



## Deployment Committee

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### **Meeting Date**

**September 25, 2019**





## **Deployment Committee**

### **Betsy Crum**

Former Executive Director, Women's Housing Institute

### **Shawn Wooden – Designee, Bettina Bronisz**

Treasurer, State of Connecticut

### **Matthew Ranelli**

Partner, Shipman & Goodwin LLP

### **Mary Sotos**

Senior Policy Advisor of Energy, DEEP

### **Binu Chandy**

Deputy Director,

DECD

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



September 18, 2019

Dear Connecticut Green Bank Deployment Committee:

We have a regular meeting of the Deployment Committee scheduled on Wednesday, September 25, 2019 from 2:00-2:30 p.m. in the Colonel Albert Pope Board Room of the Connecticut Green Bank at 845 Brook Street, Rocky Hill, CT 06067.

[Note, the meeting is only for 30 minutes as we have one (1) transaction.]

On the agenda we have the following items:

- **Consent Agenda** – approval of the meeting minutes for July 12, 2019.
- **Financing Programs** – we have a single C-PACE transaction for the Mystic Aquarium in Stonington.

If you have any questions, comments or concerns, please feel free to contact me at any time. Looking forward to seeing you all 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**

Deployment Committee of the  
Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067

Wednesday, September 25, 2019  
2:00-2:30 p.m.

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

1. Call to order
2. Public Comments – 5 minutes
3. Consent Agenda – 5 minutes
  - a. Approval of Meeting Minutes for July 12, 2019
4. Financing Programs – 20 minutes
  - a. C-PACE Transaction (Stonington)
5. Adjourn

***Next Regular Meeting: Wednesday, November 20, 2019 from 2:00-3:00 p.m.  
Colonel Albert Pope Board Room at the  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT***



## **RESOLUTIONS**

Deployment Committee of the  
Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067

Wednesday, September 25, 2019  
2:00-2:30 p.m.

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

1. Call to order
2. Public Comments – 5 minutes
3. Consent Agenda – 5 minutes
  - a. Approval of Meeting Minutes for July 12, 2019

### **Resolution #1**

Motion to approve the meeting minutes of the Deployment Committee for July 12, 2019.

4. Financing Programs – 20 minutes
  - a. C-PACE Transaction (Stonington)

### **Resolution #2**

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

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

**WHEREAS**, the Green Bank seeks to provide a **\$1,285,872** construction and (potentially) term loan under the C-PACE program to Sea Research Foundation, Inc., the building owner of 55 Coogan Blvd, Mystic, Connecticut (the "Loan"), to finance the construction of specified clean energy measures in line with the State’s Comprehensive Energy Strategy and the Green Bank’s Strategic Plan; and

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

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank is authorized to execute and deliver the Loan and, if applicable, a Feasibility Study Loan in an amount not to be greater than one hundred ten percent of the Loan amount with terms and conditions consistent with the memorandum submitted to the Committee dated September 17, 2019, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 120 days from the date of authorization by the Board of Directors;

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

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

5. Adjourn

***Next Regular Meeting: Wednesday, November 20, 2019 from 2:00-3:00 p.m.  
Colonel Albert Pope Board Room at the  
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT***



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

# Deployment Committee Meeting

September 25, 2019

# Deployment Committee

## Agenda Item #1

### Call to Order



# Deployment Committee

## Agenda Item #2

### Public Comments

# Deployment Committee

## Agenda Item #3

### Consent Agenda

# Consent Agenda

## Resolution 1



1. **Meeting Minutes** – approval of meeting minutes of July 12, 2019

# Deployment Committee

## Agenda Item #4a

### Financing Programs

### C-PACE Transaction - Stonington

# 55 Coogan Blvd., Stonington

## Ratepayer Payback



**REDACTED**

- **\$1,285,872** for chiller, Building Energy Management System, LED lighting, HVAC, and air sealing
- Projected savings are **126,129 MMBtu** versus **\$1,285,872** of ratepayer funds at risk.
- Ratepayer funds will be paid back in one of the following ways
  - ❑ (a) through a take-out by a private capital provider at the end of construction (project completion);
  - ❑ (b) subsequently, when the loan is sold down to a private capital provider; or
  - ❑ (c) through receipt of funds from the Town of Stonington as it collects the C-PACE benefit assessment from the property owner.

# 55 Coogan Blvd., Stonington

## Terms and Conditions



- **\$1,285,872** construction loan at 5% and term loan set at a fixed 5.95% over the 17-year term
- **\$1,285,872** loan against the property
  - Property valued at **REDACTED**
  - Loan-to-value ratio equals **REDACTED**; Lien-to-value ratio equals **REDACTED**
- DSCR > **REDACTED**

# 55 Coogan Blvd., Stonington

## The Five W's



- **What?** Receive approval for a \$1,285,872 construction and (potentially) term loans under the C-PACE program to Sea Research Foundation, Inc. to finance the construction of specified energy upgrade
- **When?** Project to commence 2019
- **Why?** Allow Green Bank to finance this C-PACE transaction, continue to build momentum in the market, and potentially provide term financing for this project until Green Bank sells it along with its other loan positions in C-PACE transactions.
- **Who?** Sea Research Foundation, Inc., the property owner of 55 Coogan Blvd., Stonington, CT
- **Where?** 55 Coogan Blvd., Stonington, CT

# 55 Coogan Blvd., Stonington

## Project Tear Sheet



**REDACTED**



# 55 Coogan Blvd., Stonington

## Key Financial Metrics



**REDACTED**

# Deployment Committee

Agenda Item #5  
Adjourn



**DEPLOYMENT COMMITTEE  
OF THE CONNECTICUT GREEN BANK**

845 Brook Street  
Rocky Hill, CT 06067

Friday, July 12, 2019  
9:00 – 10:00 a.m.

