865 Brook Street
Rocky Hill, Connecticut 06067-3444
T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

**CLEAN ENERGY**
**FINANCE AND INVESTMENT AUTHORITY**

March 8, 2013

Dear Clean Energy Finance and Investment Authority Board of Directors:

The Board of Directors will be meeting on Friday, March 15, 2013 from 9:00 to 11:00 a.m. at the offices of CEFIA at 865 Brook Street, Rocky Hill, CT 06067.

Our agenda includes:

- **Residential Solar Investment Program** – recommendation from the Deployment Committee for Step 3 of the performance-based incentive (PBI) to be reduced by 25% from \$300/MWh to \$225/MWh to be comparable with the Step 3 rebate level.

- **Legislative Update** – we have been working closely with the new leaders of the Energy & Technology Committee to help them understand the progress CEFIA has made since the passage of PA 11-80. Staff has also been actively testifying on various bills including the Governor's Bill 6360 on the Comprehensive Energy Strategy. We want to update the board on our progress and discuss strategies going forward.

- **Contractor Working Capital** – as a strategy to transition contractors towards offering CEFIA's residential lease and loan programs, we are proposing a working capital program. As our programs build demand for energy efficiency and renewable energy deployment, the small business contractors will need timely access to capital to grow their business – to purchase materials, equipment, etc. This program will build strong marketing channel of contractors for the Solar Lease, Solar Loan, and Smart-E Loan products.

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

We look forward to the meeting next week. Enjoy the weekend.

Sincerely,

Bryan Garcia
President and CEO

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# AGENDA

Board of Directors of the
Clean Energy Finance and Investment Authority
865 Brook Street, Rocky Hill, CT 06067

Friday, March 15, 2013
9:00-11:00 a.m.

Staff Invited: Mackey Dykes, Brian Farnen, Bryan Garcia, David Goldberg, Dale Hedman, Bert Hunter, Alexandra Lieberman, and Kim Stevenson

1. Call to order
2. Public Comments – 5 minutes
3. Approval of meeting minutes for February 15, 2013* – 5 minutes
4. Update from the President – 5 minutes
5. Deployment Committee updates and recommendations for approval* – 10 minutes
    a. Residential Solar Investment Program*
6. Audit, Compliance and Governance Committee update – 30 minutes
    a. Legislative Session Update
7. Technology Innovations Committee updates – 5 minutes
8. Budget and Operations Committee updates – 5 minutes
9. Other Business* – 20 minutes
    a. Contractor Working Capital Program*
    b. Other?
10. Areas of Interest: Leading By Example with the Department of Energy and Environmental Protection – 15 minutes
11. Adjourn

*Denotes item requiring Board action

Join the meeting online at https://www4.gotomeeting.com/join/471451287

Dial +1 (805) 309-0012 Access Code: 471-451-287

***Next Regular Meeting: Friday, April 19, 2013***
***Clean Energy Finance and Investment Authority, 865 Brook Street, Rocky Hill, CT***

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# RESOLUTIONS

Board of Directors of the
Clean Energy Finance and Investment Authority
865 Brook Street, Rocky Hill, CT 06067

Friday, March 15, 2013
9:00-11:00 a.m.

1. Call to order

2. Public Comments – 5 minutes

3. Approval of meeting minutes for February 15, 2013* – 5 minutes

**Resolution #1**

Motion to approve the minutes of the Board of Directors meeting for February 15, 2013 Regular Meeting. Second. Discussion. Vote.

4. Update from the President – 5 minutes

5. Deployment Committee updates and recommendations for approval* – 10 minutes

   a. Connecticut Solar Lease 2 – Investment Update

   b. Residential Solar Investment Program*

**Resolution #2**

**WHEREAS**, Section 106 of Public Act 11-80 "An Act Concerning the Establishment of the Department of Energy and Environmental Protection ("DEEP") and Planning for Connecticut's Energy Future" (the "Act") requires the Clean Energy Finance and Investment Authority ("CEFIA") to design and implement a Residential Solar Photovoltaic ("PV") Investment Program ("Program Plan") that results in a minimum of thirty (30) megawatts of new residential PV installation in Connecticut before December 31, 2022;

**WHEREAS**, pursuant to Section 106 of the Act, CEFIA has prepared a Program Plan and a declining incentive block schedule ("Schedule") that offer direct financial incentives, in the form of Performance-Based Incentives ("PBI") (i.e. lease model) and Expected Performance-Based Buy-down incentives ("EPBB") (i.e. rebate model), for the purchase or lease of qualifying residential solar photovoltaic systems; and

**WHEREAS**, the Deployment Committee has reviewed and recommended for approval to the Board of Directors a PBI for Step 3 of the Schedule be established at $225 a megawatt-hour (MWh) for a six-year period.

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors approve a PBI for Step 3 of the Schedule be established at $225 a megawatt-hour (MWh) for a six-year period.

**RESOLVED**, the Step 3 incentive shall immediately terminate when (1) committed capacity has been reached for either the PBI Step 3 incentive schedule or the EPBB Step 3 incentive schedule, or (2) December 31, 2013, whichever comes first; and,

**RESOLVED, that this Board of Director action is consistent with Section 106 of the Act.**

6. Audit, Compliance and Governance Committee update – 30 minutes

   a. Legislative Session Update

7. Technology Innovations Committee updates – 5 minutes

8. Budget and Operations Committee updates – 5 minutes

9. Other Business* – 20 minutes

   a. Contractor Working Capital Program*

**Resolution #3**

**WHEREAS**, Section 99 of Public Act 11-80 "An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future" (the "Act"), CEFIA is directed to, amongst other things, to develop separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such others as the authority may determine;

**WHEREAS**, CEFIA seeks to establish a $5,000,000 working capital loan / guarantee program in support of the Smart-E Loan, Solar Loan and Solar Lease programs,

**WHEREAS**, this working capital loan / guarantee program will support such programs for homeowners to promote deep energy efficiency retrofits, renewable energy deployment, and fuel and equipment conversions in single-family homes across the state, in line with Public Act 11-80, the State's Draft Comprehensive Energy Strategy and CEFIA's Strategic Plan;

**NOW**, therefore be it:

**RESOLVED,** that CEFIA's Board of Directors authorizes the establishment of a $5,000,000 working capital loan / guarantee program for the benefit of contractors participating in the Smart-E loan, Solar Loan and Solar Lease programs;

**RESOLVED**, that the President of CEFIA; and any other duly authorized officer of CEFIA, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the $5,000,000 working capital loan / guarantee program with terms and conditions consistent with the memorandum submitted to the Board of Directors dated March 8, 2013 titled "Solar Loan, Solar Lease & Smart-E Loan Programs – $5,000,000 Contractor Working Capital Loan or Guarantee Program"; and

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

b. Other?

10. Areas of Interest: Leading By Example with the Department of Energy and Environmental Protection – 15 minutes

11. Adjourn

*Denotes item requiring Board action

Join the meeting online at https://www4.gotomeeting.com/join/471451287

Dial +1 (805) 309-0012 Access Code: 471-451-287

***Next Regular Meeting: Friday, April 19, 2013***
***Clean Energy Finance and Investment Authority, 865 Brook Street, Rocky Hill, CT***

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #1**

Call to Order

March 15, 2013

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #2**

Public Comments

March 15, 2013

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #3**

Approval of Meeting Minutes of February 15, 2013

March 15, 2013

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #4**

Update from the President

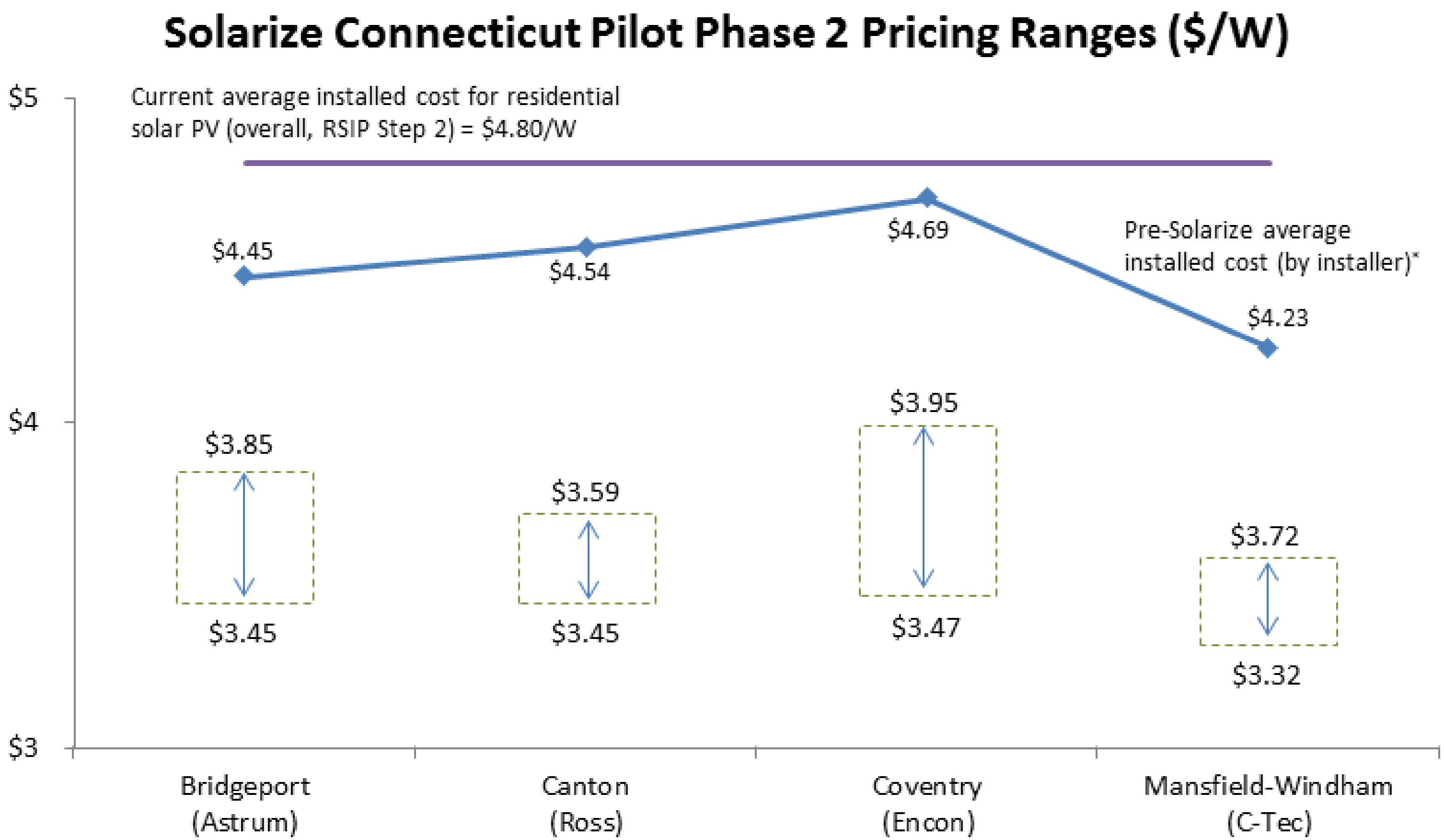
March 15, 2013

# Update from the President

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

- **Smart-E Loan** – commitments from NPU (MOU), Core Plus, and Eastern Savings Bank piloting product in NPU service territory to test out fuel conversion, equipment replacement, and energy efficiency combination; supporting UI transition to non-ratepayer backed product with Earth Day week launch; CL&P in process; recruitment of more credit unions and community banks
- **Solarize Connecticut** – exceeded expected pilot results – expected cost $4.25/W and $3.80/W achieved (soft cost reductions represent over 90%); 300 customer target for two rounds and 284 achieved in 1st round; saved customers $2.2 million; 6 year payback; received $1.8 MM DOE SEEDS grant through Yale partnership; adapting to fuel conversion, equipment replacement, and energy efficiency in Norwich with SmartPower; model is privatizing

# Update from the President
## Solarize Round 2




* Pre-Solarize average excludes Phase I Solarize jobs by Astrum and Encon

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #5**

Deployment Committee

March 15, 2013

# Connecticut Solar Lease 2.0
Update

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

***Bottom Line – Great Progress Toward Launch***

- $24 MM Tax Equity in Final Term Sheet Stage
- $28 MM CT Bank Syndicate – Agreed Term Sheet
  - First Ever Leveraged Residential Lease using Syndicate of Banks
- Capital for up to $62 MM PV projects (Resi / Muni / "A" Comm'l or C-PACE)
- Banks are in final credit approval – no problems anticipated
- Counsel for All Parties Now Identified
- AFC First Financial – Servicing Agreement Terms Finalized
- Focus Group with solar installers – very positive – “Can’t Wait”
- Last Steps
  - Optimize Fund Size - Firm Capital (⅔) + Option Capital (⅓)
  - Finalize Tax Equity / Bank Funding / Documentation
  - Roll-Out / <u>**Launch Mid-April**</u>

# Connecticut Solar Lease 2.0
## Update

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

### CT Solar Lease 2
### Cash Flow Projection

- **$9.5 MM investment in 2013-2015 – Cash Returns start within 1 year – >50% investment returned in 10 yrs**
- **Investment is cash break even in 15 years (2027), returning an 8.9% after tax IRR over 22 years**
- **Including the PBI, ratepayers get 100% of funds returned over the life of the portfolio.**

| Year | CEFIA Subordinate Loan Payments | CEFIA DDF Payment from Operations | CEFIA Return of Capital to MM | CEFIA Distribution to Investor | CEFIA Distribution to M.M. | From Cefia Investment & Tax Pmts | To Cefia Cash Returns | Cefia Net Cash & IRR 8.9% | PBI | Cumulative Net Cash After PBI |
|---|---|---|---|---|---|---|---|---|---|---|
| 2013 | (4,209) | (158,530) | (25,304) | - | - | (4,766,555) | 188,043 | (4,578,512) | (449,748) | (5,028,260) |
| 2014 | (26,278) | (214,288) | (87,751) | - | - | (1,999,592) | 328,317 | (1,671,275) | (1,972,733) | (3,644,007) |
| 2015 | (125,535) | (187,124) | (119,915) | - | - | (2,733,853) | 432,574 | (2,301,279) | (2,779,416) | (5,080,695) |
| 2016 | (152,617) | (324,771) | (127,657) | - | - | | 605,045 | 605,045 | (2,758,579) | (2,153,534) |
| 2017 | (152,617) | (497,531) | (137,450) | - | - | | 787,598 | 787,598 | (2,744,786) | (1,957,188) |
| 2018 | (152,617) | (653,151) | (166,345) | - | - | | 972,113 | 972,113 | (2,731,062) | (1,758,949) |
| 2019 | (152,617) | - | (700,278) | - | - | | 852,895 | 852,895 | (2,280,984) | (1,428,089) |
| 2020 | (152,617) | - | - | (21,052) | (394,891) | | 568,560 | 568,560 | (796,213) | (227,653) |
| 2021 | (152,617) | - | - | - | (53,257) | | 205,874 | 205,874 | | 205,874 |
| 2022 | (152,617) | - | - | (9,161) | (200,936) | | 362,714 | 362,714 | | 362,714 |
| 2023 | (152,617) | - | - | (18,890) | (350,219) | | 521,726 | 521,726 | | 521,726 |
| 2024 | (152,617) | - | - | (28,755) | (501,598) | | 682,970 | 682,970 | | 682,970 |
| 2025 | (152,617) | - | - | (38,759) | (655,131) | | 846,508 | 846,508 | | 846,508 |
| 2026 | (152,617) | - | - | (48,907) | (810,880) | | 1,012,404 | 1,012,404 | | 1,012,404 |
| 2027 | (152,617) | - | - | (59,202) | (968,904) | | 1,180,724 | 1,180,724 | | 1,180,724 |
| 2028 | (152,617) | - | - | (82,624) | (1,326,403) | | 1,561,644 | 1,561,644 | | 1,561,644 |
| 2029 | (152,617) | - | - | (143,779) | (2,257,269) | | 2,553,666 | 2,553,666 | | 2,553,666 |
| 2030 | (152,617) | - | - | (357,742) | (5,509,981) | | 6,020,341 | 6,020,341 | | 6,020,341 |
| 2031 | (152,617) | - | - | (172,646) | (2,699,309) | (918,371) | 3,024,572 | 2,106,201 | | 2,106,201 |
| 2032 | (152,617) | - | - | (177,226) | (2,770,682) | (1,054,772) | 3,100,525 | 2,045,753 | | 2,045,753 |
| 2033 | (38,154) | - | - | (160,022) | (2,499,084) | (939,060) | 2,697,260 | 1,758,200 | | 1,758,200 |
| 2034 | - | - | - | (60,732) | (948,057) | (353,076) | 1,008,788 | 655,712 | | 655,712 |
| | | | | | | | | 16,749,583 | (16,513,521) | 236,061 |

# Connecticut Solar Loan
Update

CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY

***Bottom Line - Set To Launch In Days***

- Documentation, Servicing Agreements, Loan Process, Marketing - DONE
- Final Step – Establishing SPV – finalizing with CI
- Looking Ahead:
  - Launching with CEFIA $1.5MM
  - Currently “pre-marketing” with initial installers
  - Sungage Website Active
  - Official Launch ~**March 18/19** (after SPV established)
  - Great press expected
- In contact with several investors for Senior Loan / Investment
  - Key issues:
    - Investment too small - may have to increase to ~$10MM to attract interest
    - May need more subordinated investment (20% v. 10%) … with CEFIA subordinated holding increased to $1MM for a $5MM fund or $2MM for $10MM fund
    - Would require approval by Deployment Committee

# Residential Solar Investment Program
December 21, 2013 Step 3 BOD Approval Recap

CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY

- **Race to the Solar Rooftop**
  - Step 3 Capacity Target
    - 7.6 MW - comprised of 3.8 MW for rebate, 2.8 MW for PBI, and 1.0 MW for competitive
  - Step 4 Capacity Target
    - 10.0 MW
  - Rebate (EPBB) Incentive – $1.75/W up to 5 kW and $0.55/W between 5 to 10 kW for the rebate
  - *TBD for PBI, but expect between $200-$230/MWh*
- **Staff Recommendation and Approval Timing**
  - Deployment Committee – 1.8 MW from either the rebate or PBI is achieved
  - Board of Directors – 2.8 MW from either the rebate or PBI, or January 1, 2014, whichever is first.


