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CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

March 9, 2012

Dear Clean Energy Finance and Investment Authority Board of Directors:

We are looking forward to the next Board of Directors meeting on Friday, March 16, 2012 from 9:00 to 11:00 a.m. at our offices located at 865 Brook Street Rocky Hill, CT.

We have a full agenda which includes:

- A review of the status and approval of funding request extension for the solar thermal program (note – memo will be distributed electronically this weekend);
- An update on the launch of the residential solar investment program;
- An update on the status of financing programs in development;
- An update on the budget; and
- A review, discussion and approval of the Comprehensive Plan.

We have been focusing our attention on developing financing programs and we look forward to briefly discussing our progress.

You will notice in the attached materials that included is an old set of Connecticut Clean Energy Fund (CCEF) Board meeting minutes for June 20, 2011. Please read through these minutes as there are several items that will be relevant to our discussions.

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.

Sincerely,

Bryan Garcia
President and CEO

CLEAN ENERGY
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# AGENDA

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

Friday, March 16, 2012 – Regular Meeting
9:00-11:00 a.m.

Staff Invited: Jocelyn Anastasiou, George Bellas, Christin Cifaldi, Mackey Dykes, Brian Farnen, Keith Frame, David Goldberg, Dale Hedman, Sue Kaswan, Dave Ljungquist, and Bob Wall

1. Call to order
2. Public Comments – 10 minutes
3. Approval of meeting minutes for February 14, 2012*
4. Update from the President – 10 minutes
5. Solar Thermal Program status and funding extension request* – 20 minutes
6. Residential Solar Investment Program update – 15 minutes
7. Financing Programs in development – 15 minutes
8. Budget Update – 15 minutes
9. Comprehensive Plan discussion* – 30 minutes
10. Adjourn

* Denotes item requiring Board action

**Call-in information: 1-877-885-3221 access code: 8446562**

***Next Meeting: Friday, April 20, 2012 from 9:00-11:00 a.m.***
***Clean Energy Finance and Investment Authority, 865 Brook Street, Rocky Hill, CT***

# RESOLUTIONS

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

Friday, March 16, 2012 – Regular Meeting
9:00-11:00 a.m.

Staff Invited: Jocelyn Anastasiou, George Bellas, Christin Cifaldi, Mackey Dykes, Brian Farnen, Keith Frame, David Goldberg, Dale Hedman, Sue Kaswan, Dave Ljungquist, and Bob Wall

1. Call to order

2. Public Comments – 10 minutes

3. Approval of meeting minutes for February 14, 2012* – 5 minutes

   **Motion to approve the minutes of the Board of Directors February 14, 2012 Regular Meeting. Second. Discussion. Vote.**

4. Update from the President – 10 minutes

5. Solar Thermal Program status and funding extension request* – 20 minutes

   **[Resolution coming with Solar Thermal Memo…]**

6. Residential Solar Investment Program update – 15 minutes

7. Financing Programs in development – 15 minutes

8. Budget Update – 15 minutes

9. Comprehensive Plan discussion* – 30 minutes

   **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) directs the Clean Energy Finance and Investment Authority ("CEFIA") to develop a comprehensive plan to foster the growth, development and commercialization of clean energy sources, related enterprises and stimulate demand clean energy and deployment of clean energy sources that serve end use customers in this state;

**WHEREAS**, Section 99 of the Act directs CEFIA to support financing or other expenditures that promote investment in clean energy sources in accordance with a comprehensive plan;

**WHEREAS**, the Budget and Operations Committee will develop a program and operation budget to be recommended for approval by the Board of Directors for the approved Comprehensive Plan;

**NOW**, therefore be it:

**RESOLVED**, that in accordance with the General Statutes of Connecticut § 16-245n(d), CEFIA Board of Directors approves the **Attached** Comprehensive Plan for the implementation of clean energy programs and expenditures during the FY 2013 through FY 2015.

