000)</b>	\$3,000,000.00
<b>Organizational operating budget for current fiscal year in U.S. dollars:</b>	\$20,600,000.00
<b>Fiscal Year End Date:</b>	6/30/2016

Organization Type - select using the green plus sign.

**Are there any other sources of financing committed and/or pending for the same purpose as this request?** Yes

**Please provide the name of each source, the requested amount, and whether it is committed or not. (1,000 characters, including spaces)**

These Green Bank programs will leverage deployment of Kresge funds:

1. Commercial Property Assessed Clean Energy (C-PACE), capitalized at \$100 million, provides financing for clean energy upgrades through a benefit assessment lien.
2. The Low Income Multifamily Energy Loan, capitalized at \$3.5 million, provides unsecured low interest loans for energy improvements.
3. Through a partnership with Housing Development Fund and MacArthur Foundation, a Multifamily Gap Financing Fund, capitalized at \$4.5 million, funds energy improvements and health and safety issues.
4. The Multifamily Pre-Development Energy Loan Program, supported by a \$650,000 revolving loan, funds work needed to scope and secure energy improvements.



5. Solar Lease 2 and 3 (SL2 and SL3) combines tax equity and debt to finance solar PV projects for commercial, multifamily housing, nonprofit, and municipal entities. After the success of its existing \$65 million SL2 fund, the Green Bank is sourcing ~\$80 million for SL3.

**The portal does not autosave therefore you must click the [Save] button to ensure your data will not be lost. Then, click Edit at the top right to continue working on your application. If you choose to log off after saving your application, you can return to it at any time by clicking on the "PRI Request - To Submit" link in the left sidebar.**

Narrative Questions

**Note that questions #3, 4 & 5 have been intentionally omitted.**

**1. Name of proposed borrowing entity (up to 100 characters):**

Connecticut Green Bank or a wholly owned subsidiary/special purpose vehicle

**2. Proposed use of funds (up to 1000 characters):**

The Green Bank proposes using Kresge funds to finance projects that incorporate solar and storage technologies to demonstrate the resiliency value and financing model for these solutions at affordable multifamily buildings and other community facilities. In addition to generating clean energy and savings for the property, solar and storage solutions can provide resilient power in the event of grid outages for buildings in coastal and inland areas. As part of the CT Solar Lease 2 program (SL2), the Green Bank financed deployment of over 50 distinct commercial, industrial, multifamily housing, nonprofit, and municipal solar PV systems. In partnership with the Connecticut Housing Finance Authority, approximately 10 of the SL2-financed projects benefited affordable multifamily properties. The Green Bank is in the process of sourcing capital for a new fund, Solar Lease 3 (SL3), to support solar PV deployment across the state and will integrate seamlessly with this proposed project.

**6. Requested drawdown period in number of months, max is 6 (note this period should be included within the requested term above):** 6

**7. Interest rate supported by the proposed use of funds, min 2.00% (note interest is expected to be paid quarterly and loans are non-revolving):** 2

**8. Requested principal amortization schedule (Note: It is expected that most Kresge Community Finance loans will be structured with an amortization period of 1/3 of original principal amount in each of the last three years; however, alternate requests may be considered particularly if the use of funds supports an earlier repayment.) (up to 500 characters):**

The Green Bank believes a repayment schedule that includes the following terms will work well given the proposed use of funds: 1) interest is paid throughout the term; 2) 1/3 of principal payments are paid annually in arrears in each of the last three years; and 3) there are no prepayment penalties.

**9. Does the proposed use of funds include the refinancing of existing debt?** No

**10. Please describe the problem, challenge, need or opportunity you propose to address. Discuss why your organization or entity is well positioned to address it. (2,000 character limit, including spaces)**

Our nation's aging electricity system is increasingly vulnerable to extreme events. Hurricane Sandy brought national attention to the need for improved resilience in the face of climate change. Approximately 620,000 people in Connecticut, or one in six citizens, experienced power outages during and after that storm. While climate change affects everyone, low- and moderate-income (LMI) populations can face a higher burden due to challenges in coping with disruptive and dislocation impacts during these events, as well as the costs of recovering from these disasters. LMI households thus may experience proportionally higher benefits from technologies that lessen these disruptions. Given that Connecticut has the third highest electricity rates in our nation—behind only Alaska and Hawaii—LMI households in our state in particular stands to gain from technologies that reduce their overall cost of electricity.

While solar and storage solutions hold potential for reducing energy expenses and improving resiliency in the face of threats to the grid, challenges such as upfront cost, proper valuation of resiliency benefits, understanding technology risks, and development of appropriate financing structures have impeded the uptake of solar and storage solutions among affordable multifamily properties and other community facilities.

The Green Bank has been successful in eliminating the financial barriers to clean energy investment by facilitating the transition to innovative low-cost and longer term financing of clean energy deployment. It has brought together customers, contractors and sources of capital to implement clean energy solutions that provide cleaner and cheaper energy for homes, businesses and institutions across the state. By partnering with the Kresge Foundation, the Green Bank can help accelerate the uptake of solar and storage solutions, especially among traditionally underserved populations most vulnerable to high energy prices and extreme weather events.

**11. Please describe the community(ies) that are the focus of this request, including salient demographics. (2,000 character limit, including spaces)**

Low income communities in Connecticut bear a disproportionately high energy burden and exposure to the disruption of climate change. As demonstrated by Hurricane Sandy's aftermath, LMI populations face higher impacts of climate related weather disasters due to substandard housing, fewer economic opportunities, and reliance on often inadequately maintained infrastructure.

Coastal communities are home to 60 percent of the state's population. Many of Connecticut's largest cities, including Bridgeport and New Haven, sit at low elevations adjacent to the Long Island Sound making them vulnerable to flooding. More than 32,000 homes lie within the 100-year floodplain (source: <http://1.usa.gov/293sJfN>). With support from Kresge, the Green Bank would prioritize LMI communities in the coastal and upriver communities that may be affected most in the event of a major storm. In addition to specifically targeting LMI communities in these areas, the Green Bank would also consider suburban and rural communities that have a high concentration of elderly residents who are exceptionally vulnerable in an extreme weather event. The Green Bank will focus initially on the Greater Bridgeport, Greater New Haven, and Greater Hartford regions, for which demographic information is provided in the demographics section below.

Within these communities, the Green Bank would target solar and storage solutions for affordable multifamily properties and other critical facilities, including local businesses that act as a hub for local communities during major storm events. We would also consider serving smaller residential buildings of one to four families provided we identify a cost-effective and scalable path for deploying follow-on capital to the Kresge PRI in the residential market.

**12. Briefly describe the proposed work and goals, and how they will advance opportunity for low-income people. Please identify any changes you expect to see or bring about in a place, market, industry, or sector. (2,000 character limit, including spaces)**

Due to technology improvements and reductions in cost for solar and battery technology, solar and storage solutions are becoming a cost-effective solution to reduce energy costs and provide backup power during grid outages.

With support from the Kresge Foundation, the Green Bank will develop a "proof of concept" financing model to support the deployment of resilient and clean energy solutions. It will do so by financing between 13 and 18 battery storage projects benefitting affordable multifamily properties and other facilities, including local

businesses that act as a hub for local communities during major storm events. The Green Bank will pair these storage investments with solar financing at these same properties through its complementary and ongoing programs.

To reach the proposed goal, the Green Bank will work with stakeholders, including local contractors who are active or eager to enter the battery storage space, property owners, and other capital providers. The Green Bank will simultaneously: (1) identify potential properties through its existing channels, and (2) work with storage providers and leverage other funding sources to conduct a feasibility analysis of the technology and economics at potential sites. We will then provide financing to property owners for a combined solar and storage solution, using Kresge funds for the storage portion of the solution. These 13 to 18 projects will provide more affordable, clean, and resilient energy to property owners. Additionally, these projects will serve as an important “proof of concept” model to attract private sector investment to the deployment of resilient renewable energy at scale.

The Green Bank also plans to work closely with property owners and partners to validate the value of solar and storage for LMI customers, based on the performance of the projects. Results will help to leverage additional support toward resilient energy technologies and influence future policies and rate design.

**13. How did you arrive at the size of your Kresge Community Finance request? What evidence can you provide to demonstrate sufficient demand to ensure the uptake of the proposed Kresge Community Finance Loan? (2,000 character limit, including spaces)**

The Green Bank analyzed the performance of past and current solar financing programs and identified the number of projects that (1) target the types and location of properties prioritized in this proposal and (2) have an adequate load to support the economics of storage solutions. The Green Bank then identified that it could conservatively generate demand for this resilient energy technology in approximately 32 properties. However, more than \$6 million would be required to finance storage solutions in these 32 properties (assuming an average cost of \$180,000 for a 50 kW capacity storage system). The Green Bank therefore sized its request to Kresge based on a \$3 million maximum amount, recognizing that we expect demand beyond that proposed amount.

The Green Bank has taken a partnership based approach to the development of solutions with partners including local Community Development Finance Institutions, MacArthur Foundation, state and federal housing agencies (Connecticut Housing Finance Authority, Department of Housing, US Housing & Urban Development), the utilities, the CT Department of Energy & Environmental Protection (DEEP), Connecticut Housing Coalition, municipalities, and community-based organizations. These partners are organized around a common goal to achieve comprehensive, deeper energy improvements that help owners and tenants save energy, reduce costs, increase property values, and provide healthier and more comfortable housing. Through this network of partners and by working in coordination with its already successful solar financing programs, the Green Bank is confident that it will generate a greater demand than the funds requested. Kresge funds will therefore help to develop and validate the financing model for solar and storage solutions on which the Green Bank expects to build in order to attract private sector investment interest for the remaining demand.

**14. Please describe the expected timeframe for the drawdown and utilization of any financing received through this request. (500 character limit, including spaces)**

The Green Bank is confident about the potential to deploy the proposed \$3 million in Kresge funds to finance 13 to 18 projects, targeting affordable multifamily properties and other community facilities. The Green Bank will draw down Kresge funds in one or more draws, as agreed, to provide the term debt financing for storage projects either during project installation or post-completion.

**15. Describe how you will know if you are making progress toward realizing the goals or changes you expect to see as identified in question #12. (1,000 character limit, including spaces)**

Through high-level metrics, we will measure progress based on the overall level of investment from Kresge and other sources to support deployment of new solar and storage resilient energy projects as well as retrofits to existing solar projects to add storage and resilience. In addition to tallying the investment in dollars, we will track the number of systems, installed capacity of solar PV and storage, and the cumulative clean energy produced by those systems. We will then explore more human-centered metrics such as the number of communities or households with access to resilient renewable electricity (with a focus on LMI communities), as

well as the avoided emissions and avoided costs realized by deploying these systems. We may also consider long-term changes in the installed cost per kilowatt and per kilowatt-hour of battery storage in anticipation of this initiative's role in helping drive down costs over time.