11

# CEFIA Staff's Reasoning for Step 3 PBI Incentive Recommendation

CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY

- Step 3 PBI is schedule to start no later than April 1, 2013
- To make the PBI incentive comparable with the Rebate (EPBB) incentive
- To continue to drive the combined RSIP incentive (Rebate and PBI) down to achieve a leverage of non-ratepayer funds to ratepayer funds to 3 to 1 (25%)
- To continue to move RSIP from a subsidy program closer to a low-cost and long-term financing program

# Residential Solar Investment Program
Resolution

- **Incentive Levels**

| | Rebate ($/W) | | PBI ($/kWh) |
|---|---|---|---|
| | **x ≤5 kW** | **10 kW ≥ x > 5 kW** | **x ≤ 10 kW** |
| Current Step 2 | $2.275 | $1.075 | $0.300 |
| Proposed Step 3 | $1.75 | $0.55 | $0.225 |
| Total Reduction | $0.525 | $0.525 | $0.075 |
| % Reduction | 23% | 49% | 25% |

- **Race to the Solar Rooftop**
  - Lesser of 7.6 MW deployed or December 31, 2013

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #6**

Audit, Compliance and Governance Committee

March 15, 2013

## Audit, Compliance, and Governance Committee

CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY

- **Supporting DEEP Efforts** – Appropriations Committee, Finance, Revenue and Bonding Committee, and Black and Puerto Rican Caucus
- **Energy and Technology Committee Forum** – organized a two-hour forum with the Committee to discuss CEFIA organizational and product updates and legislative priorities
- **Legislation** – actively engaged in public comments on a number of proposed bills and leading on several pieces of priority legislation

# Priority Legislation

- **<u>Commercial and Industrial Property Tax Exemption</u>** – enabling and more inclusive clean energy definition (S.B. 949) versus mandatory and Class I only (S.B. 203)
- **<u>On-Bill Financing</u>** – request by DEEP to CEFIA to pursue residential on bill financing policy and working with Representative Williams (H.B. 5591) and Committee to seek revision of Section 14 of PA 07-242

# Proposed Legislation before the Energy and Technology Committee

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

- **Governor's Bill 6360** – implementation of the Comprehensive Energy Strategy
- **Raised Bill 946** – extension of Project 150 projects
- **Raised Bill 949** – commercial and industrial property tax exemptions with redefinition of eligible clean energy technologies
- **Raised Bill 6472** – addition of district heating and cooling loops in C-PACE program
- **Raised Bill 6532** – certification of Class I and II RECs and ACP
- **Raised Bill 6535** – redefining Class I resources

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #7**

Technology Innovation Committee

March 15, 2013

- **<u>Op Demo Program</u>**
  - Finalizing funding agreements with RPM and NEHC
  - Ensuring parties to each agreement are aligned on SOW and expected outcomes and companies are focused on demonstrating proof points critical for commercial success
  - CI involved in key discussions


# Technology Innovation Programs

Transition Update

CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY

| | PROGRAM | CEFIA PROGRESS | CI PROGRESS |
|---|---|---|---|
| COMPLETE AT CI | **Alpha Program** | | • Anchor Science and Apollo Solar moving forward under CI management as planned |
| IN PROCESS | **Op Demo Program** | • Op Demo contracts being finalized for NE Hydro and RPM<br>• CI involved in review | • RPM: executed pre-seed loan of up to $150k on 2/26. |
| IN PROCESS | **Legacy Investments** | • Avalence → OD in process<br>• LiteTrough → OD in process; receiving SRCC certification<br>• Mechasys → OD closeout<br>• Tallon → closeout, auction assets | • Acumentrics: under CI mgmt<br>• Optiwind: under CI mgmt |
| IN PROCESS | **Closure** | • Identify gaps, unmet needs w/ CI<br>• Share insights, recommendations | |

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #8**

Budget and Operations Committee

March 15, 2013

# Budget and Operations Committee

CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY

- **Office Locations** – Rocky Hill and Stamford
- **New Hires** – extensive 4-part process; hired Director of Residential Programs; worked with DEEP and have an offer out to Director of Institutional Programs
- **FY 2014 Budget** – draft budget to Budget & Operations Committee on April 22nd, final budget to the Budget & Operations on May 28th for recommendation for Board approval on June 21st

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #9**

Other Business

March 15, 2013

# Other Issues

## Contractor Working Capital

- Programs build demand for EE and RE deployment, small business contractors need timely access to capital to grow their business – to purchase materials, equipment, etc.
- Loan Processing Issue – Sikorsky FCU systems can't process a 30% advance to borrower to provide for Smart-E working capital
- Solar Loan and Solar Lease – no funding advanced until the PV systems have been inspected by CEFIA
- Can tie up working capital for 45 – 60 days.
- Based on discussions with private capital partners, CEFIA staff recommends the establishment of a $5,000,000 Contractor Working Capital Loan / Guarantee Program

# Contractor Working Capital

CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY

- The working capital program will build a strong marketing channel of contractors for the Solar Lease, Solar Loan, and Smart-E Loan products.
- CEFIA would roll-out either
  - With a State Agency – like Small Business Express (possible capacity issue) or
  - Via one or two local banks that have state-wide network
  - Discussions underway with the state and with banks
- Lending limits would be established with reference to installation history or other reasonable benchmark
- Maximum (to start) $250,000 – for the top 10 installers
- Pricing – Prime + 2% (5.25%)

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #10**

Areas of Interest – Leading by Example

March 15, 2013

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Board of Directors of the Clean Energy Finance and Investment Authority

**Agenda Item #11**

Adjourn

March 15, 2013

# CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY
# Board of Directors
### Draft Minutes – Regular Meeting
### Friday, February 15, 2013

A regular meeting of the Board of Directors of the **Clean Energy Finance and Investment Authority (the "CEFIA")** was held on February 15, 2013, at the office of CEFIA, 865 Brook Street, Rocky Hill, CT.

**1.** **<u>Call to Order</u>**: Catherine Smith, Chairperson of CEFIA, called the meeting to order at 9:12 a.m. Board members participating: Mun Choi; Sharon Dixon-Peay, State Treasurer's Office; Daniel Esty, Vice Chairperson of CEFIA and Commissioner of the Department of Energy and Environmental Protection ("DEEP"); Norma Glover; Reed Hundt (by phone); John Olsen; Matthew Ranelli; and Catherine Smith, Chairperson of CEFIA and Commissioner of the Department of Economic and Community Development ("DECD").

Members Absent: Tom Flynn and Patricia Wrice.

Staff Attending: Mackey Dykes, George Bellas, Brian Farnen, Bryan Garcia, David Goldberg, Dale Hedman, Bert Hunter, Alexandra Lieberman, Shelly Mondo, Cheryl Samuels, Kimberly Stevenson, and Bob Wall.

Others Attending: Rick McCarthy, Environmental Capital; and Mike Trahan, Solar Connecticut.

There being no objection, the order of the agenda was changed at the Chairperson's discretion.

**2.** **<u>Public Comments</u>:**

Mike Trahan from Solar Connecticut reported on some of the state legislation he has been working on with CEFIA and others, including commercial property tax waivers for Class I Renewables, reducing soft costs for solar permitting fees, virtual net metering, and community/shared solar.

At the request of the Board, Mr. Hundt was asked to provide an update on federal energy efforts and the initiative by the State of New York with respect to the creation of a green bank. Mr. Hundt acknowledged that CEFIA was used as the model for New York's creation of a green bank. He mentioned that efforts are being made to raise funds to hold seminars with several states to discuss in more detail green banks, and it is hopeful that representatives from CEFIA will participate. With respect to federal initiatives, Mr. Hundt indicated that efforts may be made to phase out coal generation through the U.S. Environmental Protection Agency. He talked about the possibility of the Department of Treasury offering loans to state green banks. The Board discussed some of the clean energy initiatives that can potentially be made through the U.S.

Environmental Protection Agency. It was noted that the clean energy leadership initiatives may have to come from the states because of some of the challenges at the federal level. The Board noted the importance of being kept abreast of the national initiatives and legislation.

**3. Approval of Minutes of Meeting of January 18, 2013:**

Ms. Smith asked the Board to consider the minutes from the January 18, 2013 meeting.

> **Upon a motion made by Mr. Choi, seconded by Mr. Ranelli, the Board members voted in favor of adopting the minutes from the January 18, 2013 meeting as presented (Ms. Glover abstained from the vote).**

**4. Update from the President:**

Mr. Garcia provided an update on the Bridgeport fuel cell project noting that the project is on schedule, and it is anticipated that the closing of CEFIA's loan with Fuel Cell Energy will occur within the next several weeks. He mentioned that the interconnection work is moving forward as scheduled and slightly under budget. Attorney Farnen indicated that the feedback received from the Board has been incorporated into the contract. He mentioned that a majority of the terms and conditions of the contract have been negotiated and agreed upon.

Mr. Garcia mentioned that an informal meeting will be held on February 26 with legislators to provide information and report on CEFIA.

**5. Budget and Operations Committee ("Budget Committee") Updates and Recommendations for Approval:**

*a. C-PACE Budget Reallocation:*

Ms. Bailey discussed the status of Commercial Property Assessed Clean Energy ("C-PACE"). She indicated that the progress in setting up the program has gone faster than other states. Ms. Bailey mentioned that staff is working out some of the issues raised with the lenders about fitting the program into their portfolio. She noted the importance of showing proof of concept. Mr. Hunter acknowledged the work done by Ms. Bailey to bring the various stakeholders together. He noted that the guidelines and framework for the program are in place. While moving forward expeditiously, Mr. Hunter spoke about the importance of structuring the financing piece in an effective deliberate manner. A discussion ensued on the enabling C-PACE legislation and the need to make a modification to the language to allow liens on properties during construction. The modification will help equalize the competition and allow smaller, local lenders to participate. Mr. Hunter explained the benefits of CEFIA providing up to $20,000,000 to fund the construction and provide term financing for C-PACE transactions ($10,000,000 for construction financing and $10,000,000 for term financing). He noted that this will help address the concerns expressed by capital providers regarding construction risk.

Mr. Hunter explained the process of the capital providers taking out CEFIA's construction financing. A discussion ensued on the size of the individual deals. In response to a question, it was noted that "bundling" is an option that can be used to help achieve the lowest cost of capital. The Board expressed some concern with running out of funding too quickly for construction loans if a capital provider does not take out CEFIA's loan. Staff explained the low risks and indicated that there should not be a problem with getting capital providers. The Board expressed the desire to be cautious while the market develops and therefore suggested requiring the identification of the long-term capital provider before CEFIA provides construction financing in excess of a certain amount (i.e. $2,000,000). The Board reiterated the importance and need to close several deals to show the value of the product and get the capital providers to eventually provide the construction financing. It was noted that the Deployment Committee will be asked to consider the financing of C-PACE loans at the meeting scheduled for today.

Mr. Hunter explained the rationale for the different maturity dates and interest rates. Staff was asked to report back on how C-PACE can work for new construction. The Board asked that Alex Kragie from DEEP report back on the Leading by Example programs.

**Upon a motion made by Ms. Dixon-Peay, seconded by Mr. Choi, the Board members voted unanimously in favor of adopting the following resolution regarding the C-PACE budget reallocation:**

**WHEREAS,** Section 99 of Public Act 11-80 "An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future (the "Act"), CEFIA is directed to, amongst other things, develop separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such others as the authority may determine; and

**WHEREAS,** Section 157 of Public Act 12-2 of the June 12, 2012 Special Session of the Connecticut General Assembly, CEFIA is directed to, amongst other things, establish a commercial substantial energy program for Connecticut, known as Commercial Property Assessed Clean Energy ("C-PACE"); and

**WHEREAS,** CEFIA seeks to provide a $20,000,000 construction and term loan program in support of the C-PACE Program, to fund the construction of up to $20,000,000 in C-PACE transactions in line with the State's Draft Comprehensive Energy Strategy and CEFIA's Strategic Plan; and

**WHEREAS,** the CEFIA Budget and Operations Committee recommends to the Board of Directors for approval a reallocation of $19,000,000 from the unrestricted cash account to the C-PACE loan line item for a total of $20,000,000 for a construction and term loan program.

**NOW,** therefore, be it:

**RESOLVED,** that CEFIA's Board of Directors authorizes the establishment of a $20,000,00 construction and term loan program in support of the C-PACE Program, to fund the construction of up to $20,000,000 in C-PACE transactions;

**RESOLVED,** that each project loan made under the construction and term loan program in support of the C-PACE Program shall not exceed $2,000,000; and

**RESOLVED,** that the CEFIA Board of Directors hereby approves the reallocation of $19,000,000 from the unrestricted cash account to the C-PACE loan line item.

---

*b. Discussion on plans for investing uncommitted cash*

Mr. Dykes reported on the financial analysis for the period ended January 31, 2013, noting that utility customer assessments collected were slightly under budget. However, the shortfall was partially offset by higher than anticipated Regional Greenhouse Gas Initiative auction proceeds. General operation expenses and program expenses were under budget. As requested by the Board, information was provided on program investments. Mr. Hunter explained some of the changes anticipated to the individual program investments over the next several years. A discussion ensued on the program developed for low-income residents. The Board urged staff to consider expanding its programs and determine how CEFIA can help the State's initiatives with respect to energy strategies for low-income residents. The Board encouraged staff to move forward as quickly as possible with programs, particularly the anaerobic digester program. Mr. Hunter explained how CEFIA staff was able to make changes to the anaerobic digester Request for Proposals and program to attract more applicants and more feasible projects.

In response to a suggestion made, it was noted that the CEFIA Board can allocate more funding for the projects and programs that are working at any time. The Board discussed the possibility of utilizing some of the federal funding that Connecticut will be receiving from Storm Sandy to help bolster multifamily housing projects. A discussion ensued on the need to attract more private capital for microgrid, and a suggestion was made to appoint a team leader to work with DEEP and come up with financing strategies.

It response to a comment made about universities self-generating electricity, Mr. Choi noted that UCONN was awarded for being one of the greenest colleges in the world.

Staff was asked to provide the Board with information and regular updates on what is going on around the state with respect to clean energy and energy efficiency measures.

**6. <u>Deployment Committee Updates and Recommendations for Approval</u>:**

*Connecticut Solar Lease 2.0 Program:*

Mr. Garcia discussed the success of the Connecticut Clean Energy Fund's ("CCEF's") Solar Lease 1.0 Program and noted that the Solar Lease 2.0 Program builds on the success of the Solar Lease 1.0 Program. He noted that out of 855 leases provided under the Solar Lease 1.0 program, there have only been two defaults. Mr. Garcia reviewed some of the differences between the CT Solar Lease 1.0 and 2.0 programs. He talked about some of the goals of the CT Solar Lease 2.0 program which include strengthening and enhancing supplier diversity, reducing the costs of solar PV, providing access to more Connecticut residents, and transitioning the program away from utilizing ratepayer subsidies. Mr. Garcia explained the difference in the ownership of the leasing company and mentioned that CEFIA will be partial owner of the leasing company. Through this structure, CEFIA will receive a return on its investment and ratepayer funds utilized for the program will be paid back over time.

Mr. Hunter reviewed some of the details of the program. The Solar Lease 2.0 program is anticipated to increase the installed residential capacity by 53 percent. It was noted that the program will also enable installers to offer financing for solar hot water systems. Mr. Hunter explained some of CEFIA's roles with respect to the program. He reviewed the underwriting criteria and lease terms. Mr. Hunter discussed the structure of the program. He talked about the ratepayer payback and explained how CEFIA will receive subordinated loan payments, deferred developer fee distributions and managing member distributions. Mr. Hunter stated that in order to achieve a structure that has benefits for the private capital provider and to insulate CEFIA's non-taxable nature, CEFIA has to establish a blocker corporation or special purpose vehicle. Since CEFIA does not have the legislative ability to form a special purpose vehicle, CEFIA's legal counsel has opined that it can create an affiliate with one or more other persons or entities. Mr. Hunter indicated that the CI Board has approved a special purpose vehicle arrangement with CEFIA. He discussed the structure of the arrangement with CI. Attorney Farnen explained that CEFIA will seek legislative authority to establish subsidiaries without other parties, similar to the legislation that is already in place for CI and the Connecticut Development Authority. If successful, CEFIA would work with CI to redeem CI's ownership arrangements. The Board requested a memorandum from Wiggin & Dana, CEFIA's outside counsel, about the proposed structure to ensure that CEFIA's tax exempt status as a quasi-public agency is not adversely impacted. In response to a question, Mr. Hunter indicated that it would cost CEFIA approximately $100,000 to capitalize the special purpose vehicle. The Board was asked to consider: 1) approval to launch the Connecticut Solar Lease 2.0 program; 2) approval to form a holding company and special purpose vehicle for the program; 3) approval of the financial elements of the Connecticut Solar Lease 2.0 program; and 4) approval to enter into the transactional documentation for the program.

**Upon a motion made by Ms. Glover, seconded by Mr. Esty, the Board members voted in favor of adopting the following resolutions regarding the Connecticut Solar Lease 2.0 Program and**

**authorization to establish a special purpose vehicle holding company (Mr. Choi was not present for the vote):**

**WHEREAS,** the Clean Energy Finance and Investment Authority ("CEFIA") proposes to reintroduce its Solar Lease Program which builds on the success of the first Solar Lease Program and achieves the additional benefits of enabling Connecticut homeowners to work with qualified installers of their choice, ensuring that Connecticut's solar installer base remains robust, diverse and able to reach all Connecticut residents, permit homeowners to lease systems for a 20-year period (5 years longer than the first program and competitive with the major national installers), permit financing of solar hot water systems and make a portion (20%) of the fund proposed available to non-residential end users; and

**WHEREAS,** CEFIA's program partners are desirous of moving to the capital raise phase of the program, having achieved a capital structure and program design that CEFIA staff and CEFIA's advisors believe will be successful; and

**WHEREAS,** CEFIA has entered into a Memorandum of Agreement ("MOA") with the Department of Energy and Environmental Protection ("DEEP") to repurpose American Recovery and Reinvestment Act State Energy Program ("ARRP-SEP") funds for the undertaking of clean energy project of mutual interest; and

**WHEREAS,** the project of mutual interest set forth in the MOA is to provide funding for credit enhancements (i.e. loan loss reserves, interest rate buy-downs, third-party loan insurance) for financing programs administered by CEFIA. One of the programs supported by the ARRA-SEP funding is the CT Solar Lease II Program (the "Program").

**NOW,** therefore, be it:

**RESOLVED:**

(1) that the Board of Directors approves funding for the Program in the following amounts:

a. an amount not-to-exceed $3,500,000 for a Lease/Loan Loss Reserve ("LLR") through the use of repurposed ARRA-SEP program funds; and
b. an amount not-to-exceed $7,200,000 for sponsor equity to be invested into the special purpose vehicle to be established for the Program; and
c. an amount not-to-exceed $2,300,000 for subordinated debt; and

(2) that the Board of Directors authorizes CEFIA staff to work with the Reznick Group to manage a capital raise in an amount not to exceed $60,000,000 in private (non-CEFIA provided) capital for the Program; and

(3) that the President of CEFIA and any other duly authorized officer of CEFIA is

authorized to execute and deliver, any contract or other legal instrument necessary to secure a non-binding agreement with senior lender(s) and a tax equity investor and a loan servicer, subject to final approval by CEFIA's Board of Directors on such terms and conditions consistent with the presentation in Staff's Program Qualification Memo dated November 30, 2012 as updated by the Staff's memo to the Board of Directors dated February 11, 2013 concerning "Proposal to Complete Development of Solar Lease II, a Residential, Institutional and C&I Financing Program" as he or she shall deem to be in the interests of CEFIA and the ratepayers no later than six months from the date of this resolution; and

(4) that the proper CEFIA 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 or instruments.

---

**WHEREAS,** pursuant to Public Act 11-80, CEFIA was established to (A) develop separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such others as CEFIA may determine; and

**WHEREAS,** prior to this date, the Board of Directors or Committees of the Board of Directors have approved the development of several initiatives to support clean energy investment for the residential (single-family homes and multifamily properties), MUSH (municipalities, universities, schools and hospitals) and commercial/industrial sectors; and

**WHEREAS,** related to these efforts is the need to attract private capital for these initiatives and, in doing so, CEFIA must crate financial structures that will offer a framework of credit and investment support so that assets of the financing projects can be secured for the benefit of private capital providers to ensure the greatest opportunity for repayment of a specific debt or for a return on investment; and

**WHEREAS,** for the benefit of the private capital providers, these financial structures typically require the creation of special purpose vehicles or entities (so-called "SPVs"), which may be corporations, limited liability companies ("LLCs") or limited partnerships; and

**WHEREAS,** the Board of Directors (or committees of the Board of Directors) has directed staff to develop two key initiatives that will require the formation of a "parent" or "holding company" SPV as the owner of subsidiary SPVs, specifically, (1) CT Solar Lease II, (2) CEFIA's Solar Lease Program, and (3) a taxable blocker corporation.

**NOW,** therefore, be it:

**RESOLVED:**

(1) that the Board of Directors hereby authorizes staff to establish an SPV holding company as well as the programmatic SPVs thereunder, subject to documentation mutually agreeable to CEFIA and Connecticut Innovations, Inc. and review by CEFIA's accountants and CEFIA's outside counsel so as to enable CEFIA to complete the development of its financing programs as set forth under Public Act 11-80, in particular SPVs for the Solar Lease II Program and the Solar Loan Program.

(2) that the President of CEFIA and any other duly authorized officer of CEFIA is authorized to execute and deliver, any contract or other legal instrument necessary to establish an SPV holding company as well as the programmatic SPVs thereunder consistent with the memorandum submitted to the Board of Directors dated February 11, 2013 and as he or she shall deem to be in the interests of CEFIA and the ratepayers.