**RESOLVED**, that this action is consistent with Section 99 of the Act.

**RESOLVED**, 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 this Resolution.

10. Adjourn

* Denotes item requiring Board action

**Call-in information: 1-877-885-3221 access code: 8446562**

***Next Meeting: Friday, April 20, 2012 from 9:00-11:00 a.m.***
***Clean Energy Finance and Investment Authority, 865 Brook Street, Rocky Hill, CT***

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

**Agenda Item #1**

Call to Order

March 16, 2012

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

**Agenda Item #2**

Public Comments

March 16, 2012

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

**Agenda Item #3**

Approval of Meeting Minutes of February 14, 2012

March 16, 2012

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

**Agenda Item #4**

Update from the President

March 16, 2012

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

**Agenda Item #5**

Solar Thermal Program Status and Funding Extension

March 16, 2012

# ARRA/SEP Solar Thermal Program

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## ARRA/SEP Program:

- New program for CCEF, launched October 1, 2009
- Funded 100% by American Reinvestment & Recovery Act – Federal stimulus package
- $4,000,000 in funding – must be disbursed before April, 2012
    - $3,600,000 for grants
    - $400,000 for program expenses

**Initially, divided equally between residential and non-residential projects**

# Commercial Solar Thermal Program –Results

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**ARRA-funded State Energy Program:**

**As of 3/1/12:**

- **Projects Approved: 73**
- **Total Incentive: $3,207,200**
- **Projects Completed: 33**
- **Total Value: $6,978,000**
- **Approved capacity: 7,943 MMBtu (equivalent to 2,585,900 kWh, or 2,155 kW of PV installations)**
- **>41,600 square feet of collectors**
- **Active Companies: 40**

# Residential Solar Thermal Program –Results

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**ARRA-funded State Energy Program:**

**As of 3/1/12:**

- **Projects Approved: 207**
- **Total Incentive: $625,000**
- **Projects Completed: 182**
- **Total Value: $2,386,200**
- **Approved capacity: 2,545 MMBtu (equivalent to 828,500 kWh, or 690 kW of PV installations)**
- **>16,400 square feet of collectors**
- **Active Companies: 30**

# CEFIA Solar Thermal Interim Program

## Similarities to ARRA program:

- Similar incentive levels for existing "pipeline"
- Open to all types of existing DHW systems (oil, gas, electric)
- Same contractor qualifications
- Same project size limits

## Differences:

- Revised incentives for new applications
- Simpler application form, moving toward on-line system
- Simpler incentive calculations
- Required remote data collection for M & V
- Limited to CL&P and UI ratepayers

# CEFIA Solar Thermal Interim Program

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## Rebate Structure

| *Proposed Incentive Rates ($ x SRCC "C" Rating)* | **Rebate Structure** | **Rebate Basis** | **Incentive Allocated:** | **Estimated MMBtu Incented:** | **Expected # of Projects:** |
|---|---|---|---|---|---|
| **RESIDENTIAL** | **Present*** | $275/MMBtu | $100,000 | 364 | 30 |
| | **Proposed** | $70 x "C" | $300,000 | 984 | 80 |
| **COMMERCIAL - FOR PROFIT** | **Present*** | $450/MMBtu | $2,500,000 | 5,556 | 52 |
| | **Proposed** | $70 x "C" | $200,000 | 758 | 7 |
| **COMMERCIAL - NFP** | **Present** | $550/MMBtu | $0 | 0 | 0 |
| | **Proposed** | $120 x "C" | $200,000 | 428 | 4 |
| **TOTAL SOLAR THERMAL** | | | **$3,300,000** | **8,089** | **173** |

*Applies only to applications received as of 3/16/12

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# Any questions?