**16. What obstacles might prevent you from achieving your anticipated results? What are your plans to overcome these obstacles? (1,000 character limit, including spaces)**

While deployment of combined solar and storage technology is accelerating, the cost premium over solar power alone is an obstacle to developing projects in Connecticut. We may face challenges making the economic case for resilient renewable power and motivating building owners to become early adopters. As with any relatively new product, we may incur delays and risks related to regulatory and permitting requirements as well as technology integration risks that often challenge first wave installations of new technologies. To address and overcome these potential challenges, the Green Bank will leverage its experience and that of its partners in the solar field and find innovative ways to address and overcome these hurdles. The Green Bank also plans to embrace a pay-as-you-save approach so that the risk lies with the Green Bank and not the affordable multifamily and community facility customers.

**17. Describe the amount and source of other capital that will be utilized to support this work, including the role of any other social investments from philanthropy, government or the private sector. (1,000 character limit, including spaces)**

The Green Bank expects to leverage funding from its multiple programs as previously described, including its CPACE, SL2, and SL3 programs, to support the solar portion of the proposed clean energy and storage solutions deployed. On average, we expect the cost of the clean renewable energy generation (solar PV) portion of the project to be 3 to 5 times the cost of the battery storage; therefore, \$3 million in Kresge supported projects would leverage between \$9 and \$15 million in funds from the Green Bank's existing dedicated pools of capital. The Green Bank also offers pre-development loan products to cover the costs of professional services needed to define and fund energy projects. As part of its mission and critical mandate to attract capital for clean energy deployment, the Green Bank will continue to identify private and public sources of funds to further support the deployment of solar and storage solutions

**18. Please articulate your organization's approach to managing its capital structure over time, with particular emphasis on the term of the proposed Kresge Community Finance loan. (1,000 character limit, including spaces)**

The Green Bank leverages public and private funds to drive investment and scale-up clean energy deployment in Connecticut. It is capitalized through a number of public sources, namely: (1) a Systems Benefit Charge on customers' utility bills, which on average generates \$27 million a year; (2) proceeds from Regional Greenhouse Gas Initiative auctions; and (3) other sources, including income from portfolio investments, the state's Special Capital Reserve Fund to support bond issuances by the Green Bank, Green Loan Guaranty Fund, and funds via the American Recovery and Reinvestment Act. These same sources of funding are expected to continue to capitalize the Green Bank throughout the term of the proposed Kresge Community Finance Loan ("Kresge Loan"). The Green Bank will continue to attract hundreds of millions of dollars in private investment from local, regional, and national sources to support its clean energy deployment mandate and the proposed Kresge Loan.

**19. What are the most significant financial and organizational challenges your organization faces in the next five years? (1,000 character limit, including spaces)**

The Green Bank's most pressing challenges in the next five years will be to continue to: (1) attract private sector funding to develop and implement strategies that bring down the cost of clean energy to make it even more accessible and affordable to all customers, especially low-to-moderate (LMI) communities; (2) support the deployment of emerging clean energy technologies, such as battery storage; and (3) address health and safety concerns affecting Connecticut's homes, businesses and institutions that prevent clean energy upgrades from taking place. In its efforts to mobilize more investment in clean energy, the Green Bank must ensure that clean energy is accessible and affordable to everyone, while simultaneously coordinating with other stakeholders to ameliorate health and safety issues along the way.

□ Demographic Data

*In keeping with our value of promoting racial, ethnic, and gender diversity, The Kresge Foundation is committed to gathering demographic data concerning grantseekers and the populations they serve. We ask that you provide the information requested on this form to the best of your ability. Definitions are provided below. We welcome your feedback on the usability of this section. If you would like to offer comments, please email [demographicdata@kresge.org](mailto:demographicdata@kresge.org) with your thoughts.*

*Note: The federal Office of Management and Budget employs the following definitions of ethnic and racial categories.*

**Ethnic Categories**

**Hispanic or Latino:** A person of Cuban, Mexican, Puerto Rican, South or Central American or other Spanish culture or origin, regardless of race.

**Racial Categories**

**American Indian or Alaska Native:** A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

**Asian:** A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

**Black or African American:** A person having origins in any of the black racial groups of Africa.

**Native Hawaiian or Other Pacific Islander:** A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

**White:** A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

**Governing Board**

*Number of board members: 11*

**Gender**

Female: 36%

Male: 64%

*TOTAL:* 100%

**Race**

American Indian or Alaska Native:

Asian:

Black or African American:

Native Hawaiian or Pacific Islander:

White:

More than one race:

*TOTAL:*

**Ethnicity**

Hispanic or Latino:

Not Hispanic or Latino:

*TOTAL:***Staff Members***Number of Staff members: 48***Gender**

Female: 48%

Male: 52%

*TOTAL:* 100%**Race**

American Indian or Alaska Native:

Asian: 2%

Black or African American: 7%

Native Hawaiian or Pacific Islander:

White: 88%

More than one race: 3%

*TOTAL:* 100%**Ethnicity**

Hispanic or Latino: 10%

Not Hispanic or Latino: 90%

*TOTAL:* 100%**Population Served (if applicable)***Number of population served: 733340***Gender**

Female: 52%

Male: 48%

*TOTAL:* 100%**Race**

American Indian or Alaska Native: 1%

Asian: 3%

Black or African American: 26%

Native Hawaiian or Pacific Islander: 1%

White: 54%

More than one race: 15%

*TOTAL:* 100%**Ethnicity**

Hispanic or Latino: 29%

Not Hispanic or Latino: 71%

*TOTAL:* 100%**If explanation is necessary, please use the space provided:**

Regarding our Board of Directors, we do not have ethnicity and race data available. Regarding the Population Served, the statistics above represent the selected regions of Bridgeport, Greater New Haven, and Greater Hartford we anticipate prioritizing for Kresge-supported work. The Green Bank does, however, serve the entire

state.

## □ Attachments

Please note, PDFs are the preferred attachment format for information submitted to The Kresge Foundation. The largest size of a single file is 5GB. There is no limitation to the total size of files uploaded to an individual record. Files with certain extensions (such as ".exe", ".com", ".vbs", or ".bat") cannot be uploaded. For a complete list of allowed file types, please click the following link: [Allowed File Types](#)

- **\*Annual budget** - a copy of the current fiscal year's organizational-wide operating budget.
- **\*Board member list** - current board members and professional or community affiliations, with officers identified.
- **\*Financial audit** - a copy of your **three** most recent independent audits.
- **\*Letter of request** - on applicant's letterhead, authorized to enter into contracts on behalf of the organization.
- **\*Most recent financials** - most recent unaudited financial statements.
- **\*Org by-laws** - Organizational by-laws.
- **\*Org chart** - Organizational chart showing key staff and managers and lines of authority.
- **\*Project personnel** - the names and qualifications of the key individuals who will lead and manage the work described in this request. For each individual, please describe the expertise and experience he or she brings to the work.
- **Loan fund policies** - If the request involves the relending or reinvestment of Kresge funds to other organizations or projects, please provide a copy of your organization's underwriting and fund management policies.
- **Project narrative** - Please respond to any specific questions that may have been included in your emailed invitation.

**After uploading, click Save and return to the Attachments section to view and verify your uploaded attachments.**

### APPLICATION DOCUMENTS

 [Connecticut Green Bank Kresge Project Personnel.pdf](#)

**Project personnel**

Added by Anthony Clark at 4:46 PM on June 30, 2016

 [Connecticut Green Bank Narrative Questions.pdf](#)

**Project narrative**

Added by Anthony Clark at 4:42 PM on June 30, 2016

 [Connecticut Green Bank Loan Fund Policies.pdf](#)

**Loan fund policies**

Added by Anthony Clark at 3:31 PM on June 30, 2016

 [Connecticut Green Bank Letter of Request.pdf](#)

**Letter of request**

Added by Anthony Clark at 3:17 PM on June 29, 2016

 [Connecticut Green Bank Board of Directors.pdf](#)

**Board member list**

Added by Anthony Clark at 2:43 PM on June 29, 2016

 [CEFIA-FY13-Audited-Financial-Statements.pdf](#)

**Financial audit (3)**

Added by Anthony Clark at 2:33 PM on June 29, 2016

 [Connecticut-Green-Bank-2014-CAFR.pdf](#)

**Financial audit (2)**

Added by Anthony Clark at 2:32 PM on June 29, 2016

 [Connecticut-Green-Bank-2015-CAFR.pdf](#)

**Financial audit (1)**

Added by Anthony Clark at 2:31 PM on June 29, 2016

 [May2016 CGB Unaudited Financial Statements.pdf](#)

**Most recent financials**

Added by Anthony Clark at 2:28 PM on June 29, 2016

 [Green-Bank\\_BOD\\_Bylaws.pdf](#)

**Org by-laws**

Added by Anthony Clark at 2:27 PM on June 29, 2016

 [Org Chart June 2016.pdf](#)

**Org chart**

Added by Anthony Clark at 2:26 PM on June 29, 2016

 [FY16 CGB Budget.pdf](#)

**Annual budget**

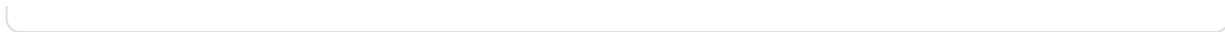
Added by Anthony Clark at 2:23 PM on June 29, 2016

 [Connecticut-Green-Bank-2015-CAFR.pdf](#)

**Financial audit**

Added by Anthony Clark at 10:28 AM on April 29, 2016





Terms are of a summary nature and may not be all-inclusive.

This document will not create a binding or legally enforceable obligation on The Kresge Foundation or the Connecticut Green Bank in any way.