The quarterly meeting of the Deployment Committee of the Connecticut Green Bank (the “Green Bank”) was held on July 12, 2019, at the office of the Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT, in the Colonel Albert Pope Board Room.

**1. Call to Order**

Commissioner Mary Sotos, as Chair of the Deployment Committee, called the meeting to order at 9:01am

Committee members participating: Bettina Bronisz (by phone), Matt Ranelli (by phone), Mary Sotos (by phone)

Members absent:

Others attending: Inclusive Prosperity Capital: Kerry O’Neill (CEO), Madeline Priest, and Joe Buonannata Kerry O’Neill (by phone)

Staff participating: Brian Farnen, Bryan Garcia, Bert Hunter, Alex Kovtunenکو, Selya Price, , Cheryl Samuels, Louise Venables

**2. Public Comments**

There were no public comments.

### 3. Consent Agenda

- a. Approve Meeting Minutes for Meeting Minutes for May 29, 2019

#### **Resolution #1**

Motion to approve the meeting minutes of the Deployment Committee for May 29, 2019.

**Upon a motion made by Bettina Bronisz and seconded by Matt Ranelli, the Committee unanimously voted to approve the Consent Agenda; Meeting Minutes from the May 29, 2019 meeting.**

- b. Loan Losses Below \$100,000 and No More in Aggregate than \$500,000

Mr. Garcia reported there were no staff approved loan losses for Q4 of FY 2019.

### 4. Incentive Programs

- a. RSIP

Ms. Price reviewed a chart of RSIP progress by fiscal year and stated the current MW at 273 out of 350. The Green Bank's goal is to ensure the sustained orderly development of the local solar industry. Mr. Ranelli asked if average project size is increasing—more projects, more Kw's? Ms. Price stated that projects have been gradually increasing in size, with the homeowner owned projects having the largest average system sizes.

If Step 15 were to begin September 1, 2019, there would be an estimated year left in the program before reaching the 350 MW milestone. The RSIP proposal for Step 15 is to 1) ensure the sustained orderly development of the local solar PV industry by helping to reduce market reliance on RSIP by decreasing incentives, supporting 'soft costs' reduction strategies and consumer protection strategies so market will have one year before tariffs are implemented, 2) Fostering the sustained, orderly development of a state-based solar industry by encouraging the deployment of battery storage; by introducing and implementing battery storage to the grid in the final year of RSIP so that additional benefits to customers and all ratepayers will be realized by helping with peak energy demands and finally 3) Working to transition to net metering as RSIP ends.

Ms. Price continued by showing a graphic from Eversource of their Enbala system architecture that would serve as a platform for control and dispatch of various devices to help meet demand response needs, including residential technologies such as thermostats, water heaters, and eventually battery storage. Customers can be incentivized to allow for access to their devices to meet demand response needs in exchanges for performance-based incentives. Mr. Garcia stated that conversations

with utility and energy companies and homeowners regarding battery storage will be essential to this transition with 50% of solar energy being transferred to the grid on average during the course of a day; working to obtain battery storage for homeowners will be that much more efficient and cost saving and utility companies are a big factor in implementing this initiative.

Ms. Price presented the proposed incentive options; Version 1 has no battery storage and Version 2 includes battery storage and is recommended by CGB staff. Version 2 will lower current incentives more than Version 1 which would allow for funds to provide (up front) incentives for battery storage. Discussion continued regarding the amount of the up-front incentive which is detailed in the memo released to committee members. With a potential \$11K or higher installation cost, Green Bank staff feels that an incentive of on average \$4K will bring interest to battery storage, an incentive in line with or lower than what is being offered in other states. The maximum incentive would be \$7K for those who purchased multiple or larger batteries. The team further proposes putting a cap on expenditures, to support up to 4 MW of storage. The total cost of providing this incentive would be up to \$4 million depending on amount of uptake, which would be derived from the reduction in incentive levels from Step 14 that is currently in place. Ms. Price answered a question regarding Version 2 regarding additional incentives on top of solar—the proposed Step 15 incentive would not provide an incentive to add battery storage to *existing* solar projects. The battery storage incentive would only apply for new solar PV plus battery storage projects, where the battery storage would be considered part of the balance of plant of the solar PV system. Mr. Ranelli voiced concerns about over-incentivizing oversized systems and suggested limiting the incentive to up to 8 kW where capacity over 8 kW would have a different or lower incentive. The other suggestion would be to lower the LMI PBI by 15% instead of 20%. Ms. Price addressed Mr. Ranelli's question regarding over-incentivizing by noting that the higher incentive tier for the EPBB is limited by estimated customer usage. Mr. Garcia added that it would likely be easier to change the EPBB incentive for the first 10 kW (rather than 8 kW) since that sizing structure has been in place since inception of the program and that our team can review the incentive to determine a workable solution to address his concerns and suggestions. Ms. Price shared that we should also take into consideration the goals of deploying more renewable heating and cooling technology, as well as EVs, when considering system sizing and balancing that with oversizing considerations. Mr. Garcia explained that we should also consider reducing incentives for LMI PBI over the next year to enable the LMI market to transition to a post-RSIP market with only net metering. Ms. Sotos is okay with Version 2 but would like more time to review the battery storage incentive. Mr. Garcia deferred to Mr. Farnen to ensure inclusion of other organizations to future (edits) of the Resolution for this concern. Mr. Garcia may defer to the Working Group of the Joint Committee to review the battery storage incentive and address questions/issues. Rather than holding up vote on entire Resolution, Mr. Ranelli recommends a 15% rather than a 20% reduction on LMI PBI. Ms. Bronisz and Ms.

Subject to changes

Sotos are both in agreement and suggest staff find the remaining 5% elsewhere (e.g., reduce the second tier of the EPBB incentive for capacity over 10 kW).