# Interim Program – Commercial (for profit)

| | | |
|---|---|---|
| Project Size (Annual MMBtu): | 100 | 100 |
| | | |
| Incentive Level: | Current Rebate | Proposed $70 |
| Cost: | $64,700 | $64,700 |
| Rebate: | $45,000 | $26,400 |
| Federal Income Tax Credit: | $19,410 | $19,410 |
| Net Cost: | $290 | $18,890 |
| | | |
| Annual Energy Savings: | $5,128 | $5,128 |
| Payback on Equity (years): | 1.81 | 3.70 |
| IRR: | 23.98% | 16.72% |

# Interim Program – Commercial (NFP)

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| | | |
|---|---|---|
| Project Size (Annual MMBtu): | 100 | 100 |
| | | |
| Incentive Level: | Current Rebate | Proposed $120 |
| Cost: | $86,800 | $86,800 |
| Rebate: | $55,000 | $46,700 |
| Federal Income Tax Credit: | $0 | $0 |
| Net Cost: | $31,800 | $40,100 |
| | | |
| Annual Energy Savings: | $5,128 | $5,128 |
| Payback on Equity (years): | 6.13 | 7.61 |
| IRR: | 13.30% | 10.97% |

# Interim Program – Residential

| | Current Rebate | Proposed $70 |
|---|---|---|
| Project Size (Annual MMBtu): | 12 | 12 |
| Incentive Level: | Current Rebate | Proposed $70 |
| Cost: | $11,100 | $11,100 |
| Rebate: | $3,300 | $3,660 |
| Federal Income Tax Credit: | $3,330 | $3,330 |
| Net Cost: | $4,470 | $4,110 |
| Annual Energy Savings: | $647 | $647 |
| Payback on Equity: | 10.97 | 10.50 |
| IRR: | 6.38% | 6.84% |

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

**Agenda Item #6**

Residential Solar Investment Program Update

March 16, 2012

# Program Summary

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**The Residential Solar PV Investment Program began accepting applications at noon on Friday, March 2, 2012.**

**As of March 15, 2012:**

- **$779,403 in funding requests have been received, or 31% of the $2.5M allocated for program Step 1**
- **66 applications have been received:**
  - 61 have been approved
  - 5 require additional documentation or clarification
  - 0 are waiting to be reviewed by staff
- **The total capacity of the 66 applications is 424.3kW$_{STC}$**
- **All homes participating in this program have had a HES energy efficiency audit completed <u>prior</u> to funding approval**

# Program Data Collection

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**As part of CEFIA's Evaluation, Monitoring and Verification (EM&V) process staff has begun to collect jobs information for each residential PV project. This information includes:**

- Job title
- Hours worked on job
- Hourly wage on job

**The jobs data initially entered into CEFIA's PowerClerk on-line application form is an estimate, and all contractors are required to submit final job information when they request a final project payment. Once final job information has been collected CEFIA staff will prepare a jobs report for the Board of Directors.**

# Program Data Collection

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**Additionally, CEFIA is also collecting the following data points as part of the EM&V process:**

- **Age of home**
- **Individual cost components for each PV system, including permitting costs and fees**
- **Type of PV system, for example, ground mounted vs. roof mounted**
- **All systems approved under this program are required to install monitoring so CEFIA may actively monitor real-time kWh production**

# Application Approval Time

- **CEFIA's Deployment staff has an average approval time of two business days for each application received**
- **Approval time means a decision to approve has been made and communicated to the homeowner and contractor within two business days of receipt**
- **As of March 15, 2012 the program was open for 14 days**
- **Staff anticipates we will be able to continue to approve applications within two business days of receipt**