Charitable Purpose	To provide capital to the Connecticut Green Bank to enable it to invest in the installation of [REDACTED] power systems each of which combine solar panels and batteries and are installed at affordable housing and other community buildings [REDACTED] in coastal and urban Connecticut.
Lender	The Kresge Foundation
Borrower	A to be formed, wholly owned subsidiary of Connecticut Green Bank (SPV or Borrower), [REDACTED]
Transaction Costs	All parties are responsible for their own costs, legal and otherwise, in evaluating and closing this proposed transaction.
Loan Amount	Up to \$3,000,000 (the Loan)
Term	10-years
Interest	2%, paid quarterly in arrears, calculated based on a year of 365 days and for the actual number of days elapsed.
Repayment	Interest paid quarterly in arrears on the last day of March, June, September and December throughout the term of the Loan. Interest will be calculated based on a year of 365 days and for the actual number of days elapsed.  Principal due in three equal installments on the 8th, 9th and 10th anniversaries of the Loan closing, with any remaining amounts due in full on the 10th anniversary (Maturity Date).  Prepayments permissible without penalty, and with 90-days advance notice.
[REDACTED]	[REDACTED]
Supporting Grant	30 days following either the full draw down of the Loan, or the expiration of Kresge's commitment to fund additional draws, Kresge will award an unrestricted grant to Borrower in an amount equal to 5% of the total amount drawn from the Loan.
Commitment to Lend and to Disburse	Kresge anticipates closing by February 24, 2017, and the offer of financing represented by this termsheet will expire on April 30, 2017. Kresge's commitment to fund additional draws from the Loan will expire on the 18 <sup>th</sup> monthly anniversary of the Loan closing (Drawdown Period).

Financial Covenants	<p>During the term of the Loan, CGB will maintain the following financial ratios:</p> <p>Net position / total assets <math>\geq 25\%</math></p> <p>Current assets / current liabilities <math>\geq 120\%</math></p> <p>2-year change in unrestricted net position <math>\geq \\$0</math></p> <p>90-day delinquencies / total loans outstanding <math>\leq \text{TBD}\%</math></p> <p>Annual loan losses / total loans outstanding <math>\leq 5\%</math></p>
<p><b>Quarterly Reporting</b> due 45 days after the end of each fiscal quarter</p> <ol style="list-style-type: none"> <li>1. Financial statements of CGB and Borrower</li> <li>2. Optional narrative update on Kresge supported activities</li> </ol> <p>Pipeline / project report detailing: Project name, project sponsor, loan status (e.g. Pipeline, Underwriting, Closed, Watchlist), anticipated or actual closing date, amount of loan, amount drawn, total project size and any material defaults</p>	
<p><b>Annual Reporting</b> due within 90 days of Borrower's fiscal year end</p> <ol style="list-style-type: none"> <li>1. Audited financial statements of CGB which also separately reflect statements of Borrower</li> <li>2. Certification of compliance with Loan terms and covenants</li> <li>3. Portfolio quality report in the form normally produced by CGB for management use</li> </ol>	
<p><b>Social Impact Report</b></p> <p>From Loan Closing until the Loan is repaid in full, Borrower will submit a Social Impact Report detailing the cumulative use of Kresge funds.</p> <p>The Social Impact Report will be due on the following schedule:</p> <ul style="list-style-type: none"> <li>• From Loan Closing through 6/30/19: due semi-annually within 90 days of each 6/30 &amp; 12/31</li> <li>• From 6/30/19 through full repayment: due annually within 90 days of each 6/30</li> </ul> <p>The Social Impact Report will, at a minimum, provide the following information:</p> <ol style="list-style-type: none"> <li>1. A table listing each project that benefits from the PRI financing, and for each project provides the: <ol style="list-style-type: none"> <li>a. project name and address</li> <li>b. total amount invested</li> <li>c. amount of Kresge PRI invested</li> <li>d. loan status (e.g. current, delinquent, non-accrual etc)</li> <li>e. installed capacity for both solar PV and storage components</li> <li>f. cumulative clean energy produced</li> <li>g. for housing related projects: number of households with access to clean energy</li> <li>h. for community facility projects: names of community(ies) benefiting from the project</li> </ol> </li> </ol> <p>(continued on next page)</p>	

**Social Impact Report - continued**

(Note that data listed below in items 2 through 4 can be incorporated into the table described above as appropriate, or addressed in narratvie form)

- 2. Avoided emissions and avoided costs realized by deploying these systems.
- 3. Long-term trends and changes in the installed cost per kilowatt and per kilowatt-hour of battery storage (in anticipation of this initiative’s role in helping drive down costs over time)
- 4. Project performance, including:
  - a. Expected vs. realized energy performance of the system (solar + storage) – in kWh / year
  - b. Expected vs. realized economic savings from the system (solar + storage) – in \$ / year
  - c. Resiliency benefit provided, system performance in the case of an outage – in kWh of backup / year

Other pre closing conditions	Updated pipeline of proposed transactions benefiting from the Loan. Most recent quarterly financial statements for CGB. Customary organizational documents and certifications for transactions of this type.
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**Acknowledged and accepted:**

\_\_\_\_\_

Name:

Title:



# Memo

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

**From:** Kerry O'Neill, Managing Director, Residential Programs; Joe Buonannata, Senior Associate, Residential Programs

**CC:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Eric Shrago, Director of Operations; George Bellas, VP Finance and Administration; Chris Magalhaes, Senior Manager, Clean Energy Finance

**Date:** January 13, 2017

**Re:** Smart-E Loan Program Enhancement Updates

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## Purpose

The purpose of this memorandum is to request programmatic approval from the Connecticut Green Bank ("Green Bank") Board of Directors to allow for all current and future community banks, credit unions and community development financial institutions to utilize the Smart-E Loan Program's alternative underwriting option (see Attachment A for updated Alternative Underwriting Term Sheet and Loan Requirements, with changes tracked).

The current approved program term sheet only allows Capital for Change ("C4C," formerly known as Connecticut Housing Investment Fund) to do direct lending for the alternative underwriting version of Smart-E. Green Bank staff was recently approached by a credit union, one of our top Smart-E lenders, who asked to match what C4C is doing for credit-challenged customers. Staff is pleased by this desire of a more traditional Smart-E lender to offer expanded credit terms and believe a few of our other participating credit unions will follow suit.

## Background:

The Smart-E Loan Program was created to use low-cost and flexible local private capital as a tool to increase the number of homeowners participating in clean energy household improvements consistent with the Green Bank's Comprehensive Plan, the State of Connecticut's Comprehensive Energy Strategy, and the Connecticut Energy Efficiency Fund's Conservation and Load Management Plan. Originally approved by the Green Bank Deployment Committee on November 30, 2012 as the CT Home Energy Loan Program ("CT HELPs"), the Smart-E Loan Program was launched in May 2013 and reached statewide coverage in November 2013. The program provides long-term, low-cost financing to single-

family homes implementing energy efficiency and renewable energy improvement projects by creating a \$1.8 million Loan Loss Reserve (“LLR”) and \$2.5 million Interest Rate Buy-down (“IRB”) mechanism, currently totaling a combined \$4.3 million of funds (\$3.5M of repurposed ARRA-SEP funds and \$0.8M of Green Bank funds) to leverage ~\$30 million of unsecured loan capacity from local lending institutions. The original lending program was bifurcated into Class A loans (corresponding to a minimum FICO score of 680, a maximum debt-to-income ratio of 45%, a 1.5% retained loss on behalf of the lending institution, and 7.5% loan value credit toward the LLR) and Class B loans (corresponding to a FICO score range of 640 – 679, a maximum debt-to-income ratio of 45%, a 3.0% retained loss on behalf of the lending institution, and 15.0% loan value credit toward the LLR). The targeted loan mix within the original program was at least 80% Class A Loans and not more than 20% Class B Loans.

The program was amended via a memo to the Green Bank Board of Directors dated October 9, 2015, in which an alternative underwriting option was introduced<sup>1</sup>. The alternative underwriting option is a variation of the Smart-E Loan Program, intended to expand the Smart-E Loan applicant pool beyond the standard underwriting criteria, so as to include credit-challenged borrowers who are still considered a low default risk. The alternative underwrite allows for more flexibility with respect to FICO and Debt-to-Income (“DTI”) criteria, while still providing borrowers the traditional benefits of Smart-E loans in the form of low-cost, long-term financing options.

To date, the Smart-E Loan program has succeeded in driving customer demand and matching it with a low-cost, flexible supply of private capital. Through November 30, 2016, participating Smart-E Lenders had approved, closed or funded 895 loans for just over \$16.1 million of private capital principal balance. As this marketplace for clean energy household retrofits continues to grow, Green Bank staff recommends expanding the offer to utilize the alternative underwriting term sheet to all current and future community banks, credit unions and community development financial institutions participating in the Smart-E Loan program.

## **Resolution**

**WHEREAS**, in July of 2011, the Connecticut General Assembly passed Public Act 11-80, “AN ACT CONCERNING THE ESTABLISHMENT OF THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION AND PLANNING FOR CONNECTICUT’S ENERGY FUTURE,” which created the Connecticut Green Bank (the “Green Bank”) to develop programs to finance and otherwise support clean energy investment in residential projects per the definition of clean energy in CGS Section 16-245n(a);

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<sup>1</sup> The Smart-E program was previously amended via a memo to the Green Bank Deployment Committee dated February 28, 2014, with loans ranging in tenor from 5 – 12 years, in rates not to exceed 4.49% to 6.99% respectively, in amounts from \$3,000 to \$45,000 (subject to approval), and, pursuant to Public Act 13-298, either serviced directly by the lender, or indirectly by an On-bill Repayment (“OBR”) mechanism in conjunction with participating utilities.

**WHEREAS**, in February of 2013, the DEEP released the Comprehensive Energy Strategy (“CES”) for Connecticut that includes developing financing programs that leverage private capital to make clean energy investments more affordable, including the pilot Smart-E Loan residential financing program and the development of an on bill repayment (“OBR”) program for residential customers with a utility shutoff provision for failure to make loan repayments; and

**WHEREAS**, in May of 2013, Green Bank launched the Smart-E Loan program, statewide as of November 2013, with 9 credit unions and community banks providing low cost and long-term financing for measures that are consistent with the state energy policy and the implementation of the CES. The Smart-E Loan uses \$4.3 million of credit enhancement, including both repurposed ARRA-SEP and Green Bank funds, to attract nearly \$30 million of private investment from local financial institutions.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board of Directors (the “Board”) approves of the request to allow for all current and future community banks, credit unions and community development financial institutions to utilize the Smart-E Loan Program’s alternative underwriting option, consistent with the memorandum submitted to the Board dated October 9, 2015 and as modified by the memorandum submitted to the Board January 13, 2017.

## ATTACHMENT A

### SMART-E ALTERNATIVE UNDERWRITING TERM SHEET

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**Purpose of the Structure:** To provide financing for Eligible Improvements for credit-challenged Residential Consumer Borrower loans underwritten by individual Lenders through the Smart-E Loans Program.