(3) that the proper CEFIA 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 or instruments.

---

Staff was requested at every meeting to provide information on how CEFIA is doing with respect to the total market, the market size or total addressable market and the objective functions points.

**7. <u>Audit, Compliance and Governance Committee Updates and Recommendations for Approval</u>:**

*a. PPL Fuel Cell Settlement:*

Ms. Smith asked the Board to consider going into executive session to discuss a confidential litigation related matter related to the Pepperidge Farms fuel cell project.

**Upon a motion made by Ms. Glover, seconded by Ms. Dixon-Peay, the Board members voted in favor of going into executive session at 10:55 a.m. to discuss confidential potential litigation matters related to the Pepperidge Farms fuel cell project (Mr. Choi was not present for the vote). CEFIA staff was invited to remain during the executive session.**

The executive session ended at 11:17 a.m., and the regular meeting was immediately reconvened.

The Board asked staff to provide more information on fuel cell projects, including the terms, the performance of the projects, the service contracts for each of the projects, the restacking costs and the universal risks for fuel cells.

The Board suggested an amendment to the resolution to authorize staff to enter into the documents necessary to effectuate a settlement agreement and to recoup costs to CEFIA to the extent possible.

**Upon a motion made by Mr. Esty, seconded by Ms. Glover, the Board members voted in favor of adopting the following amended resolution regarding the PPL fuel cell settlement (Mr. Choi was not present for the vote)**

**WHEREAS,** PPL Renewable Energy Services, Holdings, LLC ("PPL") and the Clean Energy Finance and Investment Authority ("CEFIA"), as the successor agency to the Connecticut Clean Energy Fund, entered into a Fuel Cell Financial Assistance Agreement on February 28, 2003 (as subsequently amended and restated on March 4, 2003 and again on October 21, 2004) (the "Assistance Agreement"), whereby CEFIA agreed to provide financial assistance to PPL with respect to placement and operation of a DFC300 fuel cell and ancillary equipment (the "Fuel Cell") at the Pepperidge Farm plant in Bloomfield, Connecticut (the "Project"); and

**WHEREAS,** PPL and CEFIA mutually agree that the continued operation of the equipment by PPL under the Assistance Agreement is not commercially viable or practical; and

**WHEREAS,** PPL and CEIFA intend to resolve and settle all obligations, disputes, demands and requests for relief and/or damages, claims and all other manners of action or causes of action, disputes and/or claims in law or equity which they may have or may ever have against the other concerning or related in any way to the Assistance Agreement, the Fuel Cell, and/or the Project.

**NOW,** therefore be it:

**RESOLVED:**

(1) the CEFIA's Board of Directors authorizes approval of the Settlement Agreement substantially in the form attached to the memorandum submitted to the Board of Directors dated February 8, 2013.

(2) that the President of CEFIA and any other duly authorized officer of CEFIA, is authorized to execute and deliver, any contract or other legal instrument necessary to recoup the costs to CEFIA to the extent possible and to effect the terms and conditions consistent with the Settlement Agreement attached to the memorandum submitted to the Board of Directors dated February 8, 2013 and as he or she shall deem to be in the interests of CEFIA and the ratepayers.

(3) that the President of CEFIA and any other duly authorized officer of CEFIA, is authorized to execute and deliver, any contract or other legal instrument

necessary to recoup the costs to CEFIA to the extent possible for any similar fuel cell project and to effect the terms and conditions consistent with the (1) attached Settlement Agreement and (2) guiding principal that CEFIA should be reimbursed for the funding provided by CEFIA for the period of time that such fuel cell is inoperable.

(4) that the proper CEFIA officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instrument.

---

*b. Smart-E Loan Program:* Due to a lack of time, discussion on this item was deferred.

**8. Adjournment**: Upon a motion made by Mr. Olsen, seconded by Mr. Esty, the Board members voted unanimously in favor of adjourning the February 15, 2013 meeting at 11:20 a.m.

Respectfully submitted,

Catherine Smith, Chairperson

865 Brook Street
Rocky Hill, Connecticut 06067-3444
T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Memo

**To:** Bryan Garcia, Mackey Dykes, Karen Harris, Dale Hedman, Ed Kranich, Neil McCarthy

**From:** Ben Healey, Bob Wall, and Robert Schmitt

**Date:** March 8, 2013

**Re:** Solarize Connecticut Pilot Phase I Wrap-Up

---

**Executive Summary**

If there is one lesson to take from the first phase of the Solarize Connecticut pilot, it is this: not even a "superstorm" can stop motivated Connecticut communities from achieving big things when they work together. Sandy delayed the towns, but it did not deter them, and Durham, Fairfield, Portland, and Westport all concluded their Solarize campaigns with resounding success in mid-January, 2013. The highlights are as follows (see Table 1):

- Over 2.2 MW of new solar PV capacity deployed across the four communities, close to triple what was installed in those towns during the preceding eight years;
- Nearly 300 projects completed, representing at least a doubling in the number of homeowners "going solar" in all towns, with Durham *quintupling* its solar ownership
- Dramatically reduced costs for solar PV, with all towns hitting Tier 5 pricing and cumulative savings of over $2.2 million
- Compelling drops in customer acquisition costs, at < $90/kW from a direct program spend perspective and $135/kW "all-in" – significantly less than both the industry average of $670/kW (per DOE analyses) and local installers' estimates at $250-$500/kW

**Table 1. Residential Solar PV Deployment Pre-Solarize vs. Campaign Results**

| Town | Pre-Solarize Projects[1] | | Solarize Projects[2] | |
|---|---|---|---|---|
| | # of Projects | # of kW Deployed | # of Projects | # of kW Deployed |
| Durham | 23 | 189 | 116 | 1,008 |
| Fairfield | 41 | 265 | 73 | 586 |

[1] Pre-Solarize projects are all of the residential solar PV projects installed from 2004 through August of 2012 in participating communities.

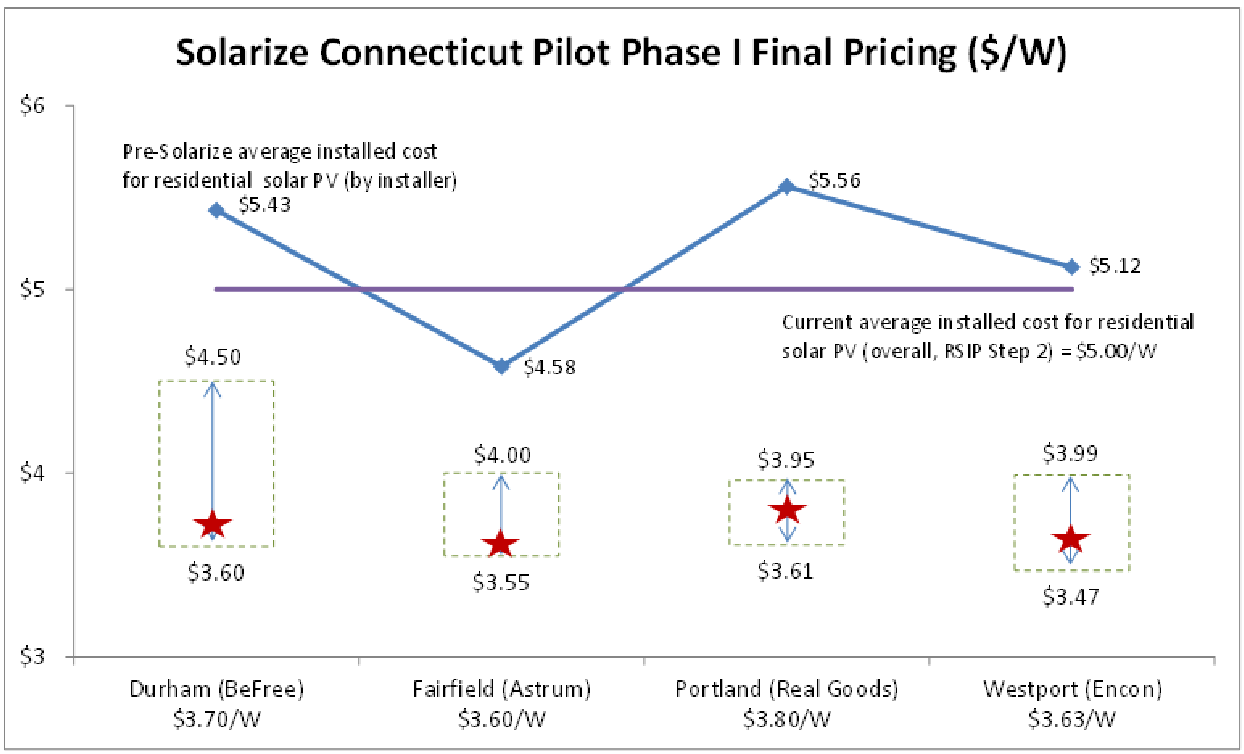
[2] Information on one additional project representing 10 kW was reported after preparation of this memorandum and is not reflected in analyses presented herein. Please note that 11 contracts reported by installers at conclusion of Phase I are not included in final data for various reasons such as late-filed incentive applications and inclusion of one commercial ZREC project.

| | | | | |
|---|---|---|---|---|
| Portland | 14 | 80 | 44 | 319 |
| Westport | 39 | 243 | 51 | 316 |
| **Total** | **118** | **778** | **284** | **2,229** |

**Program Savings**

Pre-Solarize, the average installed cost for solar PV in Connecticut was approximately $5.00/W, with three of the installers chosen to serve Solarize communities in fact having average installed costs above that level (see Chart 1). However, each installer selected not only bid into the program with pricing well below the industry average, but – in partnership with their host communities – they all achieved the lowest pricing tier possible under the program. Even including "adders" (or extra costs due to steep roofs, higher-priced modules, etc.), which increased prices up to 6% above the base price quoted, all four communities ended up with average installed costs at or below $3.80/W – representing savings of at least 20% from pre-Solarize levels, and more than achieving our goal of driving installed costs down to $4.25/W through the Solarize pilot.

**Chart 1. Solarize Connecticut Pilot Phase I Final Pricing**




Red stars represent all-in final pricing, including adders

Savings realized under Solarize Connecticut's first pilot phase were both tangible and significant[3]. The average homeowner in Fairfield saved $5,500 versus Astrum's pre-Solarize pricing, for Portland the average savings figure stood at $7,500 (Real Goods Solar), and

[3] Savings estimates based on purchased systems only.

customers in Durham and Westport saved about $9,000 on average versus what BeFree and Encon, respectively, were charging before the program began (see Table 2).

Even comparing Solarize customer costs against the $5.00/W average statewide cost of residential solar PV pre-Solarize, homeowners across the four towns would still have saved, again on average, just about $7,500. These savings are in addition, of course, to a weighted average CEFIA incentive per Solarize home of about $12,500 in ratepayer support. Overall, this pilot initiative saved homeowners across the four communities in excess of $2.2 million, meaning that from a CEFIA investment of $100,000, ratepayers achieved an immediate and impressive return of 2,100% over the course of this initial pilot round.

**Table 2. Solarize Connecticut Savings**

| Town | Average Customer Savings | Collective Savings (Townwide) | Cumulative Savings (across four towns) |
|---|---|---|---|
| Durham | $8,779 | $1,018,364 | **$2,214,938** |
| Fairfield | $5,508 | $402,084 | |
| Portland | $7,539 | $331,716 | |
| Westport | $9,074 | $462,774 | |

Looking at the savings realized in terms of payback time and the levelized cost of energy ("LCOE")[4] gives further indication of Solarize's positive impact (see Table 3). Across three towns, simple payback periods for a solar PV investment were cut almost in half, and for the fourth (Fairfield), Solarize reduced the payback period by a third. Again, comparing against the entire market, Solarize cut the average payback period from nearly 11 years to about 6.5 years on average across all four towns. Additionally, in all towns, Solarize pricing reduced the LCOE to at or below $0.20/kWh overall – meaning Solarize customers are now enjoying clean electricity at an estimated cost of about $0.09/kWh after federal and ratepayer support. This is an incredible discount to standard electricity rates in Connecticut (equal to a discount of about 36% in Connecticut Light & Power territory, and nearly 50% in United Illuminating territory).

**Table 3. Solarize Connecticut Payback Periods and LCOE**

| Town | Pre-Solarize Payback (years) | Solarize Payback (years) | Pre-Solarize Levelized Cost of Energy | Solarize Levelized Cost of Energy (Total) | Solarize Levelized Cost of Energy (End-User) |
|---|---|---|---|---|---|
| Durham | 12.2 | 6.2 | $0.287 | $0.195 | $0.089 |
| Fairfield | 9.5 | 6.1 | $0.242 | $0.190 | $0.087 |
| Portland | 12.1 | 6.0 | $0.294 | $0.201 | $0.087 |
| Westport | 11.6 | 6.4 | $0.270 | $0.192 | $0.091 |

## Customer Acquisition

Turning now to the subject of customer acquisition, the first pilot phase of Solarize has demonstrated significant potential. Based on initial results, we have found that community-

[4] Relevant assumptions for payback and LCOE analyses include electricity pricing of $0.17/kWh with no escalation, a 13% capacity factor for solar PV, a 25-year expected useful life of the system, and 15-year debt financing at 6.49% to pay for post-incentive installed costs

based social marketing under a deadline-driven campaign model – together with a tiered discount approach and sufficient public support to make the process of going solar as simple as possible – can drastically reduce the costs of acquiring a solar customer (and thus contribute to lower soft costs overall). Overall, the program produced 1,500 leads and a 20% conversion rate (consistent among all installers), including generating a final customer base of whom 20% had not considered solar prior to program.[5] Quantitatively, CEFIA committed $100,000 to support Solarize in these initial four towns, matched by grants of equal amounts, collectively, from the John Merck Fund and the Putnam Foundation. Dividing that $200,000 total by the number of customers acquired, and then again by the average size of a Solarize installation, gives us the average customer acquisition cost per kilowatt of solar PV deployed (see Table 4). At $90/kW on a direct cost basis, Solarize has delivered a customer acquisition cost figure that is a discount of 86% from the national average of $670/kW, as reported by the DOE. Even adding in estimated installers' direct marketing costs across the four towns, plus the value of CEFIA staff time, Solarize still demonstrates tremendous customer acquisition savings at $135/kW. Again, the results we achieved strongly outpaced CEFIA's goal for this metric, which we had pegged at $190/kW.

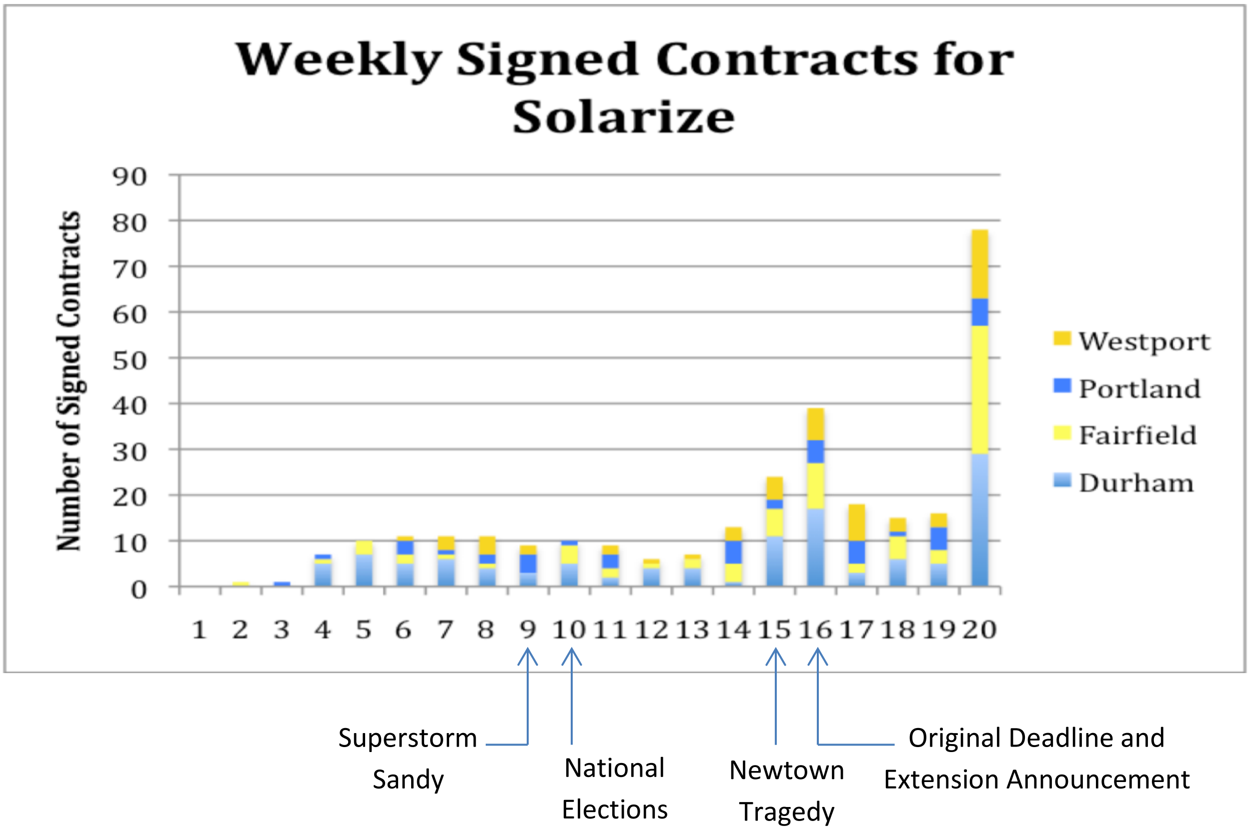
**Table 4. Solarize Connecticut Customer Acquisition Costs**

| Description | Cost | Acquisition Cost / kW |
|---|---|---|
| CEFIA direct contribution | $100,000 | $89.72 |
| Foundations' matching grants | $100,000 | |
| Est. installer expenditures | $30,000 | $13.46 |
| Est. value of CEFIA staff time | $72,000 | $32.30 |
| Total | $302,000 | $135.48 |

Of course, given the campaign-style, deadline-driven nature of Solarize, customer acquisition was not at all linear over the course of the initial pilot, and future planning efforts should take this into account (see Chart 2). The first quarter of the campaign produced only about 5% of total signups, with a stable but plateauing ramp-up in the second quarter to less than 20% of total signups. It was only as the original deadline approached (before eventually being moved back due to Sandy), that a steep increase occurred, with nearly a quarter of all customers acquired in just two weeks. Then, as the ultimate (post-Sandy) deadline came into focus, customers finally jumped together in a big way. More than 27% of all customers signed contracts in the very last week of the campaign. The importance of this deadline in moving people to action cannot be overstated.

[5] According to 218 responses to a post-campaign survey emailed to about 900 households in three Solarize towns

Chart 2. Solarize Connecticut Customer Acquisition Timeline




At the end of Solarize's first pilot phase, then, Table 5 shows where things stand from a global perspective. Durham has become the only town in the state with a residential solar PV penetration rate greater than 5%, a significant first, and a goal towards which other communities can now strive.