# Rebate* Approvals

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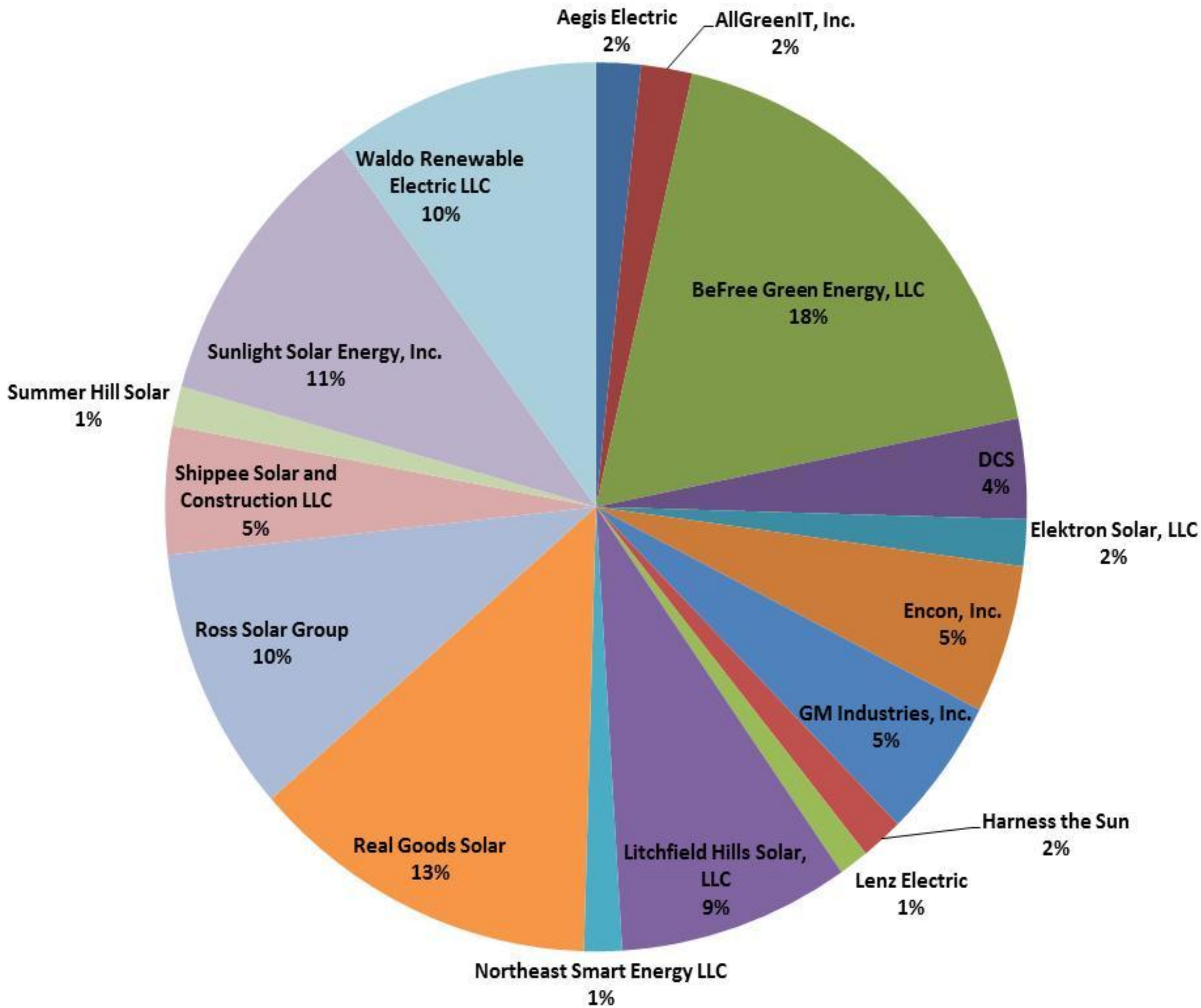
**As of March 15, 2012:**

- **17 contractors have submitted approved applications**
- **61 applications have been approved**
- **$716,698 in rebate funding has been reserved, or 57% of the $1.25M budget allocated for rebates in program Step 1**
- **The average approved rebate is $11,749, or 34% of the average system cost, which means each homeowner is contributing approximately 66% of the total system cost before the Federal Tax Credit**
- **The average system cost is $34,736**
- **The average approved system size is 6.4$kW_{STC}$**
- **The average cost per $kW_{STC}$ is $5,317/$kW_{STC}$**

***Rebate is defined in the program documents as "Expected Performance Based Buy-down (EPBB)**

# Percent of Rebate Funds Reserved per Contractor



# Performance Based Incentive (PBI) Approvals

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## As of March 15, 2012:

- No third-party financing companies have submitted PBI applications
- No PBI funding has been requested or reserved
- SolarCity is currently the only company offering third-party financing in Connecticut, several of our local contractors are planning on offering financing options in the near future

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# Questions?