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#### Parties

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Program	Smart-E Loans Program
Borrower	Individual Homeowners Installing Energy Efficient Measures pursuant to Home Energy Solutions (HES) Audit, HPwES or equivalent; and other agreed measures including oil-to-gas heating conversions, solar hot water and solar PV
Lender	Direct Lending Platform: <a href="#">community banks, credit unions, and community development financial institutions</a> <a href="#">Connecticut Housing Investment Fund (“CHIF”)</a> , and
from Lender Syndicate	Centralized Lending Platform: Green Bank or Pooled Capital
Sponsors	
Green Bank	Development, oversight, and approval of program design and modification; Credit Enhancement Provider; Program Administrator
Contractor	1) Insured Home Energy Solutions and Home Performance with Energy Star approved program vendors, Buildings Performance Institute certified staff or contractor on the job, or other appropriately licensed and insured contractor that is a registered home improvement contractor with the Connecticut Department of Consumer Protection 2) Green Bank approved installers of solar PV and solar hot water systems, as well as ground source heat pumps and other relevant technologies

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#### Credit Enhancement

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Loan Loss Reserve	Green Bank will offer “loan loss” protection on a pool basis, determined as follows: Every loan booked by the Lender will earn a credit to a loan loss reserve account held by Green Bank from two risk baskets:
Applicant FICO Score	580 and above



- (1) 680 & up                      Up to 7.5% of each loan  
(2) 580-679                        Up to 15% of each loan

Use of the Reserve                Following the usual and customary loan collection process and upon being classified by the Lender as “uncollectible,” the Lender will submit evidence to Green Bank that it has experienced an uncollectable loan and that it requests reimbursement from the Loan Loss Reserve. Green Bank will then pay the Lender:

After experiencing in respect of the Lender participant a loss in excess of:

- (a) in the case of 580-679 Loans, 3.0% of the portion of the portfolio of these loans; and
- (b) in the case of 680 & up Loans, 1.5% of the portfolio of these loans

100% of the principal balance of the loss, up to the amount standing to the account.

If the Loan Loss Reserve is depleted, the Lender may withdraw subsequent credits to their account as new loans are booked.

Any subsequent recovery on the loan will be shared in proportion to the loss taken.

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### Funding Allowance

To encourage the Lending Institution to make Program Loans with longer term maturities, upon the written request of the Lending Institution, Green Bank shall make interest bearing deposits on a quarterly basis equal to fifteen percent (15%) of the principal balance outstanding of such Program Loans having an original maturity in excess of 120 months and a remaining maturity of not less than eighty four months with the Lending Institution. The rate of interest that would be applied would be the same as that offered to the other depository customers for such dollar amount deposited. Any such deposits with the Lending Institution shall be insured by the National Credit Union Administration Share Insurance fund or the FDIC and the total amount of such deposits by Green Bank with the Lending Institution shall not exceed \$250,000.

## LOAN REQUIREMENTS

Loan Product Details	Structure/Minimum Standards
<b>Loan type</b>	Unsecured
<b>Program Contractor</b>	<p>Program Contractors are defined as:</p> <ol style="list-style-type: none"> <li>1. Home Energy Solutions contractors,</li> <li>2. Home Performance with ENERGY STAR contractors,</li> <li>3. Building Performance Institute contractors, or other appropriately licensed and insured contractor, that are registered home improvement contractors with the Connecticut Department of Consumer Protection,</li> <li>4. or any other Connecticut utility or Green Bank authorized contractor.</li> </ol>
<b>Eligible improvements</b>	<p>(1) Residential “Clean Energy” improvements as defined by Connecticut General Statutes Section 16-245n Sec. 99,            (2) Listed as categorically excluded from the National Environmental Protection Act and eligible activities under the American Recovery and Reinvestment Act of 2009 through the State Energy Program, and            (3) Recommended by a Program Contractor.</p>
<b>Additional Improvements</b>	25% of the loan amount may be used for related residential construction and home improvements
<b>Loan amounts</b>	<p>Preferred Program Range: \$3,000 (minimum) to \$25,000 (maximum)</p> <p>Lenders can offer loan amounts lower than \$3,000 and/or higher than \$25,000 (up to \$45,000) subject to Green Bank approval.</p>
<b>Loan term</b>	For all loan amounts: up to 240 months.
<b>Loan rates</b>	<p>(Not to exceed)</p> <p>5 Years - 4.49%</p> <p>7 Years - 4.99%</p> <p>10 Years - 5.99%</p> <p>12 Years - 6.99%</p> <p>Up to 20 years - Negotiable</p> <p>Lending Institutions may offer rates below those shown.            Fixed rate with no prepayment penalty.</p>
<b>Eligible properties</b>	Single-family (1-4 unit) homes, primary residence or not used as income property.
<b>Minimum FICO (credit score)</b>	<p>Minimum 580</p> <p>680 and Above – <b>CLASS A LOANS</b></p> <p>580-679 – <b>CLASS B LOANS</b></p>
<b>Other alternative underwriting criteria</b>	Judgment of Lending Institution with Green Bank approval

<b>Debt to Income Ratio</b>	
<b>Total monthly obligations</b>	Judgment of Lending Institution with Green Bank approval
<b>Application Processing and Loan Closing</b>	
<b>Application</b>	<p>* The Lending Institution shall establish and implement a loan application intake system. The Lending Institution shall provide Customers the option to apply for the loans using an application form, via the Lending Institution's website (if available), or by telephone.</p> <p>* Once a Customer's Application is complete, the Lending Institution shall either approve or deny the application <u>within [three] business days</u>.</p> <p>*If the Program Loan is approved and accepted by the Customer, Lending Institution shall make available a closing date for the Program Loan <u>within [five] business days</u>.</p>
<b>Total monthly obligations to total monthly income</b>	All qualifying FICO scores – 50% or less, except in cases where the Customer has a FICO score greater than 680, in which case there is no restriction on total monthly obligations to total monthly income

**LENDING INSTITUTIONS MAKE ALL FINAL UNDERWRITING DECISIONS. LOANS MAY BE APPROVED, DECLINED, OR SUBJECT TO FURTHER REVIEW IF UNDERWRITER DETERMINES THAT FICO SCORE OR OTHER FACTORS ARE INCONSISTENT WITH ACTUAL CREDIT PROFILE.**



845 Brook Street  
Rocky Hill, Connecticut 06067

300 Main Street, 4th Floor  
Stamford, Connecticut 06901

T: 860.563.0015  
F: 860.563.4877  
www.ctcleanenergy.com

# Memo

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

**From:** John D'Agostino, Senior Manager, Multifamily Programs; Kim Stevenson, Associate Director, Multifamily Programs

**Cc:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Eric Shrago, Director of Operations; George Bellas, VP Finance and Administration; Kerry O'Neill, Managing Director of Residential Programs

**Date:** January 13, 2017

**Re:** \$1,500,000 Green Bank Multifamily *Catalyst Fund Pilot Program*

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## Background

On January 23, 2015, the Connecticut Green Bank Board of Directors (the "Board") approved a Program Related Investment ("PRI")<sup>1</sup> in the amount of \$5,000,000 from the John D. and Catherine T. MacArthur Foundation ("MacArthur") to support the Green Bank's efforts to accelerate energy efficiency and clean energy upgrades in affordable multifamily properties across the state of Connecticut as outlined in the proposal presented by the Green Bank to MacArthur ("MacArthur Proposal"). The proposal is presented as Exhibit A. Due to state contracting compliance challenges with MacArthur, on December 18<sup>th</sup>, 2015, the Board approved the Housing Development Fund ("HDF") as a third-party receiver and administrator of the MacArthur funds due to HDF's shared programmatic goals and experience in the state's affordable multifamily housing sector (see Exhibit B).

## Proposal

The Green Bank and HDF have jointly approved term financing for two (2) projects to date<sup>2</sup>, totaling approximately \$2.1M consistent with the MacArthur Proposal. While MacArthur financing will continue to support energy upgrades for affordable multifamily properties, the Green Bank's Multifamily Program has identified the need for additional funding sources to support properties seeking to implement substantive energy improvements for low and moderate income properties that present a spectrum of complex financial, health and safety challenges beyond the scope of HDF's core financing expertise.

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<sup>1</sup> Program Related Investments (PRIs) are investments made by foundations to support social welfare activities that involve the return of capital within an established timeframe. PRIs include financing methods commonly associated with banks or other private investors, such as loans, loan guarantees, linked deposits, and even equity investments in charitable organizations or in commercial ventures, with concessionary rates and terms

<sup>2</sup> One of which is approved on a preliminary basis

To address this complex market need, Green Bank staff is seeking Board authorization for a *Catalyst Fund Pilot Program* (“Pilot Program”), which would provide \$1.5M in gap funding in the form of loans to enable implementation of energy improvement projects for affordable property owners unable to secure adequate funding through traditional financing programs. The Pilot Program will provide financing for properties that present complex financing and technical/energy issues that the Green Bank, given its expertise, is uniquely qualified to evaluate and underwrite, but traditional funders are less well equipped to consider and address.

At present, there is no Connecticut public agency or non-profit organization providing ongoing, dedicated resources to address the energy-related challenges faced by multifamily properties serving low income residents, especially for multifamily properties that do not receive support from the competitive programs at the Department of Housing and Urban Development (“HUD”), Department of Housing (“DOH”) and the Connecticut Housing Finance Authority (“CHFA”). The Connecticut Department of Energy and Environmental Protection’s (“DEEP”)’s forthcoming Comprehensive Energy Strategy highlights this funding gap as a significant barrier to energy upgrades in the state<sup>3</sup>.

Pilot Program-financed projects will be required to meet Program and Underwriting Guidelines as described in greater detail in the Appendix and summarized below.

- The Pilot Program will provide term financing for the implementation of qualifying energy improvements and remediation of prohibitive, preceding health and safety (“H&S”) measures, as outlined in guidelines in Attachment A of the Appendix.
- H&S measures directly impeding energy improvements, identified through an opportunity assessment, energy audit, or other physical or capital needs assessment, will be eligible for financing through the Pilot Program as follows:
  - Properties with H&S implementation costs funded through the Pilot Program that represent **less than 50% of the total project cost**<sup>4</sup> (“Category 1 Properties”) will be eligible for funding through the Pilot Program subject to the terms and guidelines in Attachment A, which corresponds closely to the original HDF/MacArthur financing term sheet already in effect.
  - Properties with H&S implementation costs funded through the Pilot Program that represent **50% or more of the total project cost but no greater than 75%** (“Category 2 Properties”) will be eligible for funding subject to the terms and guidelines outlined in Attachment A, along with additional guidelines outlined in Attachment B, **designed to ensure that a) H&S remediation will lead to significant energy improvements** and b) there is either ratepayer<sup>5</sup>

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<sup>3</sup> Based on discussions with Diane Duva at DEEP. 2016-2018 CES not public yet.