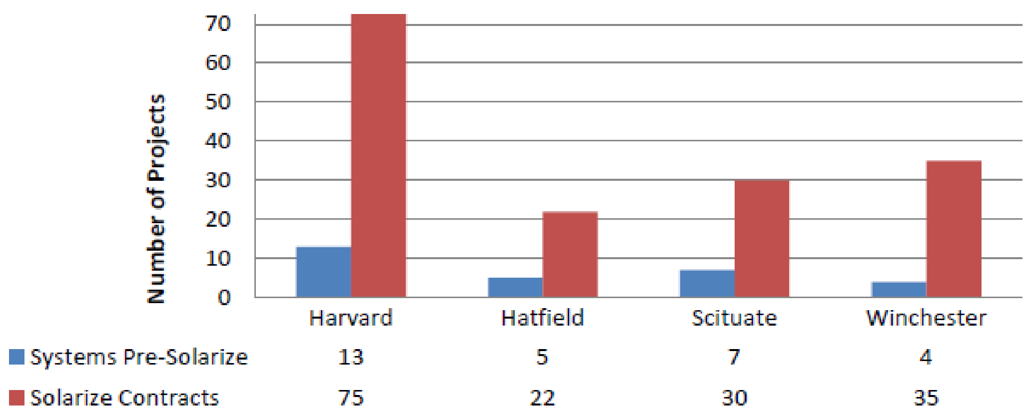
Table 5. Residential Solar PV Penetration across Solarize Towns and Statewide

| Town | Residential Solar PV Projects per Household (Penetration Rate) | Installed Residential Solar PV Watts per Person |
|---|---|---|
| Durham | 5.7% | 162 |
| Fairfield | 0.6% | 14 |
| Portland | 1.5% | 42 |
| Westport | 1.0% | 21 |
| All Solarize | 1.1% | 29 |
| Statewide | 0.23% | 6 |

## Comparison to Massachusetts

Before giving a preview of Solarize's second pilot phase and thinking about next steps, it is worth taking a minute to compare Connecticut's success through our initial Solarize effort to what happened in Massachusetts at a similar stage in the development of the Bay State's program. First of all, in terms of ramping up the number of installs in each community, the two programs had similar results, with Massachusetts doing slightly better on a percentage basis due to a smaller installed base to start with in each town (see Chart 3).

**Chart 3. Solarize Massachusetts Pilot (Solar PV Projects Pre-Solarize and Contracts Signed under Pilot)**




Looking at results from the perspective of jobs completed and kW deployed, again the two programs are fairly comparable, with Massachusetts communities signing slightly more contracts on a per capita basis, and Connecticut outperforming our neighbor to the north in terms of kW of capacity installed (see Table 6).[6]

**Table 6. Solarize Massachusetts Pilot Results**

| Town | # of Projects | # of kW Deployed | Price |
|---|---|---|---|
| Harvard | 75 | 403 | $4.00/W |
| Hatfield | 22 | 147 | $5.03/W |
| Scituate | 30 | 115 | $5.27/W |
| Winchester | 35 | 165 | $5.03/W |
| Total | 162 | 830 | |

The only real area where Connecticut comes out ahead in a major way is with regard to pricing. Across the board, Connecticut's Solarize towns achieved more significant savings than did those in Massachusetts. From July 8 to November 4, 2011, Massachusetts installers completed a total of 883 projects, of which about 18% were Solarize jobs (based on publicly available information on the MassCEC website). Non-Solarize jobs came in at $5.81/W, and Solarize jobs

[6] This table reflects the numbers reported in the MassCEC's February 2012 report, "Solarize Mass Pilot Overview." Anecdotal evidence has suggested that although this report accurately represents the number of contracts signed under their initial Solarize campaigns, not all of those installations were completed.

averaged out at $5.05/W (after adders), for a savings of 13%. In Massachusetts' second Solarize round, looking at all projects completed between July 11, 2012 and January 22, 2013, we find a total of 1,598 installations done, of which about 28% were Solarize jobs. Non-Solarize projects came in at $4.68/W, and Solarize installations averaged out at $4.40/W (after adders), for a savings of only 6%. Connecticut's Solarize towns, on the other hand, saw a savings of 42% versus non-Solarize jobs from September 10, 2012 to January 23, 2013 – with 92% of that decrease due to reduced soft costs (see Table 7).[7]

**Table 7. Connecticut Residential Solar PV Installations during Solarize Connecticut Timeframe**

| Category | Projects | kW | Cumulative Project Costs | Average Cost / W | Average Hardware Costs / W | Average Soft Costs / W |
|---|---|---|---|---|---|---|
| Non-Solarize | 410 | 2,898 | $13,720,000 | $4.76 | $2.38 | $2.38 |
| Solarize | 284 | 2,229 | $8,208,000 | $3.68 | $2.29 | $1.39 |
| | | | **Raw Decrease -->** | $1.08 | $0.09 | $0.99 |
| | | | **% Decrease -->** | 23% | 4% | 42% |
| | | | % of Decrease from Soft Costs -------------------------> | | | 92% |

**Overview of Key Lessons Learned**

Taking seriously the idea of Solarize as a pilot program, staff worked hard to learn and adapt as the four campaigns rolled out, including making many changes to our original program structure that we either implemented in stride or are now deploying for Phase II. Other findings will require further consideration before we make any kind of course correction. Below follow some of the most important lessons learned from the program's first pilot phase, and the status of our response to them.

*Operating and Management Lessons within the RSIP Framework*

- **Changes to incentive levels** – Step 2 of CEFIA's expected performance based buydown ("EPBB" rebate) was exhausted prior to the conclusion of Solarize Phase I but was extended for participating communities for several weeks. Similarly, Step 2 of CEFIA's performance based incentive ("PBI") will be closed by no later than April 1, 2013, in the middle of Phase II of the program. The reduction of incentives during a campaign phase creates potential customer confusion and can result in lost contracts. On the other hand, to the extent that CEFIA guarantees certain incentive levels to Solarize customers (as was the case in Phase I), it can result in perceived unfairness to non-Solarize installers and customers in non-participating towns. This is an issue to grapple with going forward. Regardless, we should closely gauge the effect of reduced and capped incentives on the market in Phase II, particularly in distressed communities.

- **Energy audits** – the upfront energy audit requirement in Step 2 resulted in delays in application submissions to CEFIA via PowerClerk, although this issue has now been

[7] It is important to note that installers self-report much of this data via PowerClerk, and CEFIA does not verify every data point.

remedied under new Step 3 protocols. Furthermore, CEFIA was made aware of installer concerns regarding Home Energy Solutions vendors attempting to dissuade customers from acquiring solar. Staff brought this issue to the attention of the administrators of the Connecticut Energy Efficiency Fund. A formal memo was sent to the RSIP contractors outlining steps they must take to report an issue to CEFIA, which after investigation would result in a formal action by CEEF with respect to the violating HES contractor.

- **Working capital for installers** – the high volume of sales combined with the previous Step 2 EPBB payment schedule (60% payment upon material delivery, 40% payment upon successful inspection) may have created cash flow issues for some installers, particularly the smaller ones. The new payment schedule (70% / 30%) should help alleviate such pressures to some extent, especially if CEFIA provides working capital for installers offering our lease and loan products.

- **PowerClerk submissions** – the tiered-pricing structure of Solarize required staff to track pricing information outside of our existing administrative systems (which adversely impacted our ability to secure accurate and timely data). A related issue will arise under Step 3's new 35% incentive cap, insofar as final Solarize prices come in significantly lower than the original contracts submitted. Staff has worked with members of CEFIA's Deployment team to address both matters.

*Marketing Lessons*

- **Positive ripple effects** – the Solarize campaigns resulted in other solar PV installations in the communities, including from non-Solarize installers matching or even undercutting Tier 5 pricing. In addition, at least one installer extended Solarize pricing to a neighboring community. Multiple installers continue to market aggressively in the communities with which they partnered, and are now exploring opportunities with other residents and commercial entities in those towns.

- **Utility rate escalators** – certain installers used inaccurate base utility prices and aggressive escalators in their sales pitches, which implied an unrealistic payback for customers. As a consumer protection measure, staff worked with installers in an effort to use consistent and conservative projections for both utility prices and escalation rates, in addition to introducing more stringent marketing requirements for RSIP Step 3 and beyond.

*Technology Lessons*

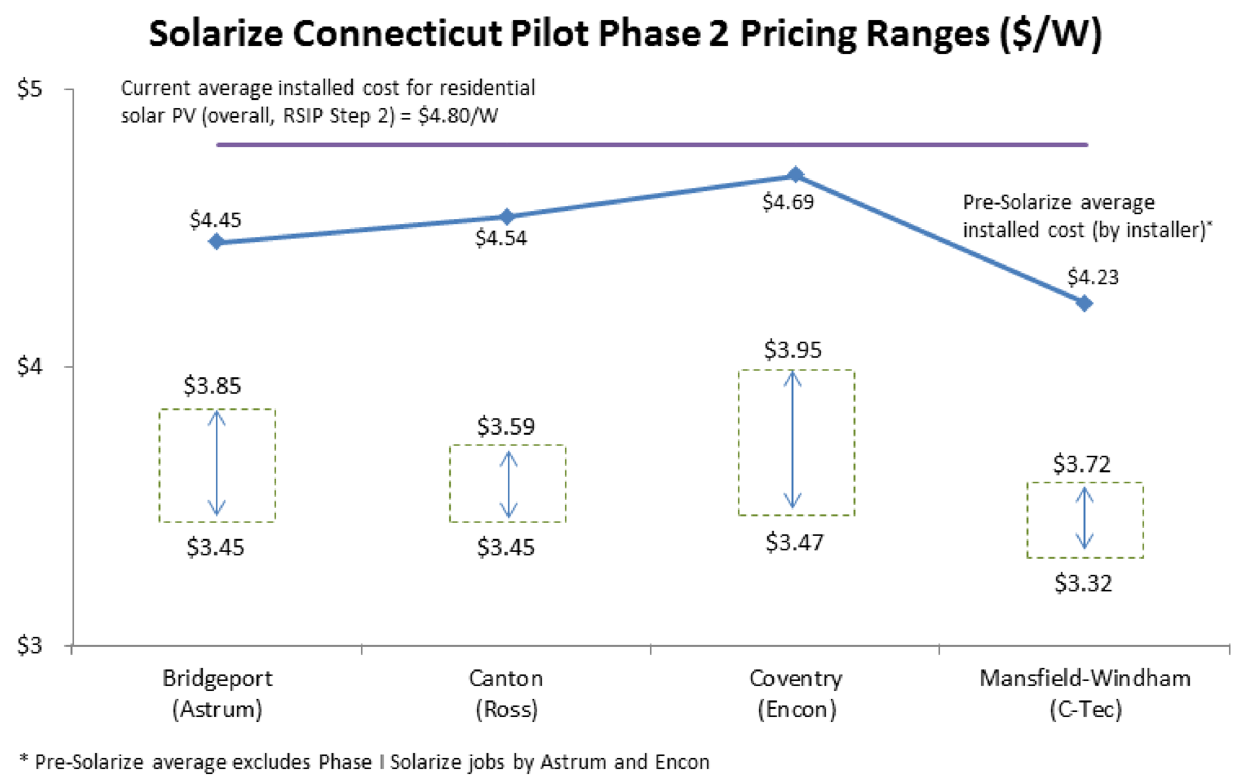
- **Equipment changes** – due to various factors, several contractors were unable to procure the modules identified in their proposals. It was necessary to evaluate proposed change orders to ensure that customers received equipment of equivalent value.

- **Solar hot water** – one Phase I town (Westport) requested that its chosen installer offer solar hot water systems, and include contracted solar hot water capacity towards the town achieving tiered pricing discounts. Although the installer agreed, they made no solar hot water sales during the campaign.

**Next Steps**

For the second phase of the Solarize Connecticut pilot, five new towns (two in partnership: Mansfield and Windham) have signed up, and they will partner with two experienced Solarize installers and two installers that are new to the program (see Chart 4). Two distressed communities are participating in Phase II (Bridgeport and Windham), and CEFIA's new financing products – most prominently, our solar loan and lease offerings – will be available before the campaign deadline. All of these factors will lead to new challenges, new opportunities, and new lessons learned.

**Chart 4. Solarize Connecticut Pilot Phase II Pricing Ranges versus Average Installed Costs**




From where we stand now, however, even before going through the second phase of our pilot, we can offer the following thoughts about how we might best structure the Solarize program's future design in Connecticut. In addition to the on-the-ground lessons listed out above, these insights are partly informed by a post-Solarize email poll sent to about 900 households (in three of the four Solarize towns) by CEFIA's community-based marketing partner, SmartPower. We received 218 responses to this poll, of which nine were from town volunteers, 97 were from Solarize customers, and 112 were from Solarize "prospects" (that is, those who indicated an interest in going solar but were unable to do so for one reason or another).

1) **<u>The basic program model is sound and effective</u>** – we believe our approach to structuring a Solarize campaign requires no fundamental overhauls. Tiered discount pricing and the prospect of lower monthly electricity bills get customers excited (see Chart 5), and deadlines and simple program design get them to act.

2) **<u>CEFIA's financing products are important to expanding the success of Solarize</u>** – high upfront costs are still the single biggest reason why potential customers do not move forward, outside of the technical feasibility of an installation (see Chart 6). Solarize should be an excellent vehicle for originating both loans and leases – by way of evidence, in the only Phase I town where a lease product was offered (Fairfield), nearly 50% of eventual Astrum customers chose to finance their systems via a lease. Two other installers pledged to provide third-party ownership options under Solarize, but were not able to deliver during the Phase I period.

**Chart 5. Solarize Connecticut Pilot Phase I Survey – Customer Motivations for "Going Solar"**

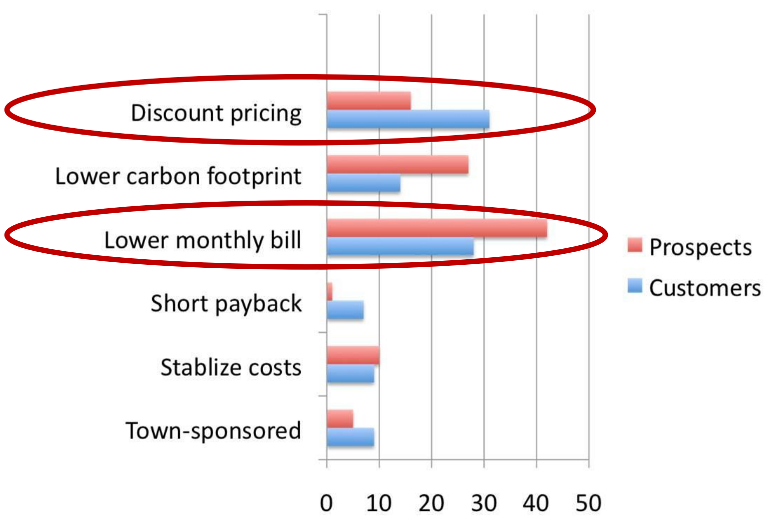
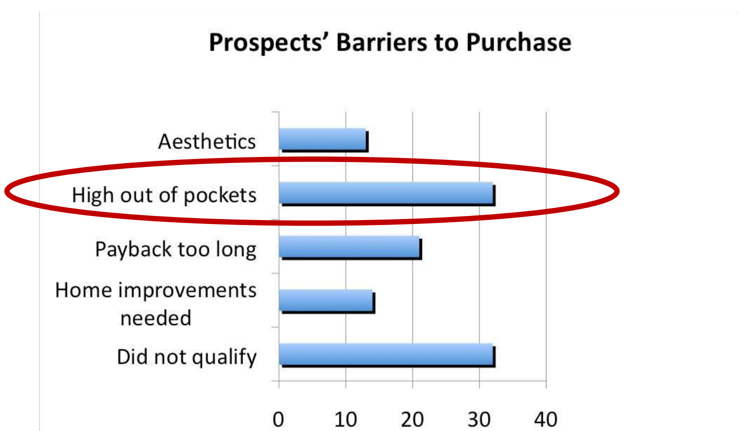



**Chart 6. Solarize Connecticut Pilot Phase I Survey – Barriers to Purchase**



3) **<u>CEFIA could grow its commitment to Solarize with limited incremental budget impact through rolling admissions and start dates</u>** – because the bulk of CEFIA resources go towards overcoming start-up obstacles in each town, spacing out start dates should make a big difference in allowing us to provide the support necessary to launch successful campaigns across a larger number of communities. Phase II will provide many additional lessons about performance with reduced incentives and new financing options, distressed communities, multiple town coalitions and other issues,all of which will inform our decisions about how we can expand the program.

4) **<u>Solarize is inspiring market innovation</u>** – private sector actors want to move ahead on Solarize without CEFIA. The installer Aegis has already arranged a similar model (the "Connecticut Solar Challenge") with several communities, and two other installers have also inquired about running a Solarize initiative without CEFIA support. We are currently discussing with these installers how best to support them administratively, as it relates to PowerClerk submissions and the application of incentive caps in the context of tiered pricing changes, and will continue the conversation as it relates to more substantive matters (especially marketing and outreach).

   Although CEFIA should not get in the middle of discussions between installers and towns that are working well on their own, we might want to support other installers in approaching towns (and vice-versa) about potential "private sector Solarize" partnerships, by marketing to both parties the power of the model – highlighting the savings to be realized and the value to both individual customers and the broader community. Over the long run, this may be the best path to truly scaling up the program.

5) **<u>Adapting Solarize to other technologies</u>** – there is no doubt that we have an opportunity to translate this model beyond solar PV. If we can combine community-based social marketing with a campaign-style deadline and a simple decision-making process (in addition to tiered discount pricing, if possible), the Solarize approach might very well work for HVAC conversions or energy efficiency. Our partners at the utility companies are well aware of Solarize and recognize its potential power in helping support Connecticut's fuel conversion and conservation and load management goals, but the difficulty is in creating a program that offers both the "sexiness" of solar, as well as its simplicity for technologies that are not nearly so uniform across homes. We think the idea of working with the municipal gas and electric utility in Norwich, which is interested in running a broad natural gas conversion campaign, might be the perfect opportunity to see whether and how a "Solarize-esque" campaign would work for another technology… after which we could apply the lessons learned there to follow-on campaigns in the territories of the state's investor-owned utilities.

865 Brook Street
Rocky Hill, Connecticut 06067-3444
T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Memo

**To:** Board of Directors

**From:** Bryan Garcia, President and CEO, Bert Hunter, EVP and CIO, Ben Healey, Sr Manager of Clean Energy Finance and Alexandra Lieberman, Sr Manager of Clean Energy Finance

**CC:** Mackey Dykes, Chief of Staff, Brian Farnen, General Counsel

**Date:** March 8, 2013

**Re:** CT Solar Lease 2 Programs Update

---

## Background

The CT Solar Lease 2 Program is the successor to the original CT Solar Lease Program which at the time of its release in 2008 was a "first of its kind" program custom designed to meet the goals and objectives of the CCEF and Connecticut residents. That Program, funded by the CCEF and US Bank, was the first government sponsored residential solar leasing program in the United States. A special purpose entity, CT Solar Leasing, LLC contracted with AFC First Financial Corp and Gemstone Lease Management, LLC, to administer and manage the program. The CCEF provided solar rebates as well as debt capital for the CT Solar Lease 1 Program. CT Solar 1 Lease was active from mid-2008 through late 2011. A total of 855 solar PV systems were leased to Connecticut residents. CT Solar 1 Lease was honored by the Clean Energy States Alliance with a State Leadership in Clean Energy ("SLICE") Award in 2012.

Programmatically, CT Solar Lease 2 builds on the first solar lease program in important ways:

1. Maintains the strong consumer credit underwriting and contractor management under the leadership of program partner AFC First Financial.

2. Simple monthly payment without a large upfront outlay; however, to be competitive with other lease options in the market, the new program is expected to offer both a level payment lease AND an escalating lease with a lower starting price point below the cost of utility power.

3. Available to FICO scores as low as 640 (as with the first solar lease) – our solar lease will be accessible to 85% of homeowners. The national leasing companies do not lease below FICOs of 700 or 720. With AFC First's rigorous underwriting methods, portfolio quality is maintained. Repayment experience with the first solar lease has been practically without default (2 out of 855 leases). So, importantly, the program is designed to make solar energy systems available to low and moderate income Connecticut homeowners

4. Homeowners will work with qualified installers of their choice, who design systems to meet <u>their</u> needs – not the inventory of the leasing companies – and will ensure that Connecticut's

solar installer base remains robust, diverse and able to reach all Connecticut residents, not just the populations targeted by the larger solar PV leasing companies.

5. Homeowners will lease the system for a 20- year period (5 years longer than the first program and competitive with the major national installers) with an option to buy the system after the sixth year or at the end of the lease, or even extend the lease for another 5 years at a significantly reduced price.