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

**Agenda Item #7**

Financing Programs in Development

March 16, 2012

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

**Agenda Item #8**

Budget Update

March 16, 2012

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

**Agenda Item #9**

Comprehensive Plan Discussion

March 16, 2012

# Comprehensive Plan Draft
## Question for Consideration

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- **Direction** – is our priority to focus on attracting and deploying capital to finance the deployment of clean energy in Connecticut?

- **Transition** – if current programs are inconsistent with this direction, then I will work with the Chief of Staff and Budget & Operations Committee to ensure that those programs are transitioned to another organization or phased out

# Comprehensive Plan Draft
## Overview

- **Policy Shift** – address the fundamental changes that PA 11-80 had on the former goals and programs of the Clean Energy Fund (i.e. ZREC-LREC impact on the OSDG program)

- **Alignment** – ensure that the plan is aligned with statutory requirements, the IRP and Comprehensive Energy Plan of DEEP, and the economic development plans of DECD

- **Approach** – transitioning to a new model focused on financing the deployment of clean energy as opposed to supporting technology innovation and providing subsidies

# Key Elements of the Comprehensive Plan
## Vision

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**Help ensure Connecticut's energy security and community prosperity by realizing its environmental and economic opportunities through clean energy finance and investments.**

# Key Elements of the Comprehensive Plan
## Mission



**Support the Governor's and legislature's energy strategy to achieve cleaner, cheaper and more reliable sources of energy while creating jobs and supporting local economic development**

# Key Elements of the Comprehensive Plan

## Goals

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**Attract and deploy capital to finance the clean energy goals for Connecticut**

**Help Connecticut become the most energy efficient state in the nation**

**Help scale-up the deployment of renewable energy in the state**

**Provide support for the infrastructure needed to lead the clean energy economy**

# **Goals** (cont'd)

**Develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers**

**Reduce reliance on grants, rebates and other subsidies and move towards innovative low-cost financing of clean energy deployment**

# Programs
## Overview

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- **Programs in Transition** – programs that:
    1. are no longer necessary as a result of public policy effects
    2. aren't focused on attracting and deploying capital to finance the deployment of clean energy
    3. aren't statutorily required
- **Programs Required by Statute** – programs that the legislature clearly defines the organization to undertake
- **New Programs** – programs that are focused on attracting and deploying capital to finance the deployment of clean energy

# Programs in Transition
## Deployment

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- **<u>On Site Distributed Generation (OSDG)</u>** – grant program to support behind-the-meter clean energy installations
  - Recommendations
    1. Fund recommended projects as a result of RFPs run in the fall of 2011 – will require Deployment Committee to approve of projects in the pipeline
    2. Phase out as a result of ZREC-LREC implementation

# Programs in Transition (cont'd)
## Technology Innovation

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- **Alpha Program** – grant and non-recourse loan program to support early-stage companies to advance their technologies
  - Recommendations
    1. Fund recommended projects as a result of RFP run in the spring of 2011 – will  require Deployment Committee to approve of projects in the pipeline
    2. Transition this program, if necessary, to another organization for implementation

# Programs in Transition (cont'd)
## Technology Innovation

- **<u>Operational Demonstration Program</u>** – unsecured loan program to support the demonstration of individual technologies
  - Recommendations
    1. Fund recommended projects as a result of RFP run in the spring of 2011 – will require Deployment Committee to approve of projects in the pipeline
    2. Transition this program, if necessary, to another organization for implementation

# Programs in Transition (cont'd)
## Technology Innovation

- **Cleantech Fund** – equity funding for high growth potential companies in Connecticut
  - Recommendation
    1. Phase out as a result of Connecticut Innovations launch of a $9 million cleantech fund

# Programs in Transition (cont'd)
## Technology Innovation

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- **<u>Technology and Resource Assessments</u>** – grants and subcontracted work to substantiate the value of clean energy technologies and resource potential