## **Resolution #2**

**WHEREAS**, Public Act 19-35, “An Act Concerning a Green Economy and Environmental Protection” (the “Act”) updates Connecticut General Statutes 16-245ff and 16-245gg to require the Connecticut Green Bank (“Green Bank”) to design and implement a Residential Solar Photovoltaic (“PV”) Investment Program (“Program”) that results in no more than three hundred and fifty (350) megawatts of new residential PV installation in Connecticut on or before December 31, 2022 and extends through December 31, 2022 or after deployment of 350 MW the ability to create Solar Home Renewable Energy Credits (“SHRECs”) that the electric distribution companies are required to purchase through 15-year contracts;

**WHEREAS**, as of July 1, 2019, the Program has thus far resulted in nearly two-hundred and seventy-three (273) megawatts of new residential PV installation application approvals and nearly two-hundred and thirty-five (235) MW of completed projects in Connecticut;

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

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

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

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

**WHEREAS**, pursuant to the Act, to address sustained orderly development of a state-based solar industry, as part of the balance of plant of a solar PV system, an upfront energy storage system incentive (“EPBB ESS”) will provide emergency back-up power for residential participants as well as reduce demand, specifically peak demand, through the load management of the solar PV and energy storage system thereby socializing the benefits to all ratepayers; and

**WHEREAS**, the total allocation for the upfront EPBB battery storage incentive within RSIP for FY19 would be \$4 million or less, anticipated to support deployment of 2.5 to 4 MW of battery storage, or roughly 570-1200 projects depending on project sizes and associated incentive levels; and

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

**WHEREAS**, the Joint Committee has established a working group on battery storage deployment (“Working Group”) that includes DEEP, the Green Bank, Eversource, UI (Avangrid), and EEB consultants; the specific structure and incentive level of a possible EPBB ESS will be reviewed with this working group;

**NOW**, therefore be it:

**RESOLVED**, the Deployment Committee has reviewed and recommends that the Board approves of the Schedule of Incentives with the staff recommendation under Version 2 as set forth in the memo dated July 12, 2019, with the following adjustments:

- The LMI PBI incentive reduction for the  $\leq 10$  kW tier of the LMI PBI incentive will be reduced by 15% instead of 20% as originally proposed.
- The decrease in incentive reduction for the LMI PBI will be approximately offset (with respect to RSIP incentive expenditure) by an increase in incentive reduction to 35% for EPBB projects over 10 kW in size instead of 20% as originally proposed.

The proposed EPBB-ESS structure and incentive level as outlined in the memo of July 12, 2019 is to be reviewed with the Working Group in conjunction with the development of other state-wide battery storage performance incentives, compensation and other policy frameworks. Informed by the Working Group, if the Green Bank and DEEP mutually agree on the need for Green Bank-delivered battery storage incentives paired with solar deployment, as well as the structure and incentive levels needed to

Subject to changes

promote uptake, a proposal will be drafted, reviewed and approved by the Green Bank Board of Directors.

**Upon a motion made by Matt Ranelli and seconded by Bettina Bronisz, the Committee unanimously voted to approve the Resolution 2 with changes.**

Mr. Garcia declared that although there is more work to do and open questions to address that relate to the EPBB-ESS proposal.

## 5. Financing Programs

### a. Smart-E Loan – Health & Safety (Revised)

Reconsideration of the May 29, 2019 decision that requires the Smart-E H&S borrower to be a HES-IE customer or live in an LMI census tract. Green Bank staff took proposal to contractors and utilities and received a lot of strong feedback. Outcome from program contractors and utility program administrators was that the approved conditions would be difficult to operationalize and likely to result in very limited participation. Therefore, staff proposes to launch a pilot to reclassify asbestos and mold remediation from the “other/related” energy measure category, which currently limits them to 25% of an approved loan amount, to being standalone measures that can be financed in full. Details include: cap loan amount at \$25K to be applicable for all nine participating lenders, remediation allowed only in certain scenarios which prove a nexus to energy and, the number of homes in the pilot program will be determined by the Deployment Committee, which was set at 100 loans. Mr. Ranelli stated he is fine with what is proposed.

### **Resolution #3**

**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 May of 2013, Green Bank launched the Smart-E Loan program, statewide as of November 2013, with a network of local lenders providing low-cost and long-term financing for home energy improvements that are consistent with the state energy policy and the implementation of the CES;

**WHEREAS**, the Deployment Committee of the Green Bank approved of, in general, the concept laid out in a staff memorandum of May 22, 2019, with a focus on Connecticut homeowners using the HES-IE program or located in an LMI census tract; and

**WHEREAS**, Green Bank intends to develop and implement the Smart-E Loan program, as amended pursuant to staff recommendations as explained in the addendum to the memorandum to the Board dated July 5, 2019, to further leverage private capital and continue to offer Connecticut homeowners a financing solution;



Subject to changes

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Deployment Committee (the “Deployment Committee”) approves of the reclassification of health and safety measures - specifically, asbestos and mold remediation - as standalone measures that can be financed by the Smart-E Loan in full, up to \$25,000, via a 100-home pilot program, consistent with the memorandum submitted to the Deployment Committee dated July 5, 2019.

**Upon a motion made by Matt Ranelli and seconded by Bettina Bronisz, the Committee unanimously voted to approve Resolution 3.**

b. Impact Investor and Small Business Energy Advantage

The New York-based Quarterly Meeting of the Society of Friends (QMSF), commonly referred to as the “Quakers”, approached IPC with interest in suitable impact investments. The Religious Society of Friends has a commitment to simplicity—to resisting materialism and consumerism—and find expression and appreciation in the Green Bank and IPC efforts of sustainability. Staff shared that the Green Bank has a strategic initiative to attract more impact investors to the Green Bank’s activities.