6. Solar hot water systems would be eligible under the program

7. A portion (20%) of the fund proposed to be raised would be available to non-residential end-users:

    a. Cities and towns would be eligible for power purchase agreements (PPAs) through the facility for solar PV and solar hot water systems

    b. High credit quality companies would be eligible for the lease program

The capital raise for Solar Lease 2 will differ in three major respects from the first Solar Lease program:

1. In the first program, CEFIA (rather, its predecessor CCEF) provided 100% of the residual capital not provided by US Bank.

    In Solar Lease 2 – CEFIA will provide ***only 25%*** of this residual capital requirement – commercial banks will provide the balance. CEFIA's capital contributions will be subordinated to the senior lenders.

2. Another difference in the proposed structure is the ownership of the Special Purpose Vehicle (SPV), which CEFIA will own together with the tax equity investor.

    This is an important development because this is the mechanism through which ***all ratepayer funds paid in under the performance base incentive (PBI) will be returned to the Connecticut ratepayers that provided these funds in the first instance.***

3. Using $3.5 M of repurposed ARRA-SEP funds, CEFIA is able to achieve for the senior lenders a coverage ratio of over 150%. This Senior Debt Service Coverage Ratio has enabled CEFIA to achieve a lower cost of capital raised from the commercial banks.

**<u>Bank Syndication & Tax Equity Investor</u>**

As of the week of the Board Meeting, CEFIA expects to receive a credit-approved syndication proposal from lead bank First Niagara. Staff and First Niagara have agreed to the key terms and conditions and these terms have been agreed to by the syndicate which as of today includes Webster Bank, Liberty Bank and Peoples United Bank – all local banks from Connecticut. The participant banks are in their final credit approval stage, but each bank expects to achieve complete approval. The facility has the ability to lock in fixed rate funds for the 15-year repayment period, which is important for CEFIA to hedge against interest rate risk.

CEFIA staff are well down the road in negotiations with the tax equity investor and the term sheet is now under review by counsel to the tax equity investor. We are targeting completing the term sheet with the tax equity investor around March 22nd and moving immediately to documentation. A launch date for the program is anticipated in mid-April.

Together, CEFIA staff has been successful in raising over $50 million for the CT Solar Lease 2 program which should be adequate for 2 years. The program has been previewed by the PV installer community with an excellent reception.

What staff is in the process of achieving *has never been accomplished in residential solar leasing* – the first leveraged syndicated loan in a partnership tax-flip structure. The arrangements require delicate balancing of the interests of the tax equity investor, the lenders and CEFIA. At the same time, staff wanted to source this transaction with funds from its local bank community. To their credit, the local bank syndicate worked very hard to underwrite the transaction in reasonable time. It could have been easier to underwrite the transaction with one large Wall Street bank, but CEFIA wanted to work with the local banking community to build their knowledge in renewable energy investment and to support the economic development of the in-state financial services sector as well (a goal we share with the Connecticut Bankers Association). The end result will be a highly cost efficient structure that will be to the benefit of the ratepayers and a banking community able to consider additional investment in renewable energy from a more knowledgeable perspective. By taking extra time with the local banks, we have built a foundation of partnership that will benefit other CEFIA programs, such as C-PACE and Energy Performance Contracting for our cities and towns under the Lead By Example initiative.

**Investment Summary**

| | |
|---|---|
| Sub Debt Investment | $ 2,300,000 |
| Equity Investment | $ 7,200,000 |
| **Total CEFIA Investment** | **$ 9,500,000** |
| | |
| Tax Equity | $ 23,800,000 |
| | |
| Sr Debt | $ 28,200,000 |
| | |
| Total Capital | $ 61,500,000 |
| | |
| Total Private Capital | $ 52,000,000 |
| | |
| Leverage of CEFIA $ | 5.5x |

The Table below shows the expected investment in 2013-2015 and the returns in subsequent years. The investment is cash break even in 15 years (2027), returning an 8.9% after tax IRR over 22 years. Even including the PBI, ratepayers get 100% of funds returned over the life of the portfolio.

| Year | CEFIA Subordinate Loan Payments | CEFIA DDF Payment from Operations | CEFIA Return of Capital to MM | CEFIA Distribution to Investor | CEFIA Distribution to M.M. | From Cefia Investment & Tax Pmts | To Cefia Cash Returns | Cefia Net Cash & IRR 8.9% | PBI | Cumulative Net Cash After PBI |
|---|---|---|---|---|---|---|---|---|---|---|
| 2013 | (4,209) | (158,530) | (25,304) | - | - | (4,766,555) | 188,043 | (4,578,512) | (449,748) | (5,028,260) |
| 2014 | (26,278) | (214,288) | (87,751) | - | - | (1,999,592) | 328,317 | (1,671,275) | (1,972,733) | (3,644,007) |
| 2015 | (125,535) | (187,124) | (119,915) | - | - | (2,733,853) | 432,574 | (2,301,279) | (2,779,416) | (5,080,695) |
| 2016 | (152,617) | (324,771) | (127,657) | - | - | | 605,045 | 605,045 | (2,758,579) | (2,153,534) |
| 2017 | (152,617) | (497,531) | (137,450) | - | - | | 787,598 | 787,598 | (2,744,786) | (1,957,188) |
| 2018 | (152,617) | (653,151) | (166,345) | - | - | | 972,113 | 972,113 | (2,731,062) | (1,758,949) |
| 2019 | (152,617) | - | (700,278) | - | - | | 852,895 | 852,895 | (2,280,984) | (1,428,089) |
| 2020 | (152,617) | - | - | (21,052) | (394,891) | | 568,560 | 568,560 | (796,213) | (227,653) |
| 2021 | (152,617) | - | - | - | (53,257) | | 205,874 | 205,874 | | 205,874 |
| 2022 | (152,617) | - | - | (9,161) | (200,936) | | 362,714 | 362,714 | | 362,714 |
| 2023 | (152,617) | - | - | (18,890) | (350,219) | | 521,726 | 521,726 | | 521,726 |
| 2024 | (152,617) | - | - | (28,755) | (501,598) | | 682,970 | 682,970 | | 682,970 |
| 2025 | (152,617) | - | - | (38,759) | (655,131) | | 846,508 | 846,508 | | 846,508 |
| 2026 | (152,617) | - | - | (48,907) | (810,880) | | 1,012,404 | 1,012,404 | | 1,012,404 |
| 2027 | (152,617) | - | - | (59,202) | (968,904) | | 1,180,724 | 1,180,724 | | 1,180,724 |
| 2028 | (152,617) | - | - | (82,624) | (1,326,403) | | 1,561,644 | 1,561,644 | | 1,561,644 |
| 2029 | (152,617) | - | - | (143,779) | (2,257,269) | | 2,553,666 | 2,553,666 | | 2,553,666 |
| 2030 | (152,617) | - | - | (357,742) | (5,509,981) | | 6,020,341 | 6,020,341 | | 6,020,341 |
| 2031 | (152,617) | - | - | (172,646) | (2,699,309) | (918,371) | 3,024,572 | 2,106,201 | | 2,106,201 |
| 2032 | (152,617) | - | - | (177,226) | (2,770,682) | (1,054,772) | 3,100,525 | 2,045,753 | | 2,045,753 |
| 2033 | (38,154) | - | - | (160,022) | (2,499,084) | (939,060) | 2,697,260 | 1,758,200 | | 1,758,200 |
| 2034 | - | - | - | (60,732) | (948,057) | (353,076) | 1,008,788 | 655,712 | | 655,712 |
| | | | | | | | | 16,749,583 | (16,513,521) | 236,061 |

## Complete Cash Forecast

PROJECTED DISTRIBUTIONS FROM CASH FLOW

| Year | Gross Revenue | O&M and Other Expenses | Reserve Movements | Senior Debt Service | Cash Flow | Preferred Return to Investor | CEFIA Subordinate Loan Payments | CEFIA DDF Payment from Operations | CEFIA Return of Capital to MM | CEFIA Distribution to Investor | CEFIA Distribution to M.M. | From Cefia Investment & Tax Pmts | To Cefia Cash Returns | Cefia Net Cash & IRR 8.9% | PBI | Cumulative Net Cash After PBI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2013 | 805,625 | (265,726) | 331,772 | (607,429) | 264,242 | (76,199) | (4,209) | (158,530) | (25,304) | - | - | (4,766,555) | 188,043 | (4,578,512) | (449,748) | (5,028,260) |
| 2014 | 3,632,458 | (603,225) | 603,479 | (2,973,200) | 659,511 | (331,194) | (26,278) | (214,288) | (87,751) | - | - | (1,999,592) | 328,317 | (1,671,275) | (1,972,733) | (3,644,007) |
| 2015 | 5,228,139 | (484,850) | (67,516) | (3,767,208) | 908,565 | (475,991) | (125,535) | (187,124) | (119,915) | - | - | (2,733,853) | 432,574 | (2,301,279) | (2,779,416) | (5,080,695) |
| 2016 | 5,251,790 | (489,804) | (42,101) | (3,638,848) | 1,081,037 | (475,991) | (152,617) | (324,771) | (127,657) | - | - | | 605,045 | 605,045 | (2,758,579) | (2,153,534) |
| 2017 | 5,285,062 | (494,932) | (16,052) | (3,510,489) | 1,263,590 | (475,991) | (152,617) | (497,531) | (137,450) | - | - | | 787,598 | 787,598 | (2,744,786) | (1,957,188) |
| 2018 | 5,319,918 | (500,239) | 10,555 | (3,382,130) | 1,448,105 | (475,991) | (152,617) | (653,151) | (166,345) | - | - | | 972,113 | 972,113 | (2,731,062) | (1,758,949) |
| 2019 | 4,935,238 | (505,732) | 22,476 | (3,123,095) | 1,328,887 | (475,991) | (152,617) | - | (700,278) | - | - | | 852,895 | 852,895 | (2,280,984) | (1,428,089) |
| 2020 | 3,563,192 | (511,417) | (10,738) | (2,472,477) | 568,560 | - | (152,617) | - | - | (21,052) | (394,891) | | 568,560 | 568,560 | (796,213) | (227,653) |
| 2021 | 2,865,035 | (517,301) | (27,028) | (2,114,831) | 205,874 | - | (152,617) | - | - | - | (53,257) | | 205,874 | 205,874 | | 205,874 |
| 2022 | 2,932,742 | (523,391) | (10,650) | (2,035,986) | 362,714 | - | (152,617) | - | - | (9,161) | (200,936) | | 362,714 | 362,714 | | 362,714 |
| 2023 | 3,001,980 | (529,695) | 6,581 | (1,957,141) | 521,726 | - | (152,617) | - | - | (18,890) | (350,219) | | 521,726 | 521,726 | | 521,726 |
| 2024 | 3,072,781 | (536,219) | 24,703 | (1,878,296) | 682,970 | - | (152,617) | - | - | (28,755) | (501,598) | | 682,970 | 682,970 | | 682,970 |
| 2025 | 3,145,178 | (542,971) | 43,751 | (1,799,451) | 846,508 | - | (152,617) | - | - | (38,759) | (655,131) | | 846,508 | 846,508 | | 846,508 |
| 2026 | 3,219,205 | (549,959) | 63,764 | (1,720,605) | 1,012,404 | - | (152,617) | - | - | (48,907) | (810,880) | | 1,012,404 | 1,012,404 | | 1,012,404 |
| 2027 | 3,294,895 | (557,192) | 84,782 | (1,641,760) | 1,180,724 | - | (152,617) | - | - | (59,202) | (968,904) | | 1,180,724 | 1,180,724 | | 1,180,724 |
| 2028 | 3,372,071 | (564,679) | 106,847 | (1,352,595) | 1,561,644 | - | (152,617) | - | - | (82,624) | (1,326,403) | | 1,561,644 | 1,561,644 | | 1,561,644 |
| 2029 | 3,450,329 | (572,427) | 130,001 | (454,238) | 2,553,666 | - | (152,617) | - | - | (143,779) | (2,257,269) | | 2,553,666 | 2,553,666 | | 2,553,666 |
| 2030 | 3,530,617 | (580,447) | 3,070,170 | 0 | 6,020,341 | - | (152,617) | - | - | (357,742) | (5,509,981) | | 6,020,341 | 6,020,341 | | 6,020,341 |
| 2031 | 3,613,319 | (588,747) | - | 0 | 3,024,572 | - | (152,617) | - | - | (172,646) | (2,699,309) | (918,371) | 3,024,572 | 2,106,201 | | 2,106,201 |
| 2032 | 3,697,863 | (597,338) | - | 0 | 3,100,525 | - | (152,617) | - | - | (177,226) | (2,770,682) | (1,054,772) | 3,100,525 | 2,045,753 | | 2,045,753 |
| 2033 | 3,213,622 | (516,362) | - | 0 | 2,697,260 | - | (38,154) | - | - | (160,022) | (2,499,084) | (939,060) | 2,697,260 | 1,758,200 | | 1,758,200 |
| 2034 | 1,200,858 | (192,070) | - | 0 | 1,008,788 | - | - | - | - | (60,732) | (948,057) | (353,076) | 1,008,788 | 655,712 | | 655,712 |
| | | | | | | | | | | | | | | 16,749,583 | (16,513,521) | 236,061 |

865 Brook Street
Rocky Hill, Connecticut 06067-3444
T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Memo

**To:** CEFIA Board of Directors

**From:** Bryan Garcia and Dale Hedman

**CC:** Mackey Dykes and Brian Farnen

**Date:** March 15, 2013

**Re:** Residential Solar Investment Program – Proposal for Step 3 Performance-Based Incentive Model

---

On December 21, 2012 the CEFIA Board of Directors approved the following elements of the Residential Solar Investment Program ("RSIP") for Steps 3 and 4:

- **Step 3 Race to the Solar Rooftop** – the Schedule of Incentives to achieve the deployment of 7.6 MW of rooftop solar PV with 3.8 MW from the Rebate Model, 2.8 MW from the Performance-Based Incentive ("PBI") Model, and 1.0 MW of additional capacity for the models to compete for incentives; and

- **Step 4 Race to the Solar Rooftop** – the Schedule of Incentives to achieve the deployment of 10.0 MW of rooftop solar PV the allocation towards each model of which will be determined at a later date.

Since the Rebate Model in Step 2 has shown to deploy rooftop solar PV at a faster pace and with less ratepayer subsidies than the PBI model – therefore maximizing the amount of clean energy deployed per dollar of ratepayer funds at risk – it was determined that the Step 3 Race to the Solar Rooftop allocation would favor the Rebate Model.

As required by Section 106 of Public Act 11-80, the Department of Energy and Environmental Protection ("DEEP") reviewed and approved the Schedule of Incentives for the Rebate Model of the RSIP. On January 2, 2013, DEEP approved of the proposed Schedule of Incentives for Step 3 as it applies to the Rebate Model:

- **≤ 5 kW** – upfront incentive of $1.75/W; and

- **> 5 kW and ≤ 10 kW** – upfront incentive of $0.55/W.

An incentive level for Step 3 of the PBI was not established at that time as the megawatts achieved in Step 2 by PBI installations was less than half of its 2.8 megawatt goal and more time was allowed for it to reach that goal. PBI installation in Step 2 is currently at 70% of goal.

On February 15, 2013, CEFIA staff recommended to the Deployment Committee and the committee approved the following Step 3 PBI for recommendation to the CEFIA Board of Directors:

- **≤ 10 kW** – performance-based incentive of $225/MWh for a six-year period.

This recommendation of the incentive level for the PBI is based on the following reasons:

1. To make the PBI (i.e. lease) incentive comparable with the Expected Performance-Based Buy-down (EPBB) incentive (i.e. rebate).

2. To continue to drive the combined RSIP incentive (EPBB and PBI) down to achieve a leverage of non-ratepayer funds to ratepayer funds to 3 to 1 (25%).

3. To continue to move RSIP from a subsidy program closer to a low-cost and long-term financing program.

**RESOLUTION**

**WHEREAS**, Section 106 of Public Act 11-80 “An Act Concerning the Establishment of the Department of Energy and Environmental Protection (“DEEP”) and Planning for Connecticut’s Energy Future” (the “Act”) requires the Clean Energy Finance and Investment Authority (“CEFIA”) to design and implement a Residential Solar Photovoltaic (“PV”) Investment Program (“Program Plan”) that results in a minimum of thirty (30) megawatts of new residential PV installation in Connecticut before December 31, 2022;

**WHEREAS**, pursuant to Section 106 of the Act, CEFIA has prepared a Program Plan and a declining incentive block schedule (“Schedule”) that offer direct financial incentives, in the form of Performance-Based Incentives (“PBI”) (i.e. lease model) and Expected Performance-Based Buy-down incentives (“EPBB”) (i.e. rebate model), for the purchase or lease of qualifying residential solar photovoltaic systems; and

**WHEREAS**, the Deployment Committee has reviewed and recommended for approval to the Board of Directors a PBI for Step 3 of the Schedule be established at $225 a megawatt-hour (MWh) for a six-year period.

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors approve a PBI for Step 3 of the Schedule be established at $225 a megawatt-hour (MWh) for a six-year period.

**RESOLVED**, the Step 3 incentive shall immediately terminate when (1) committed capacity has been reached for either the PBI Step 3 incentive schedule or the EPBB Step 3 incentive schedule, or (2) December 31, 2013, whichever comes first; and,

**RESOLVED**, that this Board of Director action is consistent with Section 106 of the Act.

**Clean Energy Finance and Investment Authority**

**Financial Analysis**

**Executive Summary**

**For the eight months ended February 28, 2013**

***Statement of Income and General Operations and Program Expenses***

Revenues for the period totaled $21,720,100 compared to a budget of $21,767,300. Utility customer assessments totaled $18,963,800 and were $436,200 under budget. As of the date of the preparation of the financial statements, February's actual results had not been reported to CEFIA so the budgeted February amounts are reflected in the actuals (see page 7 for a detailed analysis). Storm Sandy had a negative impact on assessments collected, however this negative impact was offset by greater than anticipated RGGI auction results. RGGI auction proceeds from the September and December auctions totaled $1,331,600, and were $331,600 over the budgeted amount. Other income of $122,300 included $112,000 in penalty payments from energy resellers as a result of not having met their RPS requirements for 2009.

Expenses associated with the general operations of CEFIA totaled $1,815,700 as compared to a budget of $1,968,100 for the period. Generally expenses for operations were in line with budget. Year to date there are no significant variances between actuals and budget. Operating expenses by line item were within $5,000 of the budgeted amount or under budget.

Expenses associated with supporting CEFIA's programs totaled $5,618,600 as compared to a budget of $6,050,200. The favorable variance to budget can be found primarily within compensation and the associated benefits for CEFIA employees supporting these programs. The refinement of new CEFIA programs being developed resulted in positions being filled later than anticipated in the budget and vacancies that still exit for some programs . These vacamcies are in the process of being filled.

***Statement of Assets and CashFlows***

Net assets as of February 28, 2013 were $88,293,200, an increase of $7,105,000 from June 30, 2012. Cash balances of $79,347,900 increased $6,134,400 since the beginning of the year. These cash balances are offset by $22,358,600 in program commitments as of February 28th (see page 6 for a detailed analysis of commitments by program), $2,485,000 in Alpha, Op Demo, CPACE and Energy Efficiency financing commitments and restricted cash balances of $8,373,900 for Federal ARRA funded programs . Both pages 3 and page 4, Statements of Net Assets and Cash Flows,respectively, include current and projected balances through 6/30/2013.