<sup>4</sup> “Total project cost” is defined as all costs necessary to implement an energy project and generally includes pre-development costs, financing costs, energy measures, remediation of H&S obstacles, commissioning, and post-implementation monitoring and verification.

<sup>5</sup> Pursuant to CT Gen Stat § 16-245n(c), the Connecticut Green Bank administers the Clean Energy Fund on behalf of Connecticut ratepayers. Ratepayer funded programs also include utility incentives and rebates.

or non-ratepayer<sup>6</sup> funding committed for the implementation of energy improvements.

In addition to funding substantive energy improvements for properties that provide housing to low and moderate income residents, the Pilot Program will help inform the design of scalable programs that can effectively address energy-related challenges faced by affordable multifamily properties across the state.

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<sup>6</sup> Including, but not limited to property operating reserves, contributions as well as loans from individuals, corporations, university endowments and philanthropic foundations, charitable gifts, grants.

## Resolutions

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) actively seeks to deploy private capital investment toward clean energy improvements in the state’s multifamily housing which in some cases have preexisting health and safety issues that are preventing opportunities for clean energy improvements to be made;

**WHEREAS**, the definition of “clean energy” per the Green Bank’s enabling statute set forth at C.G.S. 16-45n includes renewable energy technologies as well as “financing of energy efficiency projects,” but does not include health and safety;

**WHEREAS**, the Green Bank’s enabling statute provides that the Green Bank may make “expenditures that promote investment in clean energy in accordance with a comprehensive plan developed by it to foster the growth, development, and commercialization of clean energy sources,” and that “such expenditures may include, but not be limited to...the implementation of the plan developed pursuant to ... this section”;

**WHEREAS**, the Green Bank Comprehensive Plan approved by the Board of Directors on July 22, 2016 provides guidance on mitigating health and safety issues that act as barriers to realizing clean energy investments opportunities to make in its executive summary, goals, evaluation framework, and residential sector sections; the Comprehensive Plan also notes that the goals of the Green Bank are to support the implementation of Connecticut’s clean energy policies be they statutory (i.e., PA 15-194), planning (i.e., Comprehensive Energy Strategy, Integrated Resources Plan), or regulatory in nature;

**WHEREAS**, the 2013 Comprehensive Energy Strategy for Connecticut released by the Connecticut Department of Energy and Environmental Protection recognizes that health and safety issues are a barrier to clean energy improvements;

**WHEREAS**, Green Bank staff has developed guidelines for how the Green Bank shall make loan investments to remove health and safety barriers to realize clean energy improvements at multifamily properties consistent with the Green Bank’s enabling statute;

**WHEREAS**, the Green Bank Board of Directors (the “Board”) has previously approved a Program Related Investment (“PRI”) in the amount of \$5,000,000 from the John D. and Catherine T. MacArthur Foundation (“MacArthur”) to support the Green Bank’s efforts to accelerate energy efficiency and clean energy upgrades in multifamily properties across the state of Connecticut as outlined in the proposal presented by the Green Bank to MacArthur;

**WHEREAS**, MacArthur later selected the Housing Development Fund (“HDF”) to receive and administer the MacArthur PRI;

**WHEREAS**, Green Bank staff is now requesting a reallocation of \$1,500,000 from the Statutory and Infrastructure Sector (\$1,000,000 from Anaerobic Digester Projects and \$500,000 from MicroGrids) to support a pilot program providing term financing for energy and related health and safety improvements (“Pilot Program”).

**NOW**, therefore be it:

**RESOLVED**, that the Board authorizes additional funding from the Green Bank's balance sheet through a reallocation from the Statutory and Infrastructure Sector, in an amount not to exceed \$1,500,000, for the Pilot Program with terms and conditions consistent with the guidelines and memorandum dated January 13, 2017 and associated exhibits submitted to the Board; and

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

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Kerry O'Neill, Managing Director, Residential Programs; Kim Stevenson, Associate Director, Multifamily Programs; and John D'Agostino, Senior Manager, Multifamily Programs.



## Appendix

CT Green Bank Multifamily Programs

### **Catalyst Fund Pilot Program**

### **Program and Underwriting Guidelines**

#### **Program Goals and Purpose:**

The Multifamily Program has identified lack of sufficient funding available to implement substantive energy improvements for low and moderate income properties that present a spectrum of complex financial, health and safety challenges. The Connecticut Green Bank's *Catalyst Fund Pilot Program* ("Pilot Program") provides gap funding, in the form of loans, that enable implementation of energy improvements for owners unable to secure adequate funding from other sources. Pilot Program-funded projects will be required to meet Program and Underwriting Guidelines as described below.

Participating Pilot Program properties will be those with high energy burdens and operating costs. They may present a multitude of challenges, including energy-related health and safety (H&S) issues, that must be addressed before implementing energy measures.

The Green Bank Multifamily team has deep expertise in affordable multifamily housing development, energy systems analysis, building science and finance, and has become the go-to resource for multifamily energy underwriting for state agencies and institutions such as the Department of Housing (DOH) and Connecticut Housing Financing Authority (CHFA). The Multifamily Program expects that participating properties will present complex financing and technical/energy issues for which the Green Bank, given its expertise, is uniquely qualified to evaluate and underwrite, but traditional funders are ill equipped to effectively evaluate and address.

Such challenges include, but are not limited to:

- *Properties serving low income tenants are up to 5 times more energy-use intensive than average benchmarks for similar property types. Further, the US Department of Housing and Urban Development (HUD) spends nearly 23 percent of this budget—over \$1.5 billion (nationally) — on utilities to heat, cool, power and provide water for public housing units.<sup>7</sup> Public and affordable/low-income properties present significant opportunities for energy savings<sup>8</sup>.*

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<sup>7</sup> US Department of Housing and Urban Development: Benchmarking Utility Usage in Public Housing, 2007 Report

<sup>8</sup> <http://www.energyefficiencyforall.org/potential-energy-savings>

- *Based on multifamily Home Energy Solutions contractor reports, utility program administrators estimate that 20-40% of units cannot be served for energy efficiency/weatherization due to H&S issues<sup>9</sup>.*
- *Representative H&S improvements necessary to implement clean energy measures include:*
  - *Pre-installation of high-efficiency heating systems – asbestos remediation/removal;*
  - *Pre-weatherization/air and duct sealing – mold, moisture or lead remediation;*
  - *Pre-insulation – knob and tube wiring, roof leak repair, asbestos remediation; and*
  - *Pre-installation of high efficiency windows – lead remediation/removal.*

At present, there is no Connecticut public agency or non-profit organization providing substantive resources to address these energy-related challenges faced by multifamily properties serving low and moderate income residents, especially those that DO NOT receive support from the competitive programs at HUD, DOH and CHFA. DEEP’s forthcoming Comprehensive Energy Strategy highlights this funding gap as a significant barrier to energy upgrades in the state<sup>10</sup>.

The Pilot Program will help inform the design of scalable programs that can effectively address energy-related challenges faced by affordable multifamily properties in the state.

**Pilot Program and Underwriting Guidelines:**

These guidelines apply to term financing for the implementation of energy improvements. The Multifamily team expects that a number of these properties may have H&S issues that must be addressed before implementing energy measures. Program guidelines for Pilot Program funding applies based on the severity of necessary H&S improvements, as defined below:

1. Properties with H&S implementation costs funded through the Pilot Program that represent **less than 50% of the total project cost** (“Category 1 Properties”).
2. Properties with H&S implementation costs funded through the Pilot Program that represent **50% or more of the total project cost but no greater than 75%** (“Category 2 Properties”).

**“Total project cost”** is defined as all costs necessary to implement an energy project and generally includes pre-development costs, financing costs, energy measures, remediation of

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<sup>9</sup> Ongoing conversations from 2014-2016 with DEEP, utility, EEB and contractor personnel. DEEP has requested utility program administrators to begin collecting data on H&S issues in 2016.

<sup>10</sup> Based on discussions with Diane Duva at DEEP. 2016-2018 CES not public yet.

H&S obstacles, commissioning, and post-implementation monitoring and verification. See Attachment C for an example of how total project costs are calculated.

**Category 1 Properties** can be funded through the Pilot Program subject to the terms and guidelines in Attachment A, which builds from the HDF/MacArthur financing term sheet.

**Category 2 Properties** can be funded through the Pilot Program, subject to the guidelines outlined in Attachment A and the additional guidelines set forth in Attachment B. These guidelines are designed to ensure H&S remediation will lead to significant energy improvements and there is either ratepayer<sup>11</sup> or non-ratepayer<sup>12</sup> funding committed for the implementation of energy improvements.

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<sup>11</sup> Pursuant to CT Gen Stat § 16-245n(c), the Connecticut Green Bank administers the Clean Energy Fund on behalf of Connecticut ratepayers. Ratepayer funded programs also include utility incentives and rebates.

<sup>12</sup> Including, but not limited to, charitable gifts, grants, contributions as well as loans from individuals, corporations, university endowments and philanthropic foundations.

## Attachment A

### Catalyst Fund Pilot Loan Program (“Pilot Program”)

#### REQUIREMENTS & TERMS

<b>Loan Product Details</b>	
<b>Loan Type</b>	Term loan that provides gap financing enabling the implementation of qualifying energy improvements and remediation of prohibitive, preceding health and safety measures. Subordinate, secured debt or unsecured debt may also be considered based on requirements of existing debt and property/project financials.
<b>Eligible Energy Improvements</b>	<p>A qualified provider must complete an energy opportunity assessment and/or energy audit of the property satisfactory to the Green Bank. The assessment/ audit must identify substantive energy improvements, cost of improvements and expected energy savings and health and safety (H&amp;S) issues impeding energy improvements.</p> <p>Pilot Program funds are intended to support investments in comprehensive, deeper energy improvements as well as remediation of health and safety issues that enable these improvements. Examples of improvements:</p> <ol style="list-style-type: none"> <li>1) Electric/gas utility criteria for rebates as specified in a Letter of Agreement (LOA) or Letter of Participation (LOP).</li> <li>2) Eligible measures under Green Bank C-PACE or Smart-E Programs or supported under the State’s Comprehensive Energy Strategy</li> <li>3) Fuel conversions and associated improvements</li> <li>4) Energy storage</li> <li>5) Electric vehicle charging stations</li> <li>6) Other energy upgrades with a commercial track record of realized savings, as approved by the Green Bank</li> <li>7) Project commissioning</li> <li>8) Energy performance monitoring</li> </ol>
<b>Eligible Health &amp; Safety Improvements</b>	<p>H&amp;S improvements directly impeding energy improvements identified through an opportunity assessment, energy audit, or other physical or capital needs assessment can be financed through the Pilot Program as follows:</p> <p>Up to 100% of the loan amount may be used for health and safety issues (examples include, but are not limited to, mold remediation; removal of, asbestos, lead paint, or other; and/or amelioration of leaking roofs, carbon monoxide, radon gas, knob and tube wiring, etc.)</p>
<b>Loan amounts</b>	Up to \$300,000 (higher amounts subject to Deployment Committee or Board of Director approval based on funding availability and project feasibility – see required “Coverage Ratio”).
<b>Loan Term</b>	Up to 20 years.