Based on more recent discussions, this impact investment by the QMSF is likely to be closer to \$500k (rather than up to \$1M). This investment by QMSF would be supported by a “non-exclusive” pledge of the economic interests held by Green Bank (CEFIA Holdings) in the portfolio of SBEA loans proceeds with an optional guaranty by Green Bank. The benefits to Green Bank is effectively a loan to Green Bank which allows a “test” via a short-term investment to determine how Impact Investors may respond to offers and other portfolio offerings. The maturity would be a maximum of 3 years with an annual call at QMSF’s option upon 90-days-notice which would provide Green Bank staff time to move/replace with Green Bank funds. Ms. Bronisz asked if IPC is offering a different deal? Mr. Hunter responded yes and provided details. Ongoing discussion included a question that if an Impact Investor wanted to do business with the Green Bank, could better terms (i.e. a lower effective loan rate in basis points) be negotiated? Mr. Hunter stated that these are the terms they agreed to but there could potentially be some flexibility in terms, with, for example as suggested by Ms. Bronisz, a mutual “call” at each anniversary rather than solely at QMSF’s option.

Mr. Hunter was asked to further explain details of this deal with Mr. Ranelli who may abstain from the vote until he completely recognizes facts and benefits of this deal. Mr. Hunter acknowledged that this is an unusual deal and would be available to discuss further with Mr. Ranelli. Further discussion was about whether the deal was okay with the religious group and it was confirmed that they approached the Green Bank. Ms. Sotos asked if this deal is ready for discussion with full Board however Mr. Farnen asked that it could be deferred until the next Board meeting. All in agreement that Mr. Hunter would call on Deployment Committee members to further explain deal so they can determine their support when presented to the full Board. The

Subject to changes

Deployment Committee tables further action on Resolution #4 until next Board meeting.

c. Other News

Solar PPA Sale to CEI – Green Bank staff solicited three bids and is looking for approval of CEI Capital Management (as the proposed partner for an asset sale) who was selected due to favorable terms; based on a competitive development fee, deployment of CBG debt and asset management consultancy fees for two years post-sale. The assets to be sold are C-PACE secured (where available) commercial solar PPA projects developed by CEFIA Holdings. Green Bank staff requests Deployment Committee to approve sale of these commercial PPA projects (not to exceed \$2.5M). Mr. Farnen explained that staff originally thought it had authority to proceed under the Board’s approval in 2018 for commercial solar PPA transactions but, as Mr. Hunter pointed out, the verbiage was “implicit” not “explicit” authority regarding the sale of assets. Accordingly, staff is presenting to committee for approval.

**Resolution #5**

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) has enjoyed a long and successful history of commercial-scale solar project development and financing;

**WHEREAS**, CEFIA Holdings LLC (“Holdings”) is the Green Bank’s solar project development vehicle, and the Green Bank’s existing agreements for the sale and/or term financing of solar PPAs;

**WHEREAS**, the market for commercial solar PPA financing continues to evolve, as various financing providers are entering the small commercial solar financing space with the ability to provide long-term financing for projects originated by the Green Bank;

**WHEREAS**, the Green Bank’s Board of Directors approved funding, in a total not-to-exceed amount of \$15 million in new money, subject to budget constraints, for the continued development of commercial-scale solar PV PPA projects, to be utilized for the following purposes pursuant to market conditions and opportunities:

1. Development capital;
2. Construction financing; and
3. Financing one or more 3rd-party ownership platforms, in the form of sponsor equity and/or debt.

**NOW, therefore be it:**

Subject to changes

**RESOLVED**, that the Board of Directors approves the sale of solar PPA projects developed by Holdings in an amount not to exceed \$2,500,000 to a project entity associated with CEI Capital Management;

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

**Upon a motion made by Bettina Bronisz and seconded by Matt Ranelli, the Committee unanimously voted to approve the Resolution 5.**

## 6. Adjourn

**Upon a motion made by Bettina Bronisz and seconded by Matt Ranelli the Committee unanimously agreed to adjourn meeting at 10:10am**

Respectfully submitted,

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Commissioner Mary Sotos, Chair





SPARKED BY  
**CONNECTICUT GREEN BANK**

## PACEworx™ Report

Property: 55 Coogan Blvd  
Mystic, CT 06355

Property Type: Entertainment/Culture

Property Size: 14,077 SF

Report Date: August 29, 2019

Contractor: Connecticut Green Bank

# Financial Summary

The energy efficiency investment economics of the recommended energy conservation measures (ECMs) are summarized below.