  **Recommendation**

  1. Phase out existing performance monitoring programs (i.e. small wind and fuel cells)
  2. Support technology assessments and investment opportunities for state economic development agencies (i.e. CI and DECD) through CEFIA's technology expertise

# Programs in Transition (cont'd)

## Workforce Development

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- **Workforce Development Programs** – grants and subcontracted work to support workforce training in technical schools and industry groups
  - Recommendation
    1. Fund remaining CCEF board approved workforce development programs
    2. Transition these programs, if necessary, to another organization for implementation

# Programs in Transition (cont'd)
## Formal Education

- **<u>Formal Education Programs</u>** – grants and subcontracted work to provide resources to educators
  - Recommendation
    1. Fund remaining CCEF board approved formal education programs
    2. Transition these programs, if necessary, to another organization for implementation

# Programs in Transition (cont'd)
Overview

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| Programs | Maintain | Transition | Phase-Out |
|---|---|---|---|
| OSDG | | | x |
| Alpha | | x | |
| Operational Demonstration | | x | |
| Cleantech Fund | | | x |
| Technology and Resource Assessment | x | | |
| Workforce Development | | x | |
| Formal Education | | x | |
| **Total** | **1** | **4** | **2** |

# Programs in Transition (cont'd)
## Transition Steps

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1. **Assessment of Need** – is there a need for this program to support clean energy in the marketplace?
2. **Identification of Potential Implementers** – if there is a need for a program in transition, then what organization(s) would be best suitable to implement the program.
   a) Public (i.e. University of Connecticut, Department of Labor, etc.) and quasi-public (i.e. Connecticut Innovations) are the focus. Can we look at non-profit and for-profit as alternatives?
3. **Recommendation** – prepare a staff recommendation to the Budget & Operations Committee and then the BOD for:
   a) what programs are necessary in the marketplace
   b) what organization is best suited to implement the program because it is a priority for them
   c) what level of seed funds for transition will CEFIA provide the organization – how much and for how long

# Programs Required by Statute

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- **Combined Heat and Power** – Section 103 of PA 11-80 to support $2 million a year for three years for grants, PPAs, or loans for projects less than 2 MW for up to 50 MW of projects
- **Anaerobic Digesters** – Section 103 of PA 11-80 to support $2 million a year for three years for grants, PPAs, or loans for projects no more than 1.5 MW for up to 5 projects
- **Residential Solar Investment Program** – Section 106 of PA 11-80 to support at least 30 MW of residential solar PV deployment by the end of 2022

# **Programs Required by Statute** (cont'd)

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- **Condominium Renewable Energy Grant Program** – Section 111 of PA 11-80 to provide financial support to residential condominium associations and owners to purchase or lease clean energy sources
- **Green Loan Guaranty Fund** – Section 124 of PA 11-80 to establish a Green Loan Guaranty Fund to guarantee loans made by participating lending institutions to individuals, non-profits and businesses less than 50 employees

# New Programs
## Residential Financing

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- **<u>Residential Clean Energy Financing Program</u>** – supported by repurposed ARRA-SEP grant, CEF funds, and RGGI funds
  - **<u>Connecticut Solar Lease (Version 2.0)</u>**
    - ✓ New and improved program – from pilot to full-scale rollout
    - ✓ Little to no subsidy required for solar PV and includes energy efficiency option (i.e. weatherization and deep retrofits)
    - ✓ Attracts local private capital investment with credit enhancements
  - **<u>Clean Energy Financial Innovation Program</u>**
    - ✓ LBNL and DOE felt this was a first-of-its-kind program
    - ✓ Encourage financial innovation around solving a problem
    - ✓ Competitive RFP that provides credit enhancements