<b>Loan Rate</b>	Subject to underwriting – anticipated in 0% to 6% range.
<b>Prepayment</b>	Allowed with no penalty.
<b>Loan Fee</b>	0.50% upfront; may be rolled into loan. Fee may be waived at the discretion of Green Bank staff.
<b>Eligible Properties</b>	Residential properties with 5 or more units serving low- and moderate-income tenants including, but not limited to: private, non-profit or housing authority-owned apartment buildings, coops, condominiums, or assisted living communities.
<b>Energy Monitoring</b>	Required using a Green Bank-approved energy performance monitoring system. All energy usage and monitoring data must be made available electronically to Green Bank on a monthly basis.
<b>Underwriting</b>	
<b>Coverage Ratio</b>	Net Operating Income (NOI)/debt service (including the proposed gap financing after considering savings that are expected to result from the financing) of at least 1.10x. Ratio may be reduced with a mortgage or significant personal / corporate guaranty for properties with strong overall financials, smaller dollar volume loans, or otherwise at discretion of Green Bank staff.
<b>Borrower/Sponsor Financials</b>	<ul style="list-style-type: none"> <li>• Existing DSCR &gt; 1.0 OR projected &gt; 1.0 DSCR subsequent to energy improvement(s) implementation</li> <li>• Current assets / current liabilities &gt;1.0</li> <li>• Total Liabilities / Tangible Net Worth not in excess of 3.00:1.00</li> <li>• Mortgage payments and taxes are current or subject to a reasonable plan to make current</li> </ul>
<b>Miscellaneous</b>	
<b>Advances</b>	<p>Loan funds will be advanced in accordance with a disbursement schedule approved by Green Bank staff. This includes written confirmation and approval, as applicable, of all required:</p> <ul style="list-style-type: none"> <li>- Municipal inspections by appropriate municipal officials</li> <li>- Utility inspections by appropriate local electric or gas utility company</li> <li>- For projects that include energy conservation measures <u>beyond</u> those approved for incentives under an LOA, final inspection and written approval by a qualified third party approved by the Green Bank</li> </ul>

## Attachment B

### **Category 2 Property Additional Guidelines**

3. *Substantive energy improvements* must be implemented. “**Substantive Energy Improvements**” is defined as follows:
  - a. Projected energy use intensity (EUI<sup>13</sup>) reduced by > 10% above baseline – for projects with multiple buildings, average EUI across all buildings > 10%.
  - b. For projects involving only the replacement of heating and/or domestic hot water systems, the new system must meet efficiency specifications required to qualify for utility incentives and be at least 10% more efficient than the system being replaced.
4. A qualified provider must complete an energy opportunity assessment and/or energy audit of the property satisfactory to the Green Bank. The assessment/ audit must identify energy improvements, cost of improvements and expected energy savings, and health and safety issues impeding energy improvements.
5. H&S work financed through the Pilot Program must be tied to implementation of *Substantive Energy Improvements*. To ensure the implementation of *Substantive Energy Improvements*, sources of funds, satisfactory to the Green Bank, to cover the costs of *Substantive Energy Improvements* need to be presented. Satisfactory documentation will be in the form of a commitment letter and/or term sheet.

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<sup>13</sup> Calculated as **energy** per square foot per year: the total **energy** consumed by the building in one year (measured in kBtu or GJ), divided by the total gross floor area of the building.)

## Attachment C

### Example Demonstrating Definition/ Calculation of Total Project Costs

#### EXAMPLE: COZY TOWN ESTATES

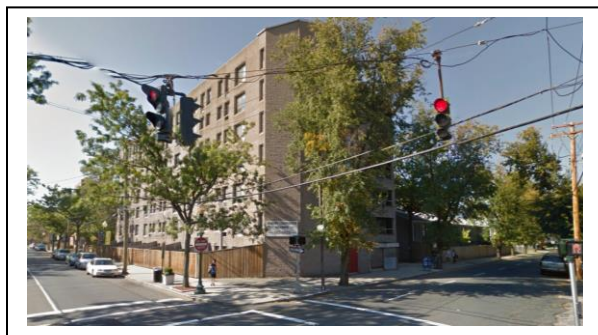
	Energy Items	H&S Items	Total Costs	Utility Incentive
Pre-Development	\$50		\$50	
Insulation	\$200		\$200	(\$150)
High efficiency heating system	\$150		\$150	(\$50)
LED lighting	\$50		\$50	(\$40)
Asbestos & mold remediation		\$700	\$700	
Monitoring & Verification	\$10		\$10	
<b>Totals</b>	<b>\$460</b>	<b>\$700</b>	<b>\$1,160</b>	<b>(\$240)</b>
<b>% of Total Cost</b>	<b>40%</b>	<b>60%</b>		

**The total project cost in this example is \$1,160**

## Attachment D

### Case Study Examples of Properties that May Benefit from the Pilot Program

#### Case Study 1 – Seabury Cooperative, New Haven



#### Overview

Seabury is a 2-building, 88-unit resident-owned low and moderate-income housing cooperative, located adjacent to the Yale campus and ideally situated in an employment hub with easy access to public transportation. Due to its location, developers frequently approach Seabury's Board with acquisition offers.

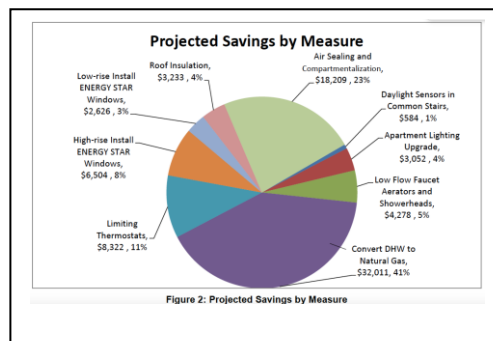
#### Potential Energy Improvements, Health & Safety

The well-designed property is a community asset constructed in 1972 and is now in need of numerous capital improvements, the most pressing of these include replacement of electric boilers that provide domestic hot water with high efficiency solutions, a failing roof and elevators, and the need for many small repairs.

United Illuminating funded a ASHRAE Level II Energy Audit for the property in 2014. The potential savings of the most cost-effective measures identified by the audit have an estimated savings to investment ratio (SIR) of 5.6. The replacement of the property's electric resistance heating could decrease heating costs by an additional 41%. For a property that has expended its reserves to cover the cost of its ever-increasing utilities, these prospective savings have the potential to return a project to financial viability.

#### Green Bank Technical Assistance to-date

To-date, the Green Bank multifamily team has provided the Coop Board and its property management with extensive technical assistance to develop a comprehensive strategy to improve the property's energy efficiency and performance, health and safety, and financial viability. Revitalization of the property will preserve an important housing resource and serve community needs. Challenges include reducing the cost of maintaining aging systems, enhancing the capacity of Seabury's Board to successfully manage the property into the future, eliminating health and safety hazards and re-establishing healthy reserve levels.





## Case Study 2 – Success Village Cooperative, Bridgeport and Stratford



### Overview

Success Village is a resident-owned cooperative with 924 units in 97 buildings. It is a strong and vibrant community serving low- and moderate-income residents. This historical property was built in the period from 1941 and 1951 as housing for defense workers and veterans.

### Potential Energy Improvements, Health & Safety

The property's benchmarking indicates that this is the worst performing property in our current BenchmarkCT portfolio.

Success Village is heated from a central plant of five boilers (four of which are currently operational) that feed steam throughout the campus through a network of degraded, and likely asbestos-laden steam pipes. Many of the units lack sufficient insulation. Thus, in the winter months, residents living in units closest to the central heating plant frequently prop their windows open to dissipate the excessive heat, while residents of units farthest from the plant receive little to no heat at all and employ electric heaters as a stop-gap heating solution.

Pipes leak, portions of the steam heating system are 75 years old, and all systems are failing and need to be replaced. The coop association pays for heating – and is suffering from crushing energy bills. Inefficiencies include one original boiler that requires a level of service not currently available, heating the ground surrounding the steam tunnels and the lack of any consistent weatherization. The cost of operating this inefficient system has led to increases in carrying charges many residents find onerous and jeopardize this important housing resource.

### Green Bank Technical Assistance to-date

To-date, Green Bank staff have provided extensive technical assistance to support the Board's knowledge of the property's energy issues, development of financial documentation necessary for lending, securing professional services and an integrated approach to making the development more sustainable. Without this assistance, the Board is unable to secure funding for the energy improvements.





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# Memo

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

**From:** Ben Healey, Assistant Director

**Cc:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Mackey Dykes, COO; George Bellas, VP Finance and Administration; Kerry O'Neill, Director of Residential Programs; Kim Stevenson, Associate Director of Multifamily Programs

**Date:** January 16, 2015

**Re:** \$5,000,000 Program Related Investment from the MacArthur Foundation

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## Background

On June 30, 2014, the Connecticut Green Bank ("Green Bank") sent a proposal to the John D. and Catherine T. MacArthur Foundation ("MacArthur") for a Program Related Investment ("PRI")<sup>1</sup> in the amount of \$5,000,000 to support our efforts to drive clean energy deployment in affordable multifamily properties across the state. This sector is a priority for the Green Bank, as the affordable portion of the state's housing stock, defined as units housing families who earn 80% of area median income or below, represents about 507,000 units, or 34% of CT's total housing units. Properties with low-income residents run the gamut from single-family owner-occupied homes to small and large investor-owned buildings. However, across the board, affordable housing in CT suffers from years of deferred maintenance, as well as a lack of public investment under prior administrations, now changing under Governor Malloy. Many owners in the affordable multifamily market (whether naturally occurring or subsidized) are less sophisticated and much more stretched than is true of owners in the traditional commercial and industrial market. Consequently, developing energy upgrade projects to a point where they are ready for financing is a huge challenge and requires significant technical support to owners.