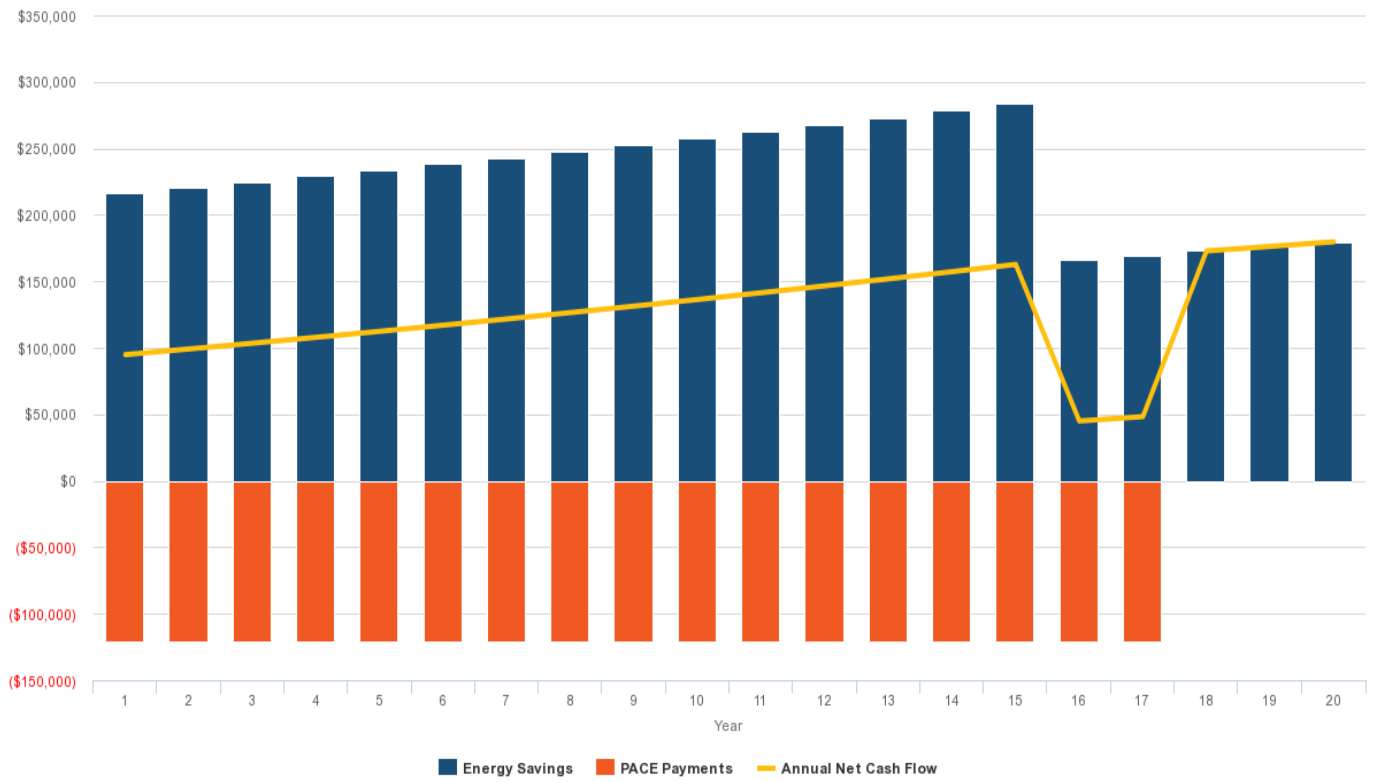
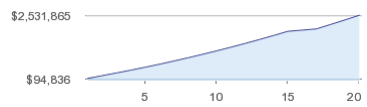
## Key Financial Metrics

<b>\$1,285,872</b> Amount Financed	<b>100%</b> Amount Financed %	<b>\$0</b> Owner Equity Contribution
<b>5.95%</b> Interest Rate	<b>17 years</b> Finance Term	<b>2.22</b> Savings to Investment Ratio (SIR)
<b>\$3,062,259</b> Asset Value Increase	<b>\$1,402,942</b> Net Present Value	

## Cash Flows over ECMs Effective Useful Life

<b>\$4,593,389</b> Projected Savings	<b>\$2,061,523</b> PACE Payments	<b>\$2,531,865</b> Cumulative Net Cash Flows
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## Chart of Cash Flows



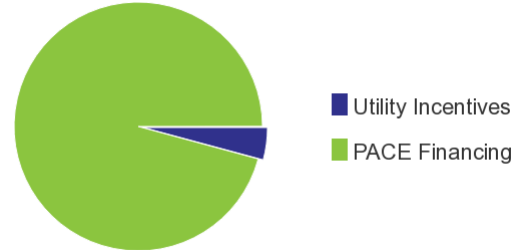
## Scenario Summary

### 100% Financed Scenario: 17-Year Term at 5.95% Interest Rate

#### Project Cost

Gross Installed Cost	\$1,308,306	<b>100%</b>
One-Time Utility Incentives & Grants	(\$55,000)	<b>4%</b>
<b>Net Installed Cost</b>	<b>\$1,253,306</b>	
Owner Equity Contribution	(\$0)	<b>0%</b>
<b>Project Amount Financed</b>	<b>\$1,253,306</b>	<b>96%</b>

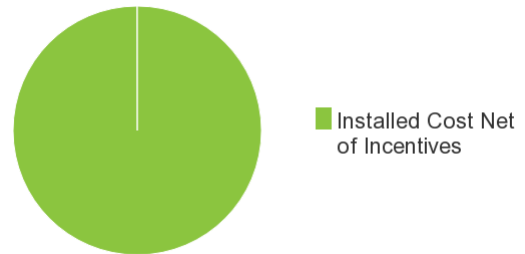
#### Project Funding



#### Incentives: Tax Benefits, Credits & Grants

Net Installed Cost	\$1,253,306	<b>100%</b>
Federal Investment Tax Credit	(\$0)	
MACRS & Bonus Depreciation	(\$0)	
<b>Total Incentives</b>	<b>(\$0)</b>	<b>0%</b>
<b>Installed Cost Net of Incentives</b>	<b>\$1,253,306</b>	<b>100%</b>

#### Installed Cost Net of Incentives



#### First Year Consumption and Savings (Weather Normalized)

	Baseline Consumption	Projected Consumption	Projected Savings	Units	Baseline Unit Cost	Projected % Savings
Total EUI	2,654.0	2,140.5	513.5	kBtu/SF		19.3%
Total Consumption	37,361	30,131	7,229	MMBtu/yr		19.3%
Electricity Consumption	8,417,520	7,088,571	1,328,949	kWh/yr	\$0.13/kWh	15.8%
Electricity Demand			300.0	kW		
Fuels Consumption	86,374	59,431	26,943	therm/yr	\$1.86/therm	31.2%

Weather normalized baseline consumption values are from the 12 months baseline period Jan 2014 to Dec 2016. Projected first year weather normalized consumption values are calculated by subtracting the sum of the recommended ECMs projected savings from the baseline consumption during the baseline period. Projected energy savings values are based on methodology outlined in the Investor Confidence Project Energy Performance Protocol.