**Clean Energy Finance and Investment Authority**

**Financial Analysis**

## Table of Contents

**For the eight months ended February 28, 2013**

## Clean Energy Finance and Investment Authority

### Comparison of FY 2013 Budget to Actual

### Statement of Income and General Operations and Program Expenses

### For the eight months ended February 28, 2013

(000's)

| | Actual FY2013 Gen. Ops | Actual FY2013 Programs | Actual FY2013 Total | Budget FY2013 Gen. Ops | Budget FY2013 Programs | Budget FY2013 Total | (Under) Over Budget | % |
|---|---|---|---|---|---|---|---|---|
| **Income** | | | | | | | | |
| Utility customer assessments | $ 18,963.8 | $ - | $ 18,963.8 | $ 19,400.0 | $ - | $ 19,400.0 | $ (436.2) | (2%) |
| RGGI auction proceeds | $ 1,331.6 | $ - | $ 1,331.6 | $ 1,000.0 | $ - | $ 1,000.0 | $ 331.6 | 33% |
| Interest on bank deposits | $ 90.3 | $ - | $ 90.3 | $ 80.0 | $ - | $ 80.0 | $ 10.3 | 13% |
| Interest income-Solar Lease Notes,net of fees | $ 69.8 | $ - | $ 69.8 | $ 95.0 | $ - | $ 95.0 | $ (25.2) | (27%) |
| Grant income (LBE,N2N,Sunrise) | $ 1,142.3 | $ - | $ 1,142.3 | $ 1,142.3 | $ - | $ 1,142.3 | $ - | 0% |
| Other income | $ 122.3 | $ - | $ 122.3 | $ 50.0 | $ - | $ 50.0 | $ 72.3 | 145% |
| Total revenues: | $ 21,720.1 | $ - | $ 21,720.1 | $ 21,767.3 | $ - | $ 21,767.3 | $ (47.1) | (0%) |
| **Expenses** | | | | | | | | |
| *Compensation & Benefits:* | | | | | | | | |
| -Salaries & Wages-CEFIA employees | $ 712.6 | $ 867.0 | $ 1,579.6 | $ 712.6 | $ 1,138.7 | $ 1,851.3 | $ (271.7) | (15%) |
| -Salaries & Wages-CI shared services | $ 192.5 | $ 1.7 | $ 194.2 | $ 236.3 | $ 10.1 | $ 246.4 | $ (52.2) | (21%) |
| -Employee Benefits-CEFIA employees | $ 450.8 | $ 584.5 | $ 1,035.3 | $ 441.8 | $ 706.0 | $ 1,147.8 | $ (112.5) | (10%) |
| -Employee Benefits-CI shared services | $ 132.9 | $ 1.0 | $ 133.9 | $ 146.5 | $ 6.2 | $ 152.7 | $ (18.8) | (12%) |
| *Consulting and professional fees* | | | | | | | | |
| - Legal | $ 6.5 | $ 101.5 | $ 108.0 | $ 23.0 | $ 101.5 | $ 124.5 | $ (16.5) | (13%) |
| - Consulting fees | $ 34.6 | $ 259.8 | $ 294.4 | $ 57.0 | $ 259.8 | $ 316.8 | $ (22.4) | (7%) |
| - Project inspection fees | $ - | $ 113.7 | $ 113.7 | $ - | $ 113.7 | $ 113.7 | $ (0.0) | (0%) |
| *Marketing/External relations* | $ 80.9 | $ 73.5 | $ 154.4 | $ 115.0 | $ 73.5 | $ 188.5 | $ (34.1) | (18%) |
| *EM&V* | $ - | $ 21.8 | $ 21.8 | $ - | $ 21.8 | $ 21.8 | $ (0.0) | |
| *Rent and location related expenses* | | | | | | | | |
| -Rent/Utilities/Maintenance | $ 55.3 | $ 67.0 | $ 122.3 | $ 58.8 | $ 71.2 | $ 130.0 | $ (7.7) | (6%) |
| -Telephone/Communications | $ 12.1 | $ 14.7 | $ 26.8 | $ 12.7 | $ 15.3 | $ 28.0 | $ (1.2) | (4%) |
| -Equipment & storage rentals | $ 1.7 | $ 2.1 | $ 3.9 | $ 3.2 | $ 3.8 | $ 7.0 | $ (3.1) | (45%) |
| -Depreciation FF&E | $ 18.2 | $ 22.1 | $ 40.3 | $ 22.6 | $ 27.4 | $ 50.0 | $ (9.7) | (19%) |
| *Office, computer & other expenses* | | | | | | | | |
| -Office expense | $ 11.6 | $ 15.4 | $ 27.0 | $ 14.9 | $ 18.2 | $ 33.1 | $ (6.1) | (18%) |
| -Computer operations | $ 10.6 | $ 12.8 | $ 23.5 | $ 16.3 | $ 19.7 | $ 36.0 | $ (12.5) | (35%) |
| -Subscriptions | $ 5.0 | $ - | $ 5.0 | $ 12.0 | $ - | $ 12.0 | $ (7.1) | (59%) |
| -Training and education | $ 14.0 | $ - | $ 14.0 | $ 19.0 | $ - | $ 19.0 | $ (5.0) | (26%) |
| -Temporary employees | $ 21.6 | $ 15.6 | $ 37.2 | $ 22.0 | $ 15.6 | $ 37.6 | $ (0.4) | (1%) |
| -Travel,meetings & related expenses | $ 39.8 | $ 3.8 | $ 43.5 | $ 37.0 | $ 3.8 | $ 40.8 | $ 2.7 | 7% |
| -Insurance | $ 15.0 | $ 18.1 | $ 33.1 | $ 17.5 | $ 21.2 | $ 38.7 | $ (5.6) | (14%) |
| *Grant expenses(LBE/N2N/Sunrise)* | $ - | $ 943.6 | $ 943.6 | $ - | $ 943.6 | $ 943.6 | $ (0.0) | (0%) |
| *Financial Incentives-Grants & Rebates* | $ - | $ 2,479.0 | $ 2,479.0 | $ - | $ 2,479.0 | $ 2,479.0 | $ - | 0% |
| *Interest rate buydown-HDF/CHIF* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan loss -Grid Tied Loan Program* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan loss - Op Demo Loans* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan loss - Alpha Loans* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan Loss - GreenerU* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan Loss - WINN LISC* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan Loss -CPACE Loans* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan Loss - Lease Programs* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan Loss -Res. Solar Loans* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision for Loan Loss - Res. EE Loans* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| *Provision of Loan Loss - Clean Energy Bus Sol Loans* | $ - | $ - | $ - | $ - | $ - | $ - | $ - | |
| Total expenses: | $ 1,815.7 | $ 5,618.6 | $ 7,434.3 | $ 1,968.1 | $ 6,050.2 | $ 8,018.3 | $ (584.0) | (7%) |
| FY13 revenues over FY13 expenses: | | | $ 14,285.8 | | | $ 13,748.9 | $ 536.9 | |
| Financial Incen.:Grants/Rebates Paid - FY12 Commitments: | | | $ (7,255.3) | | | | | |
| Revenues over expenses: | | | $ 7,030.5 | | | | | |

**Clean Energy Finance and Investment Authority**
**Statement of Revenues, Expenses**
**and Changes in Net Assets**
**For the eight months ended February 28, 2013**
**(000's)**

| | | | |
|---|---|---|---|
| **Total Net Assets** | **6/30/2012** | | $ 81,188.2 |
| **FY 2013 expenses over income:** | | | 14,285.6 |
| Utility customer assessments | 18,963.8 | | |
| Interest income | 160.1 | | |
| RGGI auction proceeds | 1,331.6 | | |
| Grant income | 1,142.3 | | |
| Other income | 122.3 | | |
| | | 21,720.1 | |
| Compensation | (2,943.0) | | |
| Consulting and professional fees | (516.1) | | |
| Marketing/External relations | (154.4) | | |
| EM&V | (21.8) | | |
| Rent and location related expenses | (193.3) | | |
| Office, computer & other expenses | (183.3) | | |
| | | (4,011.9) | |
| Provision for Loan Loss - New Programs | - | | |
| Interest Rate Buydowns - New Programs | - | | |
| Residential Solar PV rebates | (2,352.2) | | |
| Anaerobic Digestor Pilot | - | | |
| CHP Pilot | - | | |
| Condo Renewable Energy grants | - | | |
| Maintained Programs | (126.8) | | |
| | | (2,479.0) | |
| ***NOTE: Subtotal, Recurring Programs*** | | 15,229.2 | |
| Clean Energy Business Solutions | - | | |
| Transition & Other | - | | |
| Federal Grants | (943.6) | | |
| Loan Loss Reserve - Grid Tied, Op Demo & Alpha Loans | - | | |
| ***NOTE: Subtotal, Non-Recurring/Special Programs*** | | (943.6) | |
| **Expenditures grants and rebates approved prior to FY13** | | | $ (7,254.0) |
| PROGRAM GOAL 1 PROJECT 150 & PRE DEVELOPMENT PROGRAM | $ | (50.00) | |
| CI&I ON SITE GENERATION PROGRAM - Strategic Investments | | - | |
| CI&I ON SITE GENERATION PROGRAM - COMM. SOLAR | | (358.0) | |
| Residential Solar PV -Pre Sec 106, PA 11-80 | | (74.0) | |
| RESIDENTIAL SOLAR PV INVESTMENT PROGRAM (Section 106,PA 11-80) | | (1,558.0) | |
| CI&I On Site Generation - Solar NFP/Govt | | (980.0) | |
| CI&I On Site Generation -Fuel Cell | | (2,988.0) | |
| GEO THERMAL,SOLAR THERMAL AND HOT WATER PROJECTS | | (702.0) | |
| CI&I ON SITE GENERATION PROGRAM - FEASIBILITY STUDIES | | (54.0) | |
| Operational Demonstration Program | | (108.0) | |
| TECHNOLOGY AND DEVELOPMENT STUDIES | | - | |
| Education & Outreach Programs | | (361.0) | |
| Other | | (21.0) | |
| **Other ( change in other balance sheet components)** | | | $ 73.4 |
| **Total Net Assets** | **2/28/2013** | | $ 88,293.2 |

**Clean Energy Finance and Investment Authority**
**Financial Analysis**
**For the eight months ended February 28, 2013**
**Statement of Net Assets**
**(000's)**

| | Actual 6/30/2012 | YTD 2/28/2013 | Projected 6/30/2013 | Budgeted 6/30/2013 |
|---|---|---|---|---|
| **Assets** | | | | |
| ***Current assets*** | | | | |
| Cash and cash equivalents (Unrestricted) | $ 64,672.9 | $ 70,973.9 | $ 42,142.5 | $ 33,227.4 |
| Utility receivables | $ 2,580.0 | $ 2,743.8 | $ 2,200.0 | $ 2,200.0 |
| Accounts receivable | $ 725.3 | $ 49.7 | $ 575.0 | $ 750.0 |
| Other current assets | $ 350.3 | $ 71.4 | $ 200.0 | $ 250.0 |
| ***Total current assets*** | $ 68,328.5 | $ 73,838.8 | $ 45,117.5 | $ 36,427.4 |
| ***Noncurrent assets*** | | | | |
| ***Investments*** | | | | |
| Promissory notes - solar lease program V1 | $ 12,036.6 | $ 11,634.7 | $ 11,431.0 | $ 11,366.4 |
| Loan loss reserve - solar lease program V1 | $ (300.9) | $ (285.2) | $ (285.8) | $ (267.4) |
| Promissory notes - solar lease program V2 | $ - | $ - | $ 529.5 | $ 529.5 |
| Loan loss reserve - solar lease program V2 | $ - | $ - | $ (24.1) | $ (24.1) |
| Promissory notes - solar loan program | $ - | $ - | $ 545.2 | $ 545.2 |
| Loan loss reserve - solar loan program | $ - | $ - | $ (27.5) | $ (27.5) |
| Promissory notes - WIN LISC program | $ - | $ - | $ 123.8 | $ 123.8 |
| Loan loss reserve - WIN LISC program | $ - | $ - | $ (12.5) | $ (12.5) |
| Promissory notes - GreenerU program | $ - | $ - | $ 450.0 | $ 976.0 |
| Loan loss reserve - GreenerU program | $ - | $ - | $ (45.0) | $ (100.0) |
| Promissory notes - EE Loan program | $ - | $ - | $ 230.3 | $ 230.3 |
| Loan loss reserve - EE loan program | $ - | $ - | $ (11.6) | $ (11.6) |
| Promissory notes - CPACE program | $ - | $ - | $ 5,000.0 | $ 1,000.0 |
| Loan loss reserve - CPACE program | $ - | $ - | $ (500.0) | $ (100.0) |
| Promissory notes - Alpha program | $ - | $ - | $ 300.0 | $ 450.0 |
| Loan loss reserve - Alpha program | $ - | $ - | $ (150.0) | $ (225.0) |
| Promissory notes - Grid tied program | $ - | $ - | $ 3,000.0 | $ 8,000.0 |
| Loan loss reserve - Grid tied program | $ - | $ - | $ (300.0) | $ (800.0) |
| Promissory notes - Op Demo program | $ - | $ - | $ 2,000.0 | $ 2,000.0 |
| Loan loss reserve - Op Demo program | $ - | $ - | $ (1,000.0) | $ (1,000.0) |
| Promissory notes - Clean Energy Bus Solutions program | $ - | $ - | $ 2,000.0 | $ 2,000.0 |
| Loan loss reserve - Clean Energy Bus Solutions program | $ - | $ - | $ (200.0) | $ (200.0) |
| Equity/Debt investments (pre FY13) | $ 2,155.5 | $ 2,155.5 | $ 2,155.5 | $ 2,155.5 |
| Investments-REC's | $ 1,324.6 | $ 1,324.6 | $ 1,450.0 | $ 1,450.0 |
| ***Capital assets*** | $ 91.3 | $ 81.7 | $ 150.0 | $ 181.4 |
| Furniture,Equipment & L/H Improvements | | | | |
| **Cash and cash equivalents (Restricted)** | $ 8,540.6 | $ 8,373.9 | $ 9,395.7 | $ 9,395.7 |
| ***Total non current assets*** | $ 23,847.7 | $ 23,285.1 | $ 36,204.5 | $ 37,635.7 |
| ***Total assets*** | $ 92,176.2 | $ 97,124.0 | $ 81,322.0 | $ 74,063.1 |

**Clean Energy Finance and Investment Authority**

**Financial Analysis**

**For the eight months ended February 28, 2013**

**Statement of Net Assets**

**(000's)**

| | Actual 6/30/2012 | YTD 2/28/2013 | Projected 6/30/2013 | Budgeted 6/30/2013 |
|---|---|---|---|---|
| **Liabilities and Net Assets** | | | | |
| Accounts,grants payable and accrued expenses | $ 2,624.9 | $ 434.6 | $ 2,500.0 | $ 2,500.0 |
| Deferred revenue-ARRA | $ 8,363.1 | $ 8,340.6 | $ 8,340.6 | $ 8,113.7 |
| Deferred revenue-PF | $ - | $ 33.0 | $ - | $ - |
| LLR Account - Smart -E Loan Program | $ - | $ 22.5 | $ 22.5 | $ - |
| **Total libilities** | $ 10,988.0 | $ 8,830.7 | $ 10,863.1 | $ 10,613.7 |
| | | | | |
| Net Assets: | | | | |
| Investment in capital assets | $ 91.3 | $ 81.7 | $ 150.0 | $ 181.4 |
| Restricted net assets | $ 8,540.7 | $ 8,373.9 | $ 9,395.7 | $ 9,395.7 |
| Unrestricted net assets | $ 72,556.2 | $ 79,837.6 | $ 60,913.2 | $ 53,872.3 |
| **Total Net Assets** | $ 81,188.2 | $ 88,293.2 | $ 70,458.9 | $ 63,449.4 |
| **Total Liabilities and Net Assets** | $ 92,176.2 | $ 97,124.0 | $ 81,322.0 | $ 74,063.1 |

## Clean Energy Finance and Investment Authority

**Statement of Cash Flows**

**As of February 28, 2013**

**(000's)**

| | Actual as of 2/28/2013 | (Projected) Remainder (March) Q3 | (Projected) (3M) Q4 | (Projected) Fiscal Year 6/30/2013 | (Budgeted) Fiscal Year 6/30/2013 |
|---|---|---|---|---|---|
| **Cash flows from operating activities** | | | | | |
| **CASH IN:** | | | | | |
| Proceeds from utility customer assessments | 18,800.9 | 2,200.0 | 6,900.0 | $ 27,900.9 | $ 28,000.0 |
| Proceeds from RGGI auctions | 2,056.9 | - | 500.0 | $ 2,556.9 | $ 2,000.0 |
| Proceeds from grants | 1,175.3 | 275.0 | 700.0 | $ 2,150.3 | $ 2,156.5 |
| Proceeds from RECs/other income | 148.4 | 10.0 | 12.0 | $ 170.4 | $ 125.0 |
| Proceeds from Interest on deposits,investments, solar lease notes | 170.0 | 22.0 | 65.0 | $ 257.0 | $ 270.0 |
| **CASH OUT:** | | | | | |
| Expenditures General and Program Administration | (4,132.8) | (800.0) | (4,000.0) | $ (8,932.8) | $ (9,625.2) |
| Expenditures third party grants (LBE,N2N,Sunrise) | (997.6) | (200.0) | (521.6) | $ (1,719.2) | $ (1,707.0) |
| Expenditures grants and rebates approved prior to FY13 | (7,255.3) | (1,500.0) | (7,500.0) | $ (16,255.3) | $ (17,912.1) |
| Expenditures grants and rebates -other programs | (4,265.0) | (1,000.0) | (7,000.0) | $ (12,265.0) | $ (15,151.5) |
| Expenditures residential solar lease PV program- rebates | - | - | (732.4) | $ (732.4) | $ (2,197.1) |
| Expenditures residentail solar loan program-rebates | - | (66.2) | (189.0) | $ (255.2) | $ (932.4) |
| Expenditures-Credit Enhancement IRB | - | (50.0) | (200.0) | $ (250.0) | $ (250.0) |
| **Net cash used by operating activities** | $ 5,700.6 | $ (1,109.2) | $ (11,966.0) | $ (7,374.6) | $ (15,223.8) |
| **Cash flows from investing activities** | | | | | |
| **LOAN RECOVERY** | | | | | |
| Return of principal on solar lease V1 promissory notes | 439.2 | 55.0 | 165.0 | $ 659.2 | $ 670.0 |
| Proceeds from residential solar loan program | - | - | 4.7 | $ 4.7 | $ 5.5 |
| Proceeds from WINN LISC program | - | - | 1.2 | $ 1.2 | $ 1.2 |
| Proceeds from GreenerU program | - | - | - | $ - | $ 24.0 |
| Proceeds from EEloan program | - | - | 2.3 | $ 2.3 | $ 2.3 |
| | 439.2 | 55.0 | 173.2 | 667.4 | 703.0 |
| **LOAN DISBURSEMENTS** | | | | | |
| Residential solar lease PV program | - | - | (395.5) | $ (395.5) | $ (395.5) |
| Residential solar lease SHW program | - | - | (29.0) | $ (29.0) | $ (29.0) |
| Commercial solar lease (MUSH) program | - | - | (105.0) | $ (105.0) | $ (105.0) |
| Residential solar loan program | - | (30.9) | (519.7) | $ (550.6) | $ (550.6) |
| WINN LISC program | - | - | (125.0) | $ (125.0) | $ (125.0) |
| GreenerU program | - | - | (450.0) | $ (450.0) | $ (1,000.0) |
| EE loan program | - | - | (232.6) | $ (232.6) | $ (232.6) |
| CPACE program | - | (200.0) | (4,800.0) | $ (5,000.0) | $ (1,000.0) |
| Grid tied program | - | (2,250.0) | (750.0) | $ (3,000.0) | $ (8,000.0) |
| Op Demo program | - | (500.0) | (1,500.0) | $ (2,000.0) | $ (2,000.0) |
| Alpha program | - | - | (300.0) | $ (300.0) | $ (450.0) |
| Clean Energy Business Solutions | - | - | (2,000.0) | $ (2,000.0) | $ (2,000.0) |
| | - | (2,980.9) | (11,206.8) | (14,187.7) | (15,887.7) |
| **Net cash used by investing activities** | $ 439.2 | $ (2,925.9) | $ (11,033.6) | $ (13,520.3) | $ (15,184.7) |
| **Cash flows from capital activities** | | | | | |
| Purchase of furniture,equipment & software | (5.4) | (50.0) | (50.0) | $ (105.4) | $ (182.0) |
| **Net cash used in operating,investing and capital activities** | 6,134.4 | (4,085.1) | (23,049.6) | $ (21,000.3) | $ (30,590.5) |
| **Cash and cash equiv., Beginning of Period** | 73,213.5 | 79,347.9 | 75,262.8 | $ 73,213.5 | $ 73,213.5 |
| **Cash and cash equiv., End of Period** | $ 79,347.9 | $ 75,262.8 | $ 52,213.2 | $ 52,213.2 | $ 42,623.0 |