Despite the challenges in addressing this sector, the fact is that low-income residents bear a brutal utility cost burden, and so it is critical that Green Bank-supported programs target affordable properties in order to lower total energy/operating costs and tenant utility costs for those for whom these expenses are hardest to bear. Furthermore, in order to maximize the benefits of our programs, the Green Bank seeks to offer comprehensive financing solutions that address deferred

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<sup>1</sup> Program Related Investments (PRIs) are investments made by foundations to support social welfare activities that involve the return of capital within an established timeframe. PRIs include financing methods commonly associated with banks or other private investors, such as loans, loan guarantees, linked deposits, and even equity investments in charitable organizations or in commercial ventures, with concessionary rates and terms

maintenance, health and safety, and energy improvements, including both efficiency and clean energy generation, all at the same time.

MacArthur, as one of the nation's largest independent foundations, has a suite of U.S. programs focused on issues that align well with the Green Bank, including both community and economic development writ broadly, as well as housing, with a focus on the preservation of affordable rental housing. Since 1978, MacArthur has paid out \$5.5 billion through nearly 22,000 grants and PRIs to more than 7,900 organizations and individuals in the United States and around the world, with \$228.4 million paid out in 2013 alone.

With respect to its “impact investing” strategy, MacArthur has allocated \$300 million at the foundation level to making investments that advance core programmatic priorities, with a goal of unlocking new, more, and more useful or suitable forms of capital for targeted populations, regions, sectors or markets. Similar to the Green Bank, MacArthur sees a PRI into the affordable multifamily clean energy market as an opportunity to provide a meaningful test-bed for innovation and development – giving new projects and, indeed, an entire sector, the opportunity to demonstrate creditworthiness and value by successfully repaying loans and generating positive financial returns.

## **Proposal**

The Green Bank’s June 30, 2014 proposal to MacArthur is attached to this memo as Exhibit A, but a high-level overview of the Green Bank’s proposed uses of MacArthur funds follows below:

*[The Green Bank will create] at least three new, integrated products, to fill gaps that the Green Bank has identified as critical obstacles to advancing energy saving, emissions reducing projects in the multifamily sector:*

- (1) *A high risk, revolving predevelopment loan fund to cover the costs of energy opportunity assessments, audits, and project scope definition – the **Energy Opportunity Assessment Loan Fund**;*
- (2) *A loan pool to finance remediation of unfunded health and safety measures (i.e. asbestos, mold, leaking roofs, etc.) that must be addressed before energy improvements can be installed – the **Healthy Homes Loan Fund**; and*
- (3) *Term financing to bridge gaps and provide a lower weighted average cost of capital for viable projects where projected energy savings don’t quite cover financing costs, and which would not otherwise close without additional, subordinate and/or less costly financing – the **Finish Line Loan Fund**.*

MacArthur has since accepted this proposal, indicated the foundation’s eagerness to support the Green Bank’s initiatives in this effort, and given us a draft term sheet for this PRI (see Exhibit B), with a goal of closing in February 2015. Although this term sheet is not yet finalized, the most important terms to the Green Bank are as follows:

- Principal of \$5,000,000, to be drawn in (at least) two separate disbursements
- Interest rate of 1%, to be paid quarterly, with a back-ended amortization in the last four years of the loan
- Tenor of 15 years
- The PRI will be unsecured, but with full recourse to the Green Bank

Given the attractive nature of this financing, and the Green Bank's ability to leverage it alongside the work we already undertake with HDF, we believe that the approach outlined in the section above is both practicable and will lead to programmatic success to support energy upgrade investments in Connecticut's affordable multifamily housing sector.

## **Resolutions**

**WHEREAS**, the Connecticut Green Bank ("Green Bank") is actively seeking to deploy private capital to support clean energy upgrades in the state's affordable multifamily housing sector;

**WHEREAS**, the John D. and Catherine T. MacArthur Foundation ("MacArthur") offers concessionary financing in the form of Program Related Investments ("PRIs") to support core social welfare goals;

**WHEREAS**, Pursuant to Section 16-245n of the Connecticut General Statutes, the Green Bank is authorized to accept both charitable gifts and loans from philanthropic foundations; and

**WHEREAS**, the Green Bank drafted a proposal to MacArthur dated June 30, 2014, which the latter has accepted, for a \$5,000,000 PRI to support three or more new multifamily clean energy financing programs in Connecticut;

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank, is authorized to execute and accept the MacArthur PRI, and in so doing obligate the Green Bank in a total amount not to exceed \$5,000,000 with terms and conditions consistent with the memorandum and associated exhibits submitted to the Board of Directors dated January 16, 2015, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from January 23, 2015; and

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

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Ben Healey, Assistant Director



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# Memo

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

**From:** Mariana Trief, Manager, Clean Energy Finance

**Cc:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Mackey Dykes, COO; George Bellas, VP Finance and Administration; Kerry O'Neill, Managing Director of Residential Programs; Kim Stevenson, Associate Director of Multifamily Programs; Ben Healey, Director, Clean Energy Finance

**Date:** December 11, 2015

**Re:** Green Bank Guaranty and Program Agreement for the Housing Development Fund

---

## Background

On June 30, 2014, the Connecticut Green Bank ("Green Bank") submitted a proposal to the John D. and Catherine T. MacArthur Foundation ("MacArthur") for a Program Related Investment ("PRI") in the amount of \$5,000,000 to support the Green Bank's efforts to accelerate energy efficiency and clean energy upgrades in affordable multifamily properties across the state of Connecticut (see Exhibit A). On January 16, 2015, the Green Bank's Board of Directors authorized the Green Bank to execute and accept the \$5,000,000 MacArthur PRI (see Exhibit B).

Upon the Board of Director's approval, MacArthur and the Green Bank proceeded to finalize documentation and diligence. The two parties, however, were unable to close on a final funding agreement, due to the fact that state contracting rules associated with the Green Bank's quasi-public status include a number of terms that presented compliance challenges for MacArthur as an out-of-state charitable foundation. Nevertheless, both MacArthur and the Green Bank have remained committed to finding a solution to this state contracting challenge, so that the PRI can proceed and MacArthur can support affordable multifamily clean energy efforts throughout Connecticut, both for their own sake and as a model that – through state-based networks and the growing green bank movement – may spread across the country.

## HDF Participation and Green Bank Guaranty

As a solution to the standstill with MacArthur with respect to documentation, the Green Bank and MacArthur sought out a third party to receive and administer the MacArthur Funds, with the goal of sourcing an organization that shares the Green Bank's programmatic goals, has experience in the state's affordable multifamily sector, and maintains a robust and proven lending platform. The Housing Development Fund ("HDF") meets all three criteria, and is

already a trusted partner of the Green Bank, having administered the Cozy Home Loan program on the Green Bank's behalf. Additionally, HDF is active in national affordable housing networks.

At this point, the Green Bank and HDF have held multiple discussions, and HDF's Board of Directors has provided preliminary consent to proceed with documentation. The following summarizes the main aspects of the proposed structure:

HDF's responsibilities with respect to the MacArthur PRI would include:

- Receive the \$5 million PRI from MacArthur ("MacArthur Funds") and undertake the obligation to repay MacArthur (i.e. both principal and interest) according to a mutually agreed upon amortization schedule;
- Using MacArthur Funds, provide financing to qualifying owners of eligible multifamily properties ("Program Loans"), according to criteria and terms as determined collaboratively between the Green Bank and HDF and consistent with the original Green Bank proposal to MacArthur; and,
- Approve, administer and service all Program Loans made using MacArthur Funds. This includes underwriting and approving loans consistent with mutually agreeable programmatic guidelines and as sourced by the Green Bank and other channel partners, closing loans, disbursing funds, and managing the servicing of all Program Loans financed using MacArthur Funds.

The Green Bank's main responsibilities would include:

- Provide a guaranty to HDF, in an amount not to exceed \$5,000,000, for all Program Loans made using the MacArthur Funds, and hold HDF harmless for any losses associated with Program Loans;
- Formulate programmatic and underwriting guidelines for the various financing programs to be capitalized using MacArthur Funds, in collaboration with HDF;
- Support HDF in drafting policies and procedures for each program;
- Conduct marketing and serve as a source of origination for each program, both directly and through various channel partners;
- Directly underwrite applications for financing and advise HDF as to each applicant's suitability for financing using MacArthur Funds, in collaboration with HDF and in instances where HDF is not managing the underwriting process; and,
- Support HDF in managing and servicing Program Loans, as necessary and as mutually agreed by HDF and Green Bank.

For its services, the Green Bank would also agree to pay HDF an amount not-to-exceed \$125,000 annually, with the following breakdown of fees: an annual fixed administrative fee set at \$40,000 per annum, a direct pass-through loan servicing fee, carrying costs associated with the interest payments on the PRI due to MacArthur, and HDF's related legal fees (including preparation of all loan documents for loans made using MacArthur funds). To be clear, the Green Bank would have to directly bear the majority of these expenses (i.e. the carrying costs associated with the MacArthur Funds, Program Loan servicing fees, and legal fees) if we were not to partner with HDF anyway, so the only "additional expense" proposed herein is for HDF

administration. From staff's perspective, this \$40,000 per annum is a good use of funds, given limited internal capacity at the Green Bank to run this program directly.

The Green Bank presented the proposed strategy with HDF to MacArthur on September 30, 2015 (see Exhibit C) and has received preliminary approval from MacArthur's Investment Committee. The proposed strategy with HDF is set to be formally approved by MacArthur's Board of Directors in December, 2015.

### **Strategic Selection**

Due to the nature of this engagement with HDF, Green Bank staff believes that the proposed agreement with HDF fits well within the requirements for a Strategic Selection from the Connecticut Green Bank Operating Procedures Section XII:

- Special Capabilities: HDF shares the Green Bank's programmatic goals at an organizational level, has deep experience in the state's affordable multifamily sector, and maintains a robust and proven lending platform. Most importantly, HDF is a trusted partner from the MacArthur perspective and has met MacArthur's diligence criteria to receive these funds.
- Uniqueness: MacArthur has uniquely underwritten HDF to play this role. If we do not proceed with this partner, these funds will not flow into Connecticut.
- Strategic Importance: Mobilizing this low-cost capital from MacArthur is critical to achieving the Green Bank's goals in the multifamily sector. Staff expects to partner with HDF to deploy MacArthur funds in advancing our predevelopment loan initiatives, in deepening our focus on financing health and safety improvements that are preventing energy upgrades from occurring in affordable multifamily properties, and in lending initiatives with partners where more "patient capital" is required, among other priorities.
- Urgency and Timelines: MacArthur is ready to close and fund this PRI. After the incredibly long lead time associated with this engagement, now is the time to act.
- Multiphase Project: This partnership with HDF will serve as the springboard for not only a significant amount of direct lending, but also for broader initiatives, as this deployment of MacArthur funds will allow the Green Bank to further develop our various programmatic approaches to the challenge of financing energy upgrades in affordable multifamily properties.