## Scenario Summary (cont.)

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### Project Impacts

Consumption Savings		CO <sub>2</sub> e Emissions Reduction <sup>1</sup>		Job-Years Created <sup>2</sup>	
First Year	7,229 MMBtu	First Year	929 tons	Direct	7.3
Total <sup>3</sup>	126,129 MMBtu	Total <sup>3</sup>	15,993 tons	Indirect	9.5
				<hr/>	
				Total	16.8

<sup>1</sup> CO<sub>2</sub>e emissions reduction values are based on methodology outlined in the ASTM Building Energy Performance Assessment Standard E2797-15.

<sup>2</sup> Job-years created values are based on methodology outlined in the Navigant Consulting Inc., Connecticut Department of Economic and Community Development, and Connecticut Green Bank, Clean Energy Jobs Study, June 2016.

<sup>3</sup> Total values are calculated based on the combined energy savings over each ECMs EUL.

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### Project Schedule

Projected Start Date	August 13, 2019
Projected Completion Date	August 13, 2019

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### SIR Present Value<sup>4</sup> Analysis

Present Value Discount Rate	5.95%
Present Value of Projected Savings over ECMs EUL	\$2,678,060
Present Value of PACE Payments	\$1,275,118
Present Value-based SIR	2.10

<sup>4</sup> Present Value (PV) is the current worth of a future sum of money or stream of cash flows given a specified rate of return. Future cash flows are discounted at the discount rate, and the higher the discount rate, the lower the present value of the future cash flows.

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## Projected Cash Flows

The table below displays the projected annual, cumulative and 90% confidence level cash flows over the ECMs effective useful life (EUL) as defined in the ECM Recommendations Financial Summary.

Year	Project Savings	PACE Payments	Net Cash Flows		90% Confidence Level
			Annual	Cumulative	
Owner Equity Contribution			(\$0)	(\$0)	(\$0)
1	\$216,102	\$121,266	\$94,836	\$94,836	\$84,122
2	\$220,359	\$121,266	\$99,093	\$193,929	\$88,226
3	\$224,700	\$121,266	\$103,434	\$297,363	\$92,411
4	\$229,127	\$121,266	\$107,861	\$405,224	\$96,678
5	\$233,641	\$121,266	\$112,375	\$517,599	\$101,029
6	\$238,243	\$121,266	\$116,977	\$634,576	\$105,466
7	\$242,937	\$121,266	\$121,671	\$756,247	\$109,991
8	\$247,723	\$121,266	\$126,457	\$882,703	\$114,604
9	\$252,603	\$121,266	\$131,337	\$1,014,040	\$119,309
10	\$257,579	\$121,266	\$136,313	\$1,150,353	\$124,106
11	\$262,653	\$121,266	\$141,387	\$1,291,740	\$128,998
12	\$267,828	\$121,266	\$146,562	\$1,438,302	\$133,986
13	\$273,104	\$121,266	\$151,838	\$1,590,139	\$139,072
14	\$278,484	\$121,266	\$157,218	\$1,747,357	\$144,259
15	\$283,970	\$121,266	\$162,704	\$1,910,061	\$149,547
16	\$166,189	\$121,266	\$44,923	\$1,954,984	\$36,005
17	\$169,463	\$121,266	\$48,197	\$2,003,181	\$39,161
<b>Subtotals</b> (over finance term)	<b>\$4,064,705</b>	<b>\$2,061,523</b>	<b>\$2,003,181</b>		<b>\$1,806,970</b>
18	\$172,801	\$0	\$172,801	\$2,175,983	\$166,582
19	\$176,206	\$0	\$176,206	\$2,352,188	\$169,864
20	\$179,677	\$0	\$179,677	\$2,531,865	\$173,210
<b>Totals</b>	<b>\$4,593,389</b>	<b>\$2,061,523</b>	<b>\$2,531,865</b>		<b>\$2,316,627</b>

Projections include ECM Savings Over EUL as defined in the ECM Recommendations Financial Summary. ECM savings are assumed to persist over the term of each ECMs EUL and terminate at each ECMs EUL end-date. Projections also include annual utility price escalation factors of 3% for electricity and 3% for fuels, and an annual savings degradation factor of 1%. The Confidence Level Cash Flows are derived from a Monte Carlo simulation based on assumptions associated with this project's ECMs. Based on these assumptions, there is a 90% likelihood that the Projected Cash Flows will be as good as or better than those displayed in the 90% Confidence Level column.

# Key Assumptions

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## Building

Income Tax Rate	35.0 %
Assumed Capitalization (CAP) Rate <sup>1</sup>	7.50 % (for Asset Value calculation)

<sup>1</sup> The Asset Value Increase calculation assumes PACE payments are treated as loan payments that do not impact the building's net operating income.

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## Project

Fiscal Year Start Date (month day)	January 01
Do Incentives Go To Building Owner?	Yes
Percent Local Jobs (%)	100 % (in-state labor allocation)

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## Factors Used to Calculate Projected Savings

Annual Electricity Price Escalation	3.0 %
Annual Fuels Price Escalation	3.0 %
Annual Savings Degradation	1.0 %

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## Methodologies Used to Calculate Savings Projections

Energy Consumption Baseline Data	Conventional (Utility bill-based, no adjustments)
Savings Projections Uncertainty Level	± 15 % (Individual ECM calculations)
Costs Estimates Uncertainty Level	± 15 % (Estimated based on experience)

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## Financing

Percent Financed	100 %
PACE Financing Interest Rate	5.95 %
Number of Days per Year	360 (for Interest calculation)
Term	17 Years
Payment Calculation Method	End of period
First Disbursement Date	Aug 13, 2019
Final Disbursement Date	Aug 13, 2019
Repayment Start Date	Jan 13, 2020
Discount Rate (for NPV calculation)	5.95 %
Program Administration Fee (%)	2.5984 % of project finance amount
Program Administration Fee (\$)	\$32,566
Green Bank Advance Rate (%)	100 % (Green Bank funds advanced as % of amt financed)