Clean Energy Finance and Investment Authority
Statement of Program Investments
As of February 28, 2013
(000's)

| Loan/Investment Date | Loan No. | Issuer | Project | Approved Commitment | Investment/ Advances to date | Reserve | Current Valuation | Interest Rate | Termination/ Maturity Date | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Alpha Program** | | | | | | | | | | |
| 8/28/2012 | 13-50100-2 | Anchor Science, LLC | Development of nanomaterial for thermal energy management in electronics. | $ 150 | $ - | $ - | $ - | 6% or Prime +1% | 8/28/2022 | Non Recourse Loan. Repayment based on commercial success of technology or liquidation event.. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement. (5 yr amortization or lump sum payment) |
| 8/9/2012 | 13-50100-1 | Apollo Solar, Inc. | Development of solar smart grid inverter. | $ 150 | $ - | $ - | $ - | 6% or Prime +1% | 8/9/2022 | Non Recourse Loan. Repayment based on commercial success of technology or liquidation event.. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement. (5 yr amortization or lump sum payment) |
| **CPACE Construction Loan Program** | | | | | | | | | | |
| TBD | CPACE-001 | 542 Westport Ave.,Norwalk | Construction Loan to implement a variety of energy efficient lighting measures. | $ 185 | $ - | $ - | $ - | 5% | TDB | Upon project completion, CEFIA will either retain a 100% ownership of the construction loan via conversion to a term loan (envisioned tobe 13 years a a 5% interest rate or sell the loan off partiallyor in total to a provate capital provider. C-PACE assessment through the City of Norwalk will provide security. |
| **Energy Efficiency Financing** | | | | | | | | | | |
| 9/13/2012 | GU-001 | Greener U/Campus Efficiency Now | Energy efficiency financing to Colleges and Universities in the CT Conference of Independent Colleges | $ 1,000 | $ - | $ - | $ - | IRR of 7% | TBD Project by Project | College/University will enter into a service agreeement with Campus Efficiency, LLC to provide energy efficiency improvements. CEFIA will assist the colleges/university with its financial obligation under the agreement. CEFIA wil earn an IRR of 7% on its advances. |
| **Pre Development Program (1)** | | | | | | | | | | |
| 4/13/2006 | PD -001 | Bridgeport Fuel Cell Park, LLC | Fairfield County Fuel Cell Park | $ 500 | $ 499 | $ (499) | $ - | 8.75% | See Notes | LOC. Note matures upon the earlier of: closing of permenant financing,12 months after comercial operation of project,sale,acquisition or merger of interest. Terminates upon event of default. |
| 4/30/2009 | PD-002 | Chestnut Hill BioEnergy CT, LLC | Biomass generation project, Waterbury,CT | $ 500 | $ 237 | $ (237) | $ - | 4.25% | See Notes | LOC. Note matures upon the earlier of: closing of permenant financing,12 months after comercial operation of project,sale,acquisition or merger of interest. Terminates upon event of default. |
| 02/19/09 | PD-003 | BNE Energy Inc. | Colebrook Wind - Phase 1 | $ 120 | $ 120 | $ (120) | $ - | 4.25% | See Notes | LOC. Note matures upon the earlier of: closing of permenant financing,12 months after comercial operation of project,sale,acquisition or merger of interest. Terminates upon event of default. |
| 02/19/09 | PD-004 | BNE Energy Inc. | Prospect Wind - Phase 1 | $ 102 | $ 102 | $ (102) | $ - | 4.25% | See Notes | LOC. Note matures upon the earlier of: closing of permenant financing,12 months after comercial operation of project,sale,acquisition or merger of interest. Terminates upon event of default. |
| 06/24/10 | PD-005 | BNE Energy Inc. | Colebrook Wind - Phase II | $ 380 | $ 380 | $ (380) | $ - | 4.25% | See Notes | LOC. Note matures upon the earlier of: closing of permenant financing,12 months after comercial operation of project,sale,acquisition or merger of interest. Terminates upon event of default. |
| 06/24/10 | PD-006 | BNE Energy Inc. | Colebrook Wind - Prospect II | $ 398 | $ 398 | $ (398) | $ - | 4.25% | See Notes | LOC. Note matures upon the earlier of: closing of permenant financing,12 months after comercial operation of project,sale,acquisition or merger of interest. Terminates upon event of default. |

**Clean Energy Finance and Investment Authority**
**Statement of Program Investments**
**As of February 28, 2013**
**(000's)**

| Loan/Investment Date | Loan No. | Issuer | Project | Approved Commitment | Investment/ Advances to date | Reserve | Current Valuation | Interest Rate | Termination/ Maturity Date | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Op Demo Program (1)** | | | | | | | | | | |
| 8/8/2007 | ODP-001 | Mechatronic Energy Systems, LLC | Low Head Run-of the-River Hydro Turbine Technology Project, Mansfield,CT | $ 557 | $ 501 | $ (501) | $ - | TBD | 8/7/2017 | Non Recourse Loan. Repayment based on commercial success ($541,000/m) of technology. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement. ( 10 yr amortization) |
| 7/1/2009 | ODP-002 | Optiwind, Inc. | Compact Wind Accelerated Turbine, Torrington,CT | $ 750 | $ 413 | $ (412) | $ - | TBD | 6/30/2019 | Non Recourse Loan. Repayment based on commercial success ($2,000,000/m) of technology. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement. (10 yr amortization) |
| 4/5/2010 | ODP-003 | LiteTrough, LLC | Concentrated Solar Water Heater Technology,Milford,CT | $ 81 | $ 31 | $ (31) | $ - | 4.25% | 4/4/2020 | Non Recourse Loan. Repayment based on commercial success ($500,000/m) of technology. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement.(5 yr amortization) |
| 6/28/2010 | ODP-004 | Avalence, LLC | High pressure multipurpose electrolyer technology, Hamden,CT | $ 500 | $ 350 | $ (350) | $ - | TBD | 6/27/2020 | Non Recourse Loan. Repayment based on commercial success ($1,000,000/m) of technology. If no commercial success company repays amount advanced. If commercial success company pays 2 times amount advanced or amortizes over 5 yr period at applicable interest rate. |
| TBD | ODP-005 | New England Hydropower Co.,LLC | Demonstration of commercial viability of company's small hydropower technology. | $ 500 | $ - | $ - | $ - | TBD | TBD | Project approved by CEFIA Technology Innovations Committee on January 8, 2013. Loan documents are being drafted. |
| TDB | ODP-006 | RPM Sustainable Technologies, Inc. | Innovative processing equipment for biofuels production. | $ 500 | $ - | $ - | $ - | TBD | TBD | Project approved by CEFIA Technology Innovations Committee on January 8, 2013. Loan documents are being drafted. |
| **Other Investments** | | | | | | | | | | |
| | | **Company** | **Security** | | | | | | | |
| 3/27/2002 | | Acumentrics Corporation | Series B Preferred Stock | | $ 4,000 | $ (2,000) | $ 2,000 | | | Fuel Cell Technology |
| 6/30/2010 | | Optiwind Corporation | Series B Preferred Stock | | $ 272 | $ (204) | $ 68 | | | Wind Turbine Technology |
| 6/29/2011 | | Optiwind Corporation | Promissory Note | | $ 350 | $ (263) | $ 88 | | | |
| | | | | | $ 7,654 | $ (5,498) | $ 2,156 | | | |

(1) Due to the nature of the Pre Development and Op Demo Loans, the loans are currently fully reserved for.

Clean Energy Finance and Investment Authority
Statement of Incentives, Grants and Rebates
As of February 28, 2013
(000's)

| Program | FY12 Programs<br>Commitments Outstanding 6/30/2012 | Fundings YTD FY13 | Withdrawn | Commitments Outstanding 12/31/2012 |
|---|---|---|---|---|
| Project 150 | $ 7,224 | $ (50) | $ (5,674) | $ 1,500 |
| Pre Development Loans | $ 263 | $ - | $ (263) | $ - |
| Strategic Investments | $ 35 | $ - | $ (35) | $ - |
| Commercial Solar (for profit) | $ 2,255 | $ (358) | $ - | $ 1,897 |
| Commercial Solar (not for profit/government) | $ 3,997 | $ (980) | $ - | $ 3,017 |
| Fuel Cell program | $ 5,870 | $ (2,988) | $ - | $ 2,882 |
| CI&I On Site Generation -Feasibility Studies | $ 211 | $ (54) | $ (28) | $ 130 |
| Residential Solar PV Program (pre Solar PV Investment Program) | $ 99 | $ (74) | $ - | $ 25 |
| Residential Solar PV Investment Program | $ 2,945 | $ (1,558) | $ (252) | $ 1,136 |
| Solar Thermal & Geothermal Programs | $ 1,132 | $ (567) | $ (14) | $ 551 |
| Solar Hot Water Programs | $ 2,253 | $ (135) | $ - | $ 2,118 |
| Operational Demonstration & Alpha Programs | $ 948 | $ (108) | $ - | $ 839 |
| Education & Outreach Programs | $ 747 | $ (361) | $ - | $ 386 |
| FY11-FY12 CP Goal 4: advocacy & public policy support | $ 102 | $ (21) | $ - | $ 80 |
| | $ 28,082 | $ (7,255.3) | $ (6,265) | $ 14,561 |

| Program | FY 13 Programs<br>FY13 Budget | FY13 Commitments | Fundings YTD FY13 | Withdrawn | Commitments Outstanding 12/31/2012 |
|---|---|---|---|---|---|
| **Transition** | | | | | |
| Education & Training Programs | $ 400.0 | $ 395.0 | $ (4.5) | $ - | $ 390.5 |
| **Maintain** | | | | | |
| Clean Energy Communities | $ 650.0 | $ 43.6 | $ (37.3) | $ - | $ 6.3 |
| Community Innovation Grants | $ 200.0 | $ 7.0 | $ - | $ - | $ 7.0 |
| Project Opportunities Fund | $ 500.0 | $ - | $ - | $ - | $ - |
| Strategic Investment Fund | $ 100.0 | $ - | $ - | $ - | $ - |
| Alpha Program | $ 100.0 | $ 45.0 | $ (45.0) | $ - | $ - |
| **Statutory** | | | | | |
| Residential Solar PV Investment Program | $ 9,333.0 | $ 9,741.3 | $ (2,352.2) | $ - | $ 7,389.1 |
| Anaerobic Digestor Pilot | $ 2,000.0 | $ - | $ - | $ - | $ - |
| CHP Pilot | $ 2,000.0 | $ 4.5 | $ - | $ - | $ 4.5 |
| Condo Renewable Energy Grants | $ 50.0 | $ - | $ - | $ - | $ - |
| **Commercial & Industrial** | | | | | |
| Clean Energy Business Solutions | $ 2,500.0 | $ - | $ - | $ - | $ - |
| **Federal Grants - InKind payments** | | | | | |
| Sun Rise New England | $ 48.0 | $ 40.0 | $ (40.0) | $ - | $ - |
| | $ 17,881.0 | $ 10,276.4 | $ (2,479.0) | $ - | $ 7,797.4 |
| | | | $ (9,734.3) | | $ 22,358.6 |

**Clean Energy Finance and Investment Authority**
**Financial Analysis**
**Utility Customer Assessment Analysis**
**For the eight months ended February 28, 2013**
**(000's)**

| | FY 13 Actual | FY13 Budget | (Under) Over FY 12 | |
|---|---|---|---|---|
| July | $ 2,709.4 | $ 2,700.0 | $ 9.4 | |
| August | $ 2,815.0 | $ 2,825.0 | $ (10.0) | |
| September | $ 2,457.0 | $ 2,500.0 | $ (43.0) | |
| October | $ 1,994.0 | $ 2,200.0 | $ (206.0) | |
| November | $ 2,028.4 | $ 2,100.0 | $ (71.6) | |
| December | $ 2,240.2 | $ 2,375.0 | $ (134.8) | |
| January | $ 2,419.7 | $ 2,400.0 | $ 19.7 | |
| February | $ 2,300.0 | $ 2,300.0 | $ - | A |
| March | $ - | $ - | $ - | |
| April | $ - | $ - | $ - | |
| May | $ - | $ - | $ - | |
| June | $ - | $ - | $ - | |
| Total assessments: | $ 18,963.8 | $ 19,400.0 | $ (436.2) | |
| | | | -2.3% | |

A. Data on actual activity had not been received from the utility companies as of te date this report was prepared. Current month actual results will be reflected in next month's financial report.

865 Brook Street
Rocky Hill, Connecticut 06067-3444
T: 860.563.0015
F: 860.563.4877
www.ctcleanenergy.com

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Memo

**To:** Board of Directors

**From:** Bryan Garcia, President and CEO, Bert Hunter, EVP and CIO, Ben Healey, Senior Manager of Clean Energy Finance and Alexandra Lieberman, Manager of Clean Energy Finance

**CC:** Mackey Dykes, Chief of Staff, Brian Farnen, General Counsel

**Date:** March 8, 2013

**Re:** Solar Loan, Solar Lease & Smart-E Loan Programs – $5,000,000 Contractor Working Capital Loan or Guarantee Program

---

As part of the CEFIA-Sungage Solar Loan, CT Solar Lease 2 ("Solar Lease") and Smart-E Residential Energy Efficiency (Smart-E") Loan programs and as a strategy to transition contractors towards offering CEFIA's residential lease and loan and energy efficiency programs, staff recommends a contractor working capital program. As our programs build demand for energy efficiency and renewable energy deployment, the small business contractors will need timely access to capital to grow their business – to purchase materials, equipment, etc. Based on discussions with private capital partners, CEFIA staff recommends the establishment of a $5,000,000 Contractor Working Capital Loan / Guarantee Program for the benefit of contractors participating in the aforementioned programs. The working capital program will build a strong marketing channel of contractors for the Solar Lease, Solar Loan, and Smart-E Loan products.

Approval by CEFIA's Board of Directors is required under CEFIA's By-Laws, since (a) the Deployment Committee has already approved $2,500,000 in repurposed ARRA-SEP funds for the Smart-E loan program and (b) the facility size by itself would exceed the Deployment Committee's $2,500,000 approval authority under CEFIA's By-Laws.

**<u>Background</u>**

On November 30, 2012, the Deployment Committee approved the establishment of the following programs:

1. **<u>Smart-E Loan</u>** – $2.5 million in repurposed ARRA-SEP funds to attract nearly $28 million in private capital for the Smart-E loan program (as submitted to the Deployment Committee, the program was at the time called the "CT HELPs Loan Program") to promote deep energy efficiency retrofits, renewable energy deployment, and fuel and equipment conversions in single-family homes across the state. In line with the State's Comprehensive Energy Strategy, the Smart-E loan program seeks to "go beyond a traditional focus on upgraded lighting and weather stripping to deliver deeper efficiency gains in heating, air conditioning, ventilation, insulation, windows, furnaces, boilers, and other appliances… through innovative

financing mechanisms [sourced via] Connecticut's first-in-the-nation Green Bank (the 'Clean Energy Finance and Investment Authority')."

2. **Solar Loan** – up to $2.2 million in CEFIA funds together with $300,000 in repurposed ARRA-SEP funds to attract long-term private capital for a $5,000,000 Solar Loan program.

3. **Solar Lease** – $9.5 million in CEFIA funds to attract more than $50 million in tax equity and commercial bank funds for a $60 million fund for CEFIA CT Solar Lease 2 program.

**Program Updates**

Smart-E

CEFIA staff have worked with five credit unions and community banks ("Financial Institutions," or "FIs") since November 2012 to enlist their participation in the Smart-E loan program. Some of the challenges faced by staff have included:

(a) Developing a "financing agreement" with an innovative loan loss reserve program to encourage FIs to join the program and make loans in an asset class generally unfamiliar to them while, at the same time, aligning the interests of CEFIA with the FIs. CEFIA has achieved this by structuring the loan loss reserve to require the FIs to own the "first loss" of a credit delinquency while offering robust, but limited, support for losses in excess of the FIs' "first loss."

(b) Developing a customer acquisition and loan onboarding process that would be quick and simple for the FIs and contractors, while offering affordable loans to homeowners through an easy-to-understand and "technology agnostic" program for clean energy systems and energy efficiency measures, designed to encourage deep retrofits and (where appropriate) fuel and equipment conversions.

(c) Integrating this new financing offering into the existing context of a utility-administered energy efficiency program overseen by the Energy Efficiency Board through the Connecticut Energy Efficiency Fund ("CEEF").

CEFIA staff have made significant progress and, as of today CorePlus, the state's 10$^{th}$ largest credit union with over $200 million in assets and more than 22,000 members has signed on in connection with energy efficiency and oil-to-gas conversions spearheaded by Norwich Public Utilities gas mains expansion program. In addition, in the same area Eastern Savings Bank is in the approval process. In the southeast corner of the state (Fairfield and western New Haven County) Patriot National Bank is coming on (by end-March) which would add its 9-branch network and $600 million assets to our program. Sikorsky is in the operational phase of bringing our program on board, and would bring Connecticut's 4$^{th}$ largest credit union into the program with nearly $700 million in assets, 54,000 members and a service territory that covers Fairfield, New Haven and Hartford counties, adding presence in Danbury, Shelton, Stratford, Bridgeport, Seymour and Oxford. Staff is now working on expanding coverage in New Haven (city) and eastern New Haven County to provide full coverage to United Illuminating customers in the pilot phase of the program.

Solar Loan and Solar Lease

CEFIA's Solar Loan program developed with Sungage, a winner of the Financial Innovation RFP in 2012, will launch in the 2$^{nd}$ half of March. The Solar Lease is in the underwriting stage and should have by the end of March firm commitments for over $50 million for tax equity and commercial bank funds. The CT Solar Lease should be available around mid-April. Both of these programs have been previewed by the PV installer community with excellent reception.

**<u>Proposed Program</u>**

The need for working capital arises from two situations:

1. One of the initial Smart-E partners, Sikorsky FCU, recently commented to CEFIA staff that the proposed structure of the Smart-E loan program contains the following problematic feature: a 30% advance to the borrower to provide for working capital needs, designed to fund a progress payment for the contractor who is installing the clean energy or energy efficiency measures, with a subsequent disbursement of the balance of the loan upon project completion. This 30% advance presents Sikorsky with a loan processing issue, as their unsecured loan software is designed for a single disbursement. While Sikorsky is willing to undertake a revision to their software, such changes take months to implement. Furthermore, Sikorsky believes this barrier is present at several other credit unions with whom CEFIA is also currently seeking to partner.

   One way to mitigate this software barrier in the near-term while the credit unions update their processing systems would be for CEFIA to advance the 30% payment to the contractor for Sikorsky (and other FIs), provided Sikorsky has approved the loan for the homeowner's project. Sikorsky will agree to CEFIA's requirement that the 30% payment that would have gone to the contractor instead be directed (via a legal assignment) to CEFIA in order to repay the advance.

2. The Solar Loan and Solar Lease programs both have a requirement by their structure that funding not be advanced until the PV systems have been inspected by CEFIA. Under the RSIP incentive program, "bought" systems (vs. leased systems) obtain the benefit of approximately 21% of system cost being advanced to the contractor (70% of the rebate, which is approximately 30% of system cost). In addition, installers require an advance payment by the customer, often one-third to one-half of system cost at the beginning of the work.

   The Solar Lease installers would not benefit from any rebate advances as CT Solar Lease 2 will get an incentive in the form of a PBI over 6 years (vs. the first Solar Lease program where a rebate structure was the only incentive available). Also, the tax equity investor and the banks will only allow funding of completed systems. So the installer of leased systems will have to wait until after completion and after CEFIA inspection (which often takes a few weeks) to get their full contract payment.