# **New Programs** (cont'd)
Commercial Financing

- **Commercial Clean Energy Financing Program** – supported by CEF and RGGI funds
  - **Clean Energy Solutions Financing Program**
    - ✓ To develop in collaboration with CDA and DECD
    - ✓ Attract and retain strategically important companies
    - ✓ Customizable product
  - **Commercial Property Assessed Clean Energy**
    - ✓ Requires passage of legislation
    - ✓ To develop in collaboration with CBA, CBIA, MACT and CCM
    - ✓ CEFIA to serve as a program administrator to support municipal participation, identify and aggregate project formation, and attract capital investment

# **New Programs** (cont'd)
Commercial

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- **Clean Energy Campus Solutions Program**
  - ✓ Collaboration with CCIC and GreenerU
  - ✓ Support campus sustainability investments
  - ✓ Credit enhancement product
- **Green Loan Guaranty Fund**
  - ✓ Credit enhancement on Winn/HUD supported project
  - ✓ Low income multiunit housing
  - ✓ Unique ESCO financing model

## Comprehensive Plan
Next Steps

- **Changes** – work with the Budget & Operations Committee to make any proposed changes and bring forward for approval for the May BOD meeting
- **Budget** – Budget & Operations Committee to present a budget for the May BOD meeting for FY 2013
- **Operations** – President and Chief of Staff to initiate organizational transition and phase-out of programs

# Programs in Transition
## Priority and Focus

Upon authorization of the Clean Energy Finance and Investment Authority established pursuant to subsection (d) of this section, any amount in said fund **<u>may be used</u>** for expenditures that promote investment in clean energy **<u>in accordance with a comprehensive plan</u>** developed by it to foster the growth, development and commercialization of clean energy sources, related enterprises and **<u>stimulate demand for clean energy and deployment of clean energy sources that serve end use customers in this state</u>** and for the further purpose of supporting operational demonstration projects for advanced technologies that reduce energy use from traditional sources.

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

**Agenda Item #10**

Adjourn

March 16, 2012

# CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY
## Board of Directors
### Minutes – Special Meeting
### Tuesday, February 14, 2012

A special meeting of the Board of Directors of the **Clean Energy Finance and Investment Authority (the "CEFIA")** was held on February 14, 2012, at the office of CEFIA, 865 Brook Street, Rocky Hill, CT.

**1. Call to Order**: Daniel Esty, Vice Chairperson of CEFIA, called the meeting to order at 3:10 p.m. Board members participating: Daniel Esty, Commissioner of the Department of Energy and Environmental Protection; Norma Glover; Jonathan Harris, State Treasurer's Office; Reed Hundt (by phone); John Olsen; Matthew Ranelli; Catherine Smith, Chairperson of CEFIA and Commissioner of the Department of Economic and Community Development.

Members Absent: Mun Choi; Patricia Wrice; and Mark Cirilli

Staff Attending: Brian Farnen, Jocelyn Anastasiou; Christin Cifaldi (by phone), Keith Frame, Bryan Garcia (by phone), David Goldberg, Dale Hedman, Shelly Mondo, Cheryl Samuels and Bob Wall.

Others Attending: Don Berg, GM Industries; Peggy Diaz, Department of Energy and Environmental Protection; Evan Dube, SunRun; Stephan Hartmann, Ross Solar; Donald Kirshbaum, State Treasurer's Office; John Lee, Green Capital; Mike Trahan, Solar Connecticut; and Chris Phelps

**2. Public Comments:**

A solar thermal installer commented regarding the status of funding for the solar thermal programs. Several Board members emphasized the need to move quickly regarding the program. The Board asked staff for a report on the current status of the Solar Thermal Program and the possibility of providing funding for several months until a new program is put in place.

A solar installer commented regarding the proposed residential solar program.

John Lee from Green Capital commented regarding the funding for both ZREC and LREC projects and regarding power purchase agreements. Mr. Esty indicated that this comments will be taken under advisement. A suggestion was made to develop a forum or program to educate the banking institutions on power purchase agreements.

Evan Dube from SunRun commended CEFIA staff for the development of the Residential Solar PV Investment Program.