### **Conclusion**

Given the attractive nature of the MacArthur PRI, and the Green Bank's ability to leverage it alongside the work we already undertake with HDF, we believe the approach outlined in this memo is both practicable and will lead to programmatic success as the Green Bank works to further support energy efficiency and clean energy upgrades in Connecticut's affordable multifamily housing sector. From a capital at risk and programmatic objective perspective, the approach is consistent with the proposal submitted to the Board in January 2015, excepting the strategic collaboration with HDF and the associated, limited administrative expense. Accordingly, staff recommends approval by the Board per the resolutions attached.

## Resolutions

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) is actively seeking to deploy private capital to support clean energy upgrades in the state’s affordable multifamily housing sector;

**WHEREAS**, the John D. and Catherine T. MacArthur Foundation (“MacArthur”) offers concessionary financing in the form of Program Related Investments (“PRIs”) to support core social welfare goals;

**WHEREAS**, MacArthur agreed to make a PRI in the amount of \$5,000,000 (the “MacArthur Funds”) to support the Green Bank’s efforts to accelerate energy efficiency and clean energy upgrades in affordable multifamily properties across the state of Connecticut;

**WHEREAS**, MacArthur selected the Housing Development Fund (“HDF”) to receive and administer the MacArthur Funds;

**WHEREAS**, the Green Bank proposes to pay HDF an annual amount not-to-exceed \$125,000 on a contracted, renewable basis, which amount shall include an annual fixed administrative fee initially set at \$40,000 per annum, a direct pass-through loan servicing fee, carrying costs associated with interest payments on the PRI due to MacArthur, and related legal fees;

**WHEREAS**, the Green Bank proposes extending a guaranty (the “Guaranty”), in an amount not to exceed \$5,000,000, to HDF for the purpose of securing loans for energy upgrades and clean energy to affordable multifamily owners made with MacArthur Funds; and

**WHEREAS**, the proposed Guaranty qualifies as a strategic selection and award pursuant to Green Bank Operating Procedures Section XII due to HDF’s proven experience in the state’s affordable multifamily sector, the organization’s robust and proven lending platform, and MacArthur’s independent selection of HDF as an appropriate recipient of its PRI funds.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board of Directors (“Board”) authorizes the President of the Green Bank and any other duly authorized officer of the Green Bank, to pay HDF for its services and execute and deliver the Guaranty materially consistent with the memorandum submitted to the Board dated December 11, 2015, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from the date of authorization by the Board; and

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

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Ben Healey, Director, and Mariana Trief, Manager, Clean Energy Finance





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# Memo

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

**From:** Eric Shrago, Director of Operations, and Ben Healey, Director, Clean Energy Finance

**Cc:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; George Bellas, VP Finance and Administration; Kerry O'Neill, MD of Residential Programs; Mackey Dykes, VP of Commercial & Industrial Programs

**Date:** January 13, 2017

**Re:** Bank of America Loan to Connecticut Green Bank

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## Background

Bank of America ("BofA") maintains a CDFI Lending and Investing Group that has lent well in excess of one billion dollars to community development financial institutions ("CDFIs") around the country since its inception. This group has a particular interest in energy efficiency lending, having invested \$55 million in loan and BofA foundation capital in CDFIs via an Energy Efficiency Finance Program between 2011 and 2013.<sup>1</sup> With the advent of green banks, and in particular the Connecticut Green Bank ("Green Bank"), BofA recognizes that it could advance its community development and energy efficiency financing goals via this new type of intermediary. Thus, in 2016, and based on the Green Bank's strong balance sheet and track record of success, BofA approached Green Bank leadership with a proposal to lend \$10 million directly to the Green Bank.

## Terms

BofA has proposed a draft term sheet that is still subject to final negotiation between the parties. However, the basic terms of the proposed loan are as follows:

- Loan amount: \$10 million
- Tenor: **REDACTED** years (either from the date of closing or the end of the draw period, subject to final negotiation)
- Interest Rate: **REDACTED** per annum
- Security: Unsecured
- Recourse: Full recourse to the Green Bank's balance sheet
- Prepayment Penalties: None
- Commitment Fees: None
- Draw Period: 24 months (subject to final negotiation)
- Minimum Draw Amount: \$2 million, subject to final negotiation
- Amortization: Back-ended, with repayment of principal due in increments of \$2 million, \$4 million, and \$4 million, respectively, in each of the last three years before the loan matures

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<sup>1</sup> <http://aceee.org/research-report/f1601>

- Loan Covenants and Reporting Requirements: See below

### **Loan Covenants and Reporting Requirements**

As an unsecured loan that relies on the strength of the Green Bank's balance sheet, BofA has proposed a variety of covenants that the Green Bank would have to honor in order to accept this investment. BofA's proposed covenants include minimum overall capital thresholds, a minimum loan loss allowance, a liquidity requirement, an asset quality test, and ongoing positive net income. BofA has further proposed negative covenants including that the Green Bank not pledge any of its loans receivable to any other private sector investors. Subject to Green Bank Board of Directors ("Board") authorization, Green Bank staff will continue to negotiate in good faith on these items to achieve definitive documentation that both recognizes BofA's need to protect its investment and maintains the Green Bank's flexibility to manage our balance sheet as necessary to achieve our statutory and programmatic mandates.

In addition, the BofA proposal contains ongoing reporting requirements for the duration of the loan, most of which will be easily satisfied using the reporting systems we currently have in place. Nonetheless, as is customary practice, Green Bank staff will analyze any new reporting requirements to ascertain that such requirements will not create an undue operational burden on our back-office capabilities.

### **Use of Proceeds**

As a balance sheet lender, BofA is not proposing to place any portfolio or programmatic restrictions on the Green Bank with regard to the use of loan proceeds (except that all proceeds must be used for further Green Bank financing products rather to support ongoing operating or administrative expenses).

Green Bank staff anticipates putting BofA funds to work to support a variety of existing programs as well as those under development, based on capital needs and availability as programs evolve over the agreed-upon draw period with BofA. Potential programmatic uses, subject to Board approved limits on Green Bank capital allocation, are likely to include the following:

- The initial capitalization of the Green Bank's special purpose financing vehicle as we source larger pools of private capital for the Small Business Energy Advantage Program;
- An expansion of the Green Bank's low-to-moderate income partnerships including potentially both single family and multifamily programs;
- Accelerated deployment of C-PACE by blending lower cost funds into the program's capital stack; and
- Working capital and initial medium-term financing for C&I and institutional sector solar projects prior to long-term leverage solutions.

As the list above is neither exhaustive nor required to be set in stone by BofA, the Green Bank will maintain flexibility to deploy BofA capital as needed and over time, depending on programmatic opportunities at the time of each draw.

To be clear, the Green Bank will only pay interest on the amount of the BofA loan that is drawn and outstanding at any point in time. If any portion of the BofA loan is not needed or used, the organization will pay no financial penalty.

### **Accounting Treatment**

As a delayed draw facility, there will be no immediate accounting implications for the Green Bank upon closing the BofA loan. Going forward, with each draw we make, there will be an increase in

the Cash and Cash Equivalents line on the balance sheet, with such cash potentially appearing as restricted depending on the final loan covenants as determined by definitive documentation. At the same time, Long-Term Liabilities will increase by an equal amount.

### **Strategic Selection**

Due to the nature of the proposed BofA engagement, Green Bank staff believes that the proposed transaction fits well within the requirements for a Strategic Selection from the Green Bank Operating Procedures Section XII:

- Uniqueness: BofA has shown a unique interest in lending to the Green Bank at rates and on terms unlikely to be matched in the market. If the Green Bank does not proceed with BofA, these funds will not flow into Connecticut, and possibly not into clean energy.
- Strategic Importance: Mobilizing low-cost private sector capital is a key goal of the Green Bank. Borrowing from BofA on the terms proposed should allow the Green Bank to flexibly provide capital to our customers at attractive rates. Unlike other low-cost loans that the Green Bank has accepted or plans to accept (i.e., philanthropic Program Related Investments), this transaction has significant flexibility, as the Green Bank can allocate the proceeds toward any of the organization's existing or future programs. Further, this loan represents the first time a large institutional lender has approached a green bank actively seeking to lend upon such attractive terms, a milestone in the organization's history and a potential marker for green banks and similarly situated intermediaries outside of Connecticut.
- Urgency and Timelines: BofA is ready to close this loan now upon the terms proposed. Given the volatility in the capital markets and the broader interest rate environment, there is no guarantee that this offer will remain outstanding for long.
- Special Capabilities: Green Bank staff is not aware of another capital provider that would or could offer such attractive rates. BofA has special capabilities because of their experience and availability to offer such financing at **REDACTED** with an understanding of the CDFI market.

### **Conclusion**

Given the attractive nature of the proposed BofA facility, and the Green Bank's ability to deploy this capital across existing or future programs, staff believes that finalizing and executing this transaction with BofA will further the Green Bank's mission to leverage private capital in order to support energy efficiency and clean energy generation across the state. Accordingly, staff recommends that the Board approve this transaction per the resolutions attached.

## **Resolutions**

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) actively seeks to deploy private capital to support clean energy upgrades and generation;

**WHEREAS**, Bank of America (“BofA”) has proposed to loan \$10,000,000 (the “BoA Funds”) to the Green Bank to support the Green Bank’s efforts to accelerate energy efficiency and clean energy generation across Connecticut; and

**WHEREAS**, the proposed loan qualifies as a strategic selection and award pursuant to Green Bank Operating Procedures Section XII due to BofA’s uniquely attractive offer to lend to the Green Bank, and the strategic nature of being the first green bank to source low-cost, long-term private capital based on its balance sheet.

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank, is authorized to execute and accept the BofA Funds, and in so doing obligate the Green Bank in a total amount not to exceed \$10,000,000 with terms and conditions consistent with the memorandum submitted to the Board of Directors dated January 13, 2017, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from January 13, 2017; and

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

Submitted by: Ben Healey, Director, Clean Energy Finance and Eric Shrago, Director of Operations