Accordingly, the installer base will suffer a liquidity squeeze in both programs. Staff is of the view that over time the installer base will – with established financing source that Smart-E, Solar Loan and Solar Lease affords for their business – eventually benefit from small business lenders that will come to recognize the "capital supply chain" that will result from completed projects receiving financing from the Smart-E program or CEFIA sponsored solar loan or lease programs. Today, however, the banks are not familiar with these programs and will be reluctant to offer working capital on an immediate basis. To relieve the financial stress on the installers and to ensure a robust program, staff has determined that a $5,000,000 program would be sufficient based on (refer to Exhibit A):

A. The last 12 months of "non-lease" installs of solar PV totaled approximately $25.6 million in capital cost. Assuming a 2 month need for working capital, that would be $3.5 million of working capital requirement (with a maximum credit limit of $250,000 that would apply to the largest PV contractors).

B. With an average energy efficiency loan of $10,000, which is the utility program average, $1.3 million in working capital lines could support $17.5 million in Smart-E loan projects annually from 30 contractors. As the program has yet to start, reasonable assumptions suggest working capital lines of credit would range from $18,750 to $75,000.

Therefore, staff has determined that the requested size of $5 million for the working capital facility would be adequate for all three programs.

**Strategic Plan**

*Is the program or project proposed, consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?*

As a new program in the residential sector, staff explained to the Deployment Committee at its November 30, 2012 meeting that the Smart-E loan program, Solar Loan program and Solar Lease program are consistent with CEFIA's Comprehensive Plan. This working capital loan / guarantee program supports these programs and consequently is consistent with CEFIA's Comprehensive Plan. Statutorily, CEFIA is permitted to use its resources "…for expenditures that promote investment in clean energy in accordance with [CEFIA's Comprehensive Plan]…." and to work with participating lending institutions to support small businesses that are installing insulation, alternative energy devices, energy conservation materials, replacement furnaces and boilers, and technologically advanced energy-conversing equipment to achieve the goal of enabling efficiency improvements for at least fifteen percent of single family homes in the state by 2020. The Smart-E loan program is also consistent with a formal request for such a program by the Commissioner of the Department of Energy and Environmental Protection as required under PA 11-80 and in support of the Comprehensive Energy Strategy.

**Ratepayer Payback**

*How much clean energy is being produced (i.e. kWh over the projects lifetime) from the program or project versus the dollars of ratepayer funds at risk?*

The proposed program is in support of the Smart-E loan program approved by the Deployment Committee on November 30, 2012. Estimates are that the Smart-E loan program will save over 200,000 MMBtu's of energy a year from the $2,500,000 loan loss reserve and $1,500,000 of working capital being provided by CEFIA to attract nearly $28,000,000 of private capital investment from credit unions and community banks. The solar loan and solar lease programs will result in over 14 megawatts of solar PV capacity installed on residences and commercial buildings throughout the state using $9.5 million of ratepayer funds and over $50 million of private capital and an estimated $3.5 million of working capital.

**Terms and Conditions**

*What are the terms and conditions of ratepayer payback, if any?*

The loans to the contractor are expected to attract an interest rate of 1.75% over the Prime Rate, or 5%. Loans are expected to be made by a partner financial institution backed by a 100% guarantee from CEFIA. CEFIA may to a limited extent if CI is able to process the loans for CEFIA, advance its own funds to the contractors. Ratepayer funds will be at risk while the loans are outstanding, but either the loan would be repaid or the guarantee would be released by the benefitting partner financial institution when CEFIA or said institution is paid back through either (a) an assignment of the 30% advance payment that otherwise would have gone to the contractor from the proceeds of the homeowner's loan from the credit union or community bank under the Smart-E program or (b) funds from the Solar Loan or Solar Lease facility. Since payment will come from loans approved by credit unions for approved energy efficiency or clean energy projects approved by the Solar Loan or Solar Lease facilities, CEFIA staff are comfortable with the ratepayer payback mechanism. The loans are anticipated to be repaid within 60 days.

**Eligible Borrowers**

Borrower under the program must be approved contractors of either one of the utility programs – Home Energy Solutions (HES), Home Performance with Energy Star (HPwES), an energy efficiency contractor list approved by CEFIA or the Residential Solar Investment Program, Geothermal, or Solar Thermal Hot Water System approved contractor list.

All borrowers would be subject to verification of status as a contractor in good standing with the utility programs and/or CEFIA, and would be required to complete a vendor loan application with either the partner financial institution or CEFIA.

**Eligible Projects**

Loans would only be made available against:

1. Smart-E projects where (a) CEFIA has approved the energy efficiency and/or clean energy measures, (b) the Smart-E lending institution has approved the homeowner for a loan for the approved project and (c) work has actually commenced on the project; or

2. CEFIA Solar Loan or Solar Lease PV projects where (a) CEFIA has approved the PV system for the home, (b) the Solar Loan or Solar Lease entity (through Sungage or AFC First Financial) has approved the homeowner for a loan or lease for the PV project and (c) work has actually commenced on the project.

**Financial Institution Partner**

In conceiving the contractor working capital program, CEFIA approached CI/CDA to determine if they had the desire and resources to manage the working capital program for CEFIA. Unfortunately, CI/CDA is oriented toward more "straight loan" facilities rather than revolving lines of credit. CI suggested we consider a program that would work like their URBANK program whereby the banks meet the financing needs of small businesses under loss protection on loans up to $500,000. The URBANK loans can be used for any business purpose including: working capital, machinery and equipment, or to purchase, construct, expand or upgrade facilities. CEFIA has started discussions with two regional banks who may partner with CEFIA (most likely the institution's small business unit) to establish revolving working capital facilities for the contractors back-stopped by the CEFIA guarantee. Initial conversations suggest interest in the larger working capital facilities, but some apprehension with smaller lines of credit due to higher administration costs. CEFIA may determine that it is capable of establishing for a limited short term basis working capital facilities for these smaller contractors.

**Capital Expended**

*How much of the ratepayer and other capital that CEFIA manages is being expended on the program or project?*

$5,000,000 in contingent risk or on a revolving loan basis. $6,300,000 in repurposed ARRA-SEP funds has previously been approved.

**Risk**

*What is the maximum risk exposure of ratepayer funds for the program or project?*

Up to $5,000,000 of ratepayer funds are at risk for the program. In the case of a partner financial institution, CEFIA staff also requests the use of $250,000 in repurposed ARRA-SEP funds for a loan loss reserve. This 5% reserve should be adequate coverage for the trus risk in the program which is the risk the contractor starts but does not finish a project (completed projects are funded by either the Smart-E lenders or the Solar Loan or Solar Lease SPVs). Staff are in the process of determining the working capital lines of credit for individual contractors based on their proven volume, along the lines of the estimates shown in Exhibit A.

**Financial Statements**

*How is the program or project investment accounted for on the balance sheet and profit and loss statements?*

As funds are advanced for loans, there would be a reduction in the CEFIA Cash and Cash Equivalents Account (Current Asset on the Balance Sheet) and a corresponding increase in "Promissory Notes – Contractor Working Capital Loan Program (Non-Current Asset on the Balance Sheet). Any guarantees would be recorded as a note to the financial statements under contingencies.

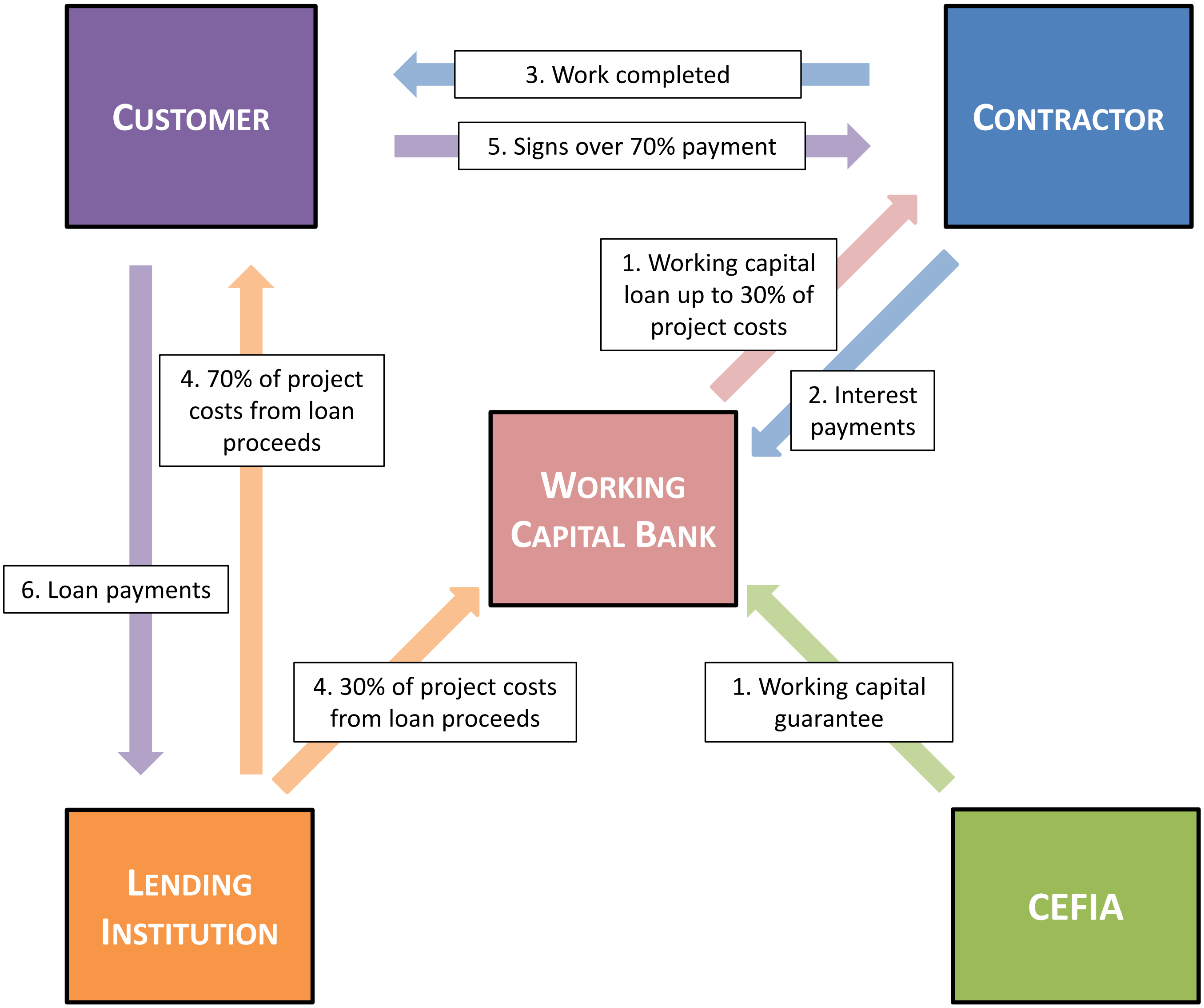
**Target Market**

*Who are the end-users of the program or project (i.e. rich, poor, middle class, etc.)?*

The end-users of the program are contractors utilizing the Smart-E Loan, Solar Loan and Solar Lease programs, statewide clean energy financing programs for homeowners. To support the growth and development of small business contractors deploying clean energy technologies in Connecticut's single-family households, this program provides the necessary working capital in the near-term to support the long-term goal of transitioning away from rebates and subsidies and towards low-cost long-term private capital.

**Capital Flow Diagram**

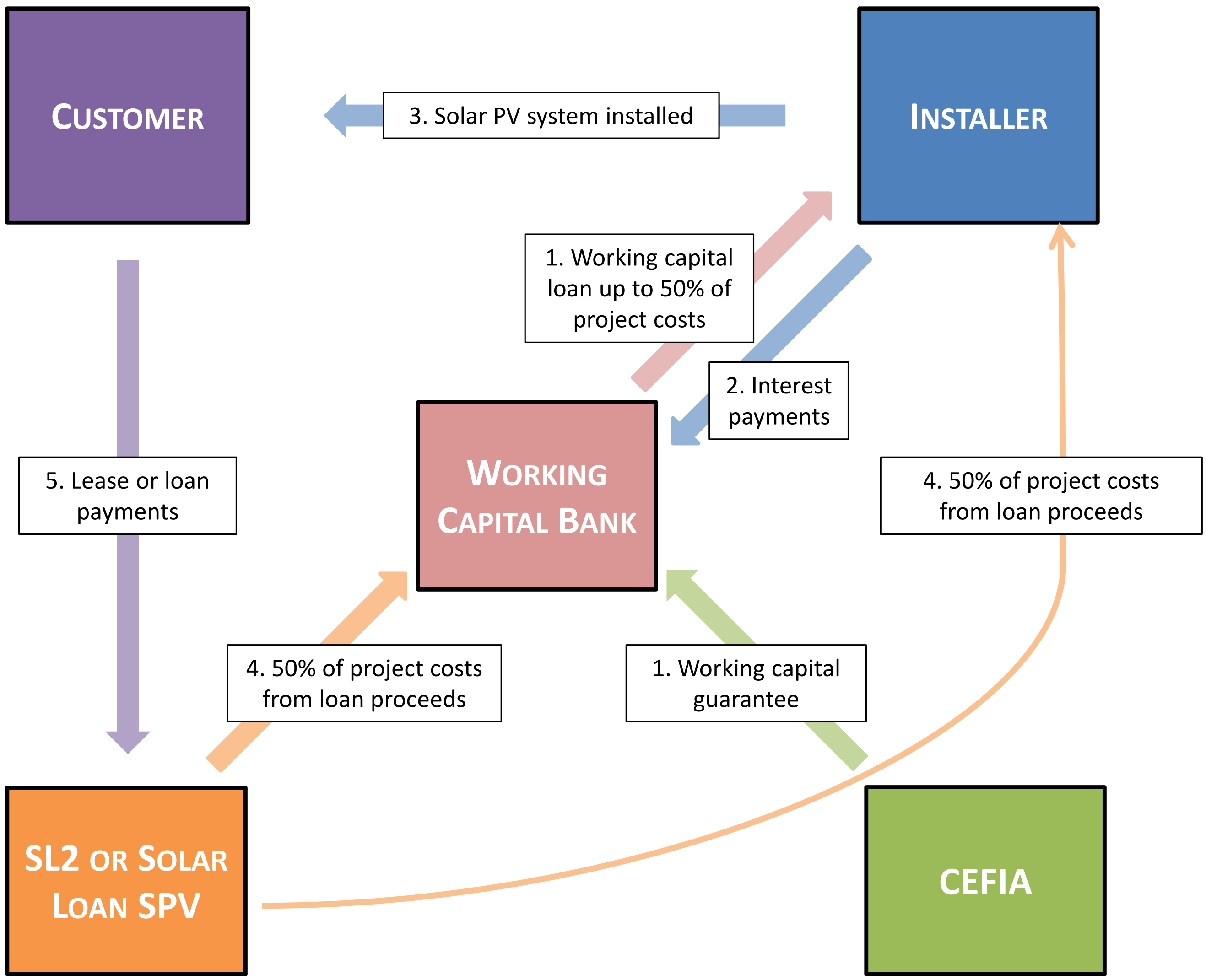
**Smart-E Loan Working Capital Facility**




**Note:** in the above diagram, the assumption is that CEFIA will partner with a financial institution (most likely the institutions small business unit) to establish revolving working capital facilities for the contractors back-stopped by the CEFIA guarantee. CEFIA may determine that it is capable of establishing for a limited short term basis working capital facilities. In such case, there would be no CEFIA Guarantee and the capital would flow as shown with CEFIA being the "Working Capital Bank"

**<u>Capital Flow Diagram</u>**

**Solar Loan / Solar Lease Working Capital**




**Note:** in the above diagram, the assumption is that CEFIA will partner with a financial institution (most likely the institutions small business unit) to establish revolving working capital facilities for the contractors back-stopped by the CEFIA guarantee. CEFIA may determine that it is capable of establishing for a limited short term basis working capital facilities. In such case, there would be no CEFIA Guarantee and the capital would flow as shown with CEFIA being the "Working Capital Bank"

**<u>RESOLUTION</u>**

**WHEREAS**, Section 99 of Public Act 11-80 "An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future" (the "Act"), CEFIA is directed to, amongst other things, to develop separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such others as the authority may determine;

**WHEREAS**, CEFIA seeks to establish a $5,000,000 working capital loan / guarantee program in support of the Smart-E Loan, Solar Loan and Solar Lease programs,

**WHEREAS**, this working capital loan / guarantee program will support such programs for homeowners to promote deep energy efficiency retrofits, renewable energy deployment, and fuel and equipment conversions in single-family homes across the state, in line with Public Act 11-80, the State's Draft Comprehensive Energy Strategy and CEFIA's Strategic Plan;

**NOW**, therefore be it:

**RESOLVED,** that CEFIA's Board of Directors authorizes the establishment of a $5,000,000 working capital loan / guarantee program for the benefit of contractors participating in the Smart-E loan, Solar Loan and Solar Lease programs;

**RESOLVED**, that the President of CEFIA; and any other duly authorized officer of CEFIA, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the $5,000,000 working capital loan / guarantee program with terms and conditions consistent with the memorandum submitted to the Board of Directors dated March 8, 2013 titled "Solar Loan, Solar Lease & Smart-E Loan Programs – $5,000,000 Contractor Working Capital Loan or Guarantee Program"; and

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

Submitted by: Bryan Garcia, President and CEO, Bert Hunter, EVP and CIO, Ben Healey, Senior Manager of Clean Energy Finance and Alexandra Lieberman, Manager of Clean Energy Finance

## Exhibit A
## Examples of Working Capital Lines of Credit
## Solar PV Contractors

| Contractors | Total 2012 Unit Installs | Total $ Value of 2012 Installs | Proposed Working Capital Line of Credit |
|---|---|---|---|
| | | | |
| **BeFree Green Energy, LLC** | **141** | **$4,687,364** | $250,000 |
| **Real Goods Solar, Inc.** | **76** | **$2,410,448** | $250,000 |
| **Encon, Inc.** | **71** | **$1,689,959** | $250,000 |
| **Ross Solar Group** | **66** | **$2,251,966** | $250,000 |
| **Sunlight Solar Energy, Inc.** | **53** | **$1,695,056** | $250,000 |
| **Shippee Solar and Construction LLC** | **43** | **$1,191,355** | $200,000 |
| **C-Tec Solar, LLC** | **42** | **$1,212,588** | $200,000 |
| **R. Pelton Builders** | **35** | **$ 993,205** | $175,000 |
| **Aegis Electrical Systems, LLC** | **33** | **$1,334,019** | $225,000 |
| **DCS** | **25** | **$ 485,870** | $ 75,000 |
| **All remaining (39 Contractors)** | **206** | **$7,621,670** | (each) $ 35,000 |
| | | | |
| **Top Ten Contractors** | | **$17,951,830** | $2,125,000 |
| **All remaining 39 Contractors** | | **$7,621,670** | $1,365,000 |
| | | | |
| **All PV Contractors** | | **$25,573,500** | $3,490,000 |

## Examples of Working Capital Lines of Credit
## Smart-E Contractors (hypothetical)

| Contractor | Total 2012 Unit Installs | Total $ Value of Installs (annually) | Proposed Working Capital Line of Credit |
|---|---|---|---|
| | | | |
| **Contractor A** | **100** | **$1,000,000** | $75,000 |
| **Contractor B** | **50** | **$500,000** | $37,500 |
| **Contractor C** | **25** | **$250,000** | $18,750 |
| : | | | |
| **Contractor A (assume 10 each)** | | **$10,000,000** | $750,000 |
| **Contractor B (assume 10 each)** | | **$5,000,000** | $375,000 |
| **Contractor C (assume 10 each)** | | **$2,500,000** | $187,500 |
| | | | |
| **All Smart-E Contractors** | | **$17,500,000** | $1,312,500 |

## Summary of Working Capital Lines of Credit

| | | | |
|---|---|---|---|
| **All PV Contractors** | | | $3,490,000 |
| **All Smart-E Contractors** | | | $1,312,500 |
| **All Contractors** | | | $4,802,500 |