## ECM Recommendations Financial Summary

ECM Name	Effective Useful Life (EUL) (Years)	Gross Installed Costs	One-Time Utility Incentives	Net Costs	First Year Savings	Savings Over EUL	Savings Over Finance Term	Simple Payback Term (Years)
Pumps: High Efficiency (associated w/Chiller, HW): Replacement w/VFDs: ID: 14.1.2: Variable Speed Drives on Pumps	20.0	\$100,240	(\$500)	\$99,740	\$71,871	\$1,741,069	\$1,434,708	1.39
Controls: Total Building Energy Management System (BEMS): Uncategorized: ID: 4.7.1: Recommission Building Management System	20.0	\$71,955	(\$4,500)	\$67,455	\$36,250	\$878,153	\$723,632	1.86
Lighting: Interior: Light Emitting Diode (LED): ID: 9.4.7: Lighting retrofit	15.0	\$326,376	(\$50,000)	\$276,376	\$39,254	\$677,366	\$677,366	7.04
HVAC-Air Conditioning: Roof Top Units (RTUs): Air Source (air cooled): Single Package: ID:6.7.1.1	15.0	\$546,805	-	\$546,805	\$52,821	\$911,478	\$911,478	10.35
Building Envelope: Roof: Air Infiltration Reduction/Sealing: ID:1.9.1: Energy Efficient Roof	20.0	\$262,930	-	\$262,930	\$15,906	\$385,322	\$317,520	16.53
<b>Project Totals</b>		<b>\$1,308,306</b>	<b>(\$55,000)</b>	<b>\$1,253,306</b>	<b>\$216,102</b>	<b>\$4,593,389</b>	<b>\$4,064,705</b>	
Weighted EUL	16.7	Cost-weighted avg. (yrs)						
	17.9	Savings-weighted avg. (yrs)						

ECM Savings Over EUL are weather normalized and calculated based on each ECMs EUL. These savings are assumed to persist over the term of each ECMs EUL and terminate at each ECMs EUL end-date. ECM Savings Over EUL include annual utility price escalation factors of 3% for electricity and 3% for fuels, as well as an annual savings degradation factor of 1%.

## ECM Recommendations Savings Summary

ECM Name	Effective Useful Life (EUL) (Years)		First Year Unit Savings	Unit Savings Over EUL	Unit Savings Over Finance Term	Projected % Savings Over Baseline
Pumps: High Efficiency (associated w/Chiller, HW): Replacement w/VFDs: ID: 14.1.2: Variable Speed Drives on Pumps	20.0	Electric: Demand:	882,637 kWh/yr 300 kW	16,148,916 kWh	13,927,113 kWh	10.5%
Controls: Total Building Energy Management System (BEMS): Uncategorized: ID: 4.7.1: Recommission Building Management System	20.0	Fuels:	20,143 therms/yr	368,541 therms	317,836 therms	23.3%
Lighting: Interior: Light Emitting Diode (LED): ID: 9.4.7: Lighting retrofit	15.0	Electric:	272,651 kWh/yr	3,833,026 kWh	3,833,026 kWh	3.2%
HVAC-Air Conditioning: Roof Top Units (RTUs): Air Source (air cooled): Single Package: ID:6.7.1.1	15.0	Electric:	151,661 kWh/yr	2,132,105 kWh	2,132,105 kWh	1.8%
Building Envelope: Roof: Air Infiltration Reduction/Sealing: ID:1.9.1: Energy Efficient Roof	20.0	Electric: Fuels:	22,000 kWh/yr 6,800 therms/yr	402,517 kWh 124,414 therms	347,138 kWh 107,297 therms	0.3% 7.9%
<b>Project Subtotals</b>						
		Electric:	1,328,949 kWh/yr	22,516,563 kWh	20,239,381 kWh	15.8%
		Fuels:	2,694 MMBtu/yr	49,295 MMBtu	42,513 MMBtu	31.2%
		Demand:	300.0 kW			
<b>Project Totals</b>			<b>7,229 MMBtu/yr</b>	<b>126,129 MMBtu</b>	<b>111,576 MMBtu</b>	<b>19.3%</b>

Unit Savings projections are weather normalized and include an annual energy savings degradation factor of 1%. Projected % Savings for each ECM is calculated as the Ratio of the Projected First Year Weather Normalized Unit Savings to the total energy consumption during the Baseline Period for the corresponding energy type. Project Totals are normalized to MMBtu (million Btu) using conversion factors of 293.07 kWh/MMBtu and 10 therms/MMBtu.

# Connecticut Green Bank Key Public Benefit Metrics

In 2013, the Green Bank introduced the C-PACE program. Under C-PACE, property owners obtain financing needed to make key energy improvements, and then repay it as a benefit assessment charge on their property tax bill. C-PACE financing is available for a wide range of clean energy and energy efficiency improvements. Displayed below are C-PACE key performance indicators.

## Project: Mystic Aquarium

Green Bank Deployment	Project Total				
Total Gross Cost of the Project	\$1,308,306				
Amount Financed	\$1,285,872				
Pct of Gross Cost Financed Under C-PACE	98.3%	Green Bank Advance Rate: 100%			
Projected Savings	First Year	Total	Projected % Savings		
Projected Energy Savings - Dollar Amount	\$216,102	\$4,593,389			
Projected Energy Savings - MMBtu	7,229	126,129	19.3%		
CO <sub>2</sub> e Emissions Reduction <sup>1</sup>	First Year	Total			
CO <sub>2</sub> e Emissions Reduction - Tons	929	15,993			
Job Creation <sup>2</sup>	Direct	Indirect	Total	Local Jobs %	Local (in-state)
Job-Years Created	7.3	9.5	16.8	100%	17
Objective Function <sup>3</sup>	First Year	Total			
Million BTUs (MMBtu) Saved per \$1 Invested	0.0058	0.1006			

## C-PACE Portfolio

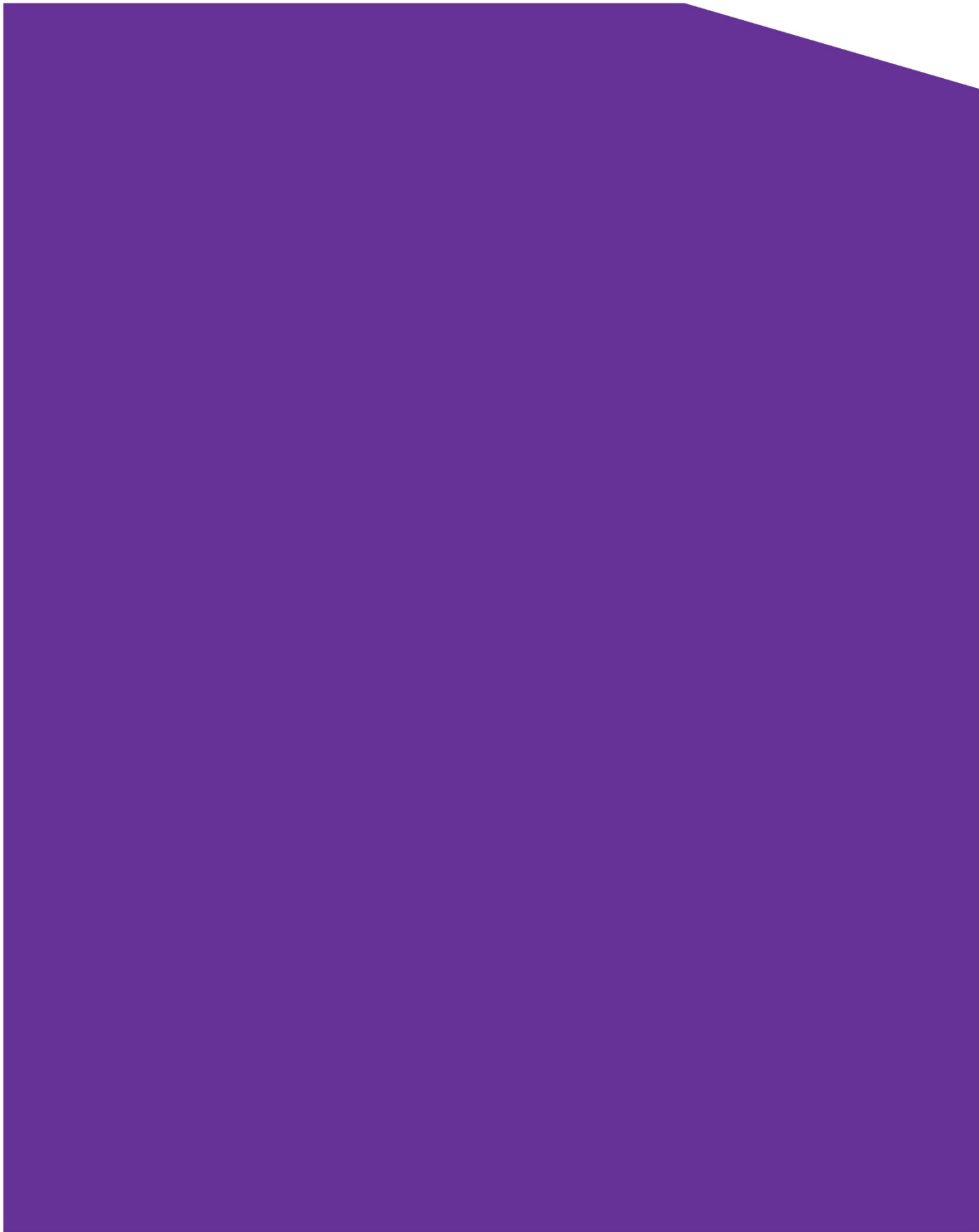
As of: August 29, 2019

Green Bank Deployment	Portfolio Total				
Amount Financed	\$74,880,056				
Amount Financed By Private Capital (24%)	\$18,155,781				
Amount Financed By Green Bank (76%)	\$56,724,275				
Projected Savings	First Year	Total	Projected % Savings		
Projected Energy Savings - Dollar Amount	\$18,084,317	\$200,396,257			
Projected Energy Savings - MMBtu	163,354	3,078,852	37.1%		
CO <sub>2</sub> e Emissions Reduction <sup>1</sup>	First Year	Total			
CO <sub>2</sub> e Emissions Reduction - Tons	19,260	363,849			
Job Creation <sup>2</sup>	Direct	Indirect	Total	Local Jobs %	Local (in-state)
Job-Years Created - Green Bank & Private Capital	425	661	1,086	88%	951
Job-Years Created - Green Bank Only	299	463	762	87%	659
Objective Function <sup>3</sup>	First Year		Lifetime		
	Pre-Private Placement	Post-Private Placement	Pre-Private Placement	Post-Private Placement	
Million BTUs (MMBtu) Saved per \$1 Invested	0.0021	0.0027	0.0398	0.0518	

<sup>1</sup> CO<sub>2</sub>e emissions reduction values are based on methodology outlined in the ASTM Building Energy Performance Assessment Standard E2797-15 for commercial and industrial buildings involved in real estate finance transactions.

<sup>2</sup> Job-years created values are based on methodology outlined in the Navigant Consulting Inc., Connecticut Department of Economic and Community Development, and Connecticut Green Bank, Clean Energy Jobs Study, June 2016. The DECD has reviewed and approved the clean energy jobs calculator methodology in order to measure the economic development impact of clean energy deployment in Connecticut.

<sup>3</sup> The Objective Function is a measure of the Green Bank's impact through its clean energy and energy efficiency investments expressed in MMBtus saved per \$1 invested. [View Objective Function Protocol.](#)



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