**3. Approval of Minutes of Meeting of January 20, 2012:**

Ms. Smith asked the Board to consider the minutes from the January 20, 2012 Board meeting. Mr. Harrison disclosed that he did not attend the meeting, but Mr. Kirshbaum, who represented the Treasurer's Office for the meeting, said they were acceptable.

**Upon a motion made by Mr. Ranelli, seconded by Mr. Esty, the Board members voted unanimously in favor of adopting the minutes from the January 20, 2012 meeting as presented.**

**4. Update from the General Counsel:**

Mr. Farnen reported that Mackey Dykes has been hired as the Chief of Staff for CEFIA. He spoke about Mr. Dykes' background. He mentioned that Mr. Garcia and he have met with four banks and will continue to reach out to other banks to provide information about CEFIA, the Community Reinvestment Act and to help them understand the benefits of investing in clean energy and energy efficiency. Mr. Farnen mentioned that CEFIA was awarded with a $480,000 SunShot grant from the U.S. Department of Energy to help reduce non-component costs for solar PV.

**5. Residential Solar Investment Program Update and Recommendations by the Deployment Committee:**

Mr. Farnen mentioned that the Deployment Committee met on February 9, 2012 and reviewed and recommends approval of the Residential Solar Investment Program ("Investment Program") with some adjustments. He indicated that the Deployment Committee recommends approval of steps 1 and 2 but had some reservation about the proposed operating expenses. Mr. Farnen stated that the Deployment Committee wants additional information on the expenses before approving the operational budget to ensure that the funding for the program is being spent in the best interests of the ratepayers. Mr. Hundt, Chairperson of the Deployment Committee, mentioned that there was consensus to have staff report to the Deployment Committee on a quarterly basis, to take small steps and learn as we go, and to provide stakeholders with information on the availability of $7,500,000 of funding for projects under steps 1 and 2. He mentioned that the Deployment Committee discussed the mandated declining incentive schedule and the need to eventually substitute loans for grants. Mr. Hundt stated that as materials and other solar costs are reduced, adjustments to the program will be made as necessary. Mr. Hundt mentioned that Connecticut programs are being used as models for the country and noted that Governor Malloy, Mr. Esty and he will be give presentations on CEFIA's model at the National Governors' Association conference at the end of February.

Mr. Farnen mentioned that over the next four to six weeks, staff will prepare a comprehensive consolidated program and operations budget for consideration by the Budget and Operations Committee and/or Board. In response to a question, Mr. Farnen indicated that the Investment Program can move forward without operating expenses at this time with the exception of $250,000 for a marketing initiative. The Board discussed various options for proceeding with the program and operating expenses necessary until a comprehensive program and operations budget is presented and approved. A suggestion was made to cap operating expenses for all programs at 10 percent.

Mr. Wall explained the opportunity by CEFIA to obtain philanthropic funding on a strategic marketing initiative that would include a “solarize” component to lower acquisition costs for the Investment Program. The proposal would require CEFIA to contribute $250,000 which would be matched by foundation funding for Connecticut. Mr. Wall talked about the program which is modeled after a pilot program in Arizona using best practices from other states. The proposal is a unique opportunity for CEFIA to leverage its funding. Questions arose regarding the proposed time frame for needing the funding, how the funds would benefit CEFIA and how long the services provided from the funds would be available to CEFIA. In response to a question regarding whether an outside vendor would need to be hired for this project, Mr. Wall stated that he is not sure that CEFIA has sufficient staff resources to do the entire project itself, and he believes that the benefits from joining the initiative would be advantageous.

A discussion ensued on the intent of the legislation to provide a declining incentive and moving to a long-term financing structure. Mr. Esty noted that the Deployment Committee had a lengthy discussion about this issue and the need to move forward with a financing model. He noted, however, that moving to a new financing program will take some time; and the Deployment Committee concurred that rather than waiting for a financing program, it is prudent to move forward with steps 1 and 2 of the Investment Program as soon as possible while staff continues to focus on developing a financing model. Mr. Hundt mentioned that the Deployment Committee noted the importance of reviewing the program and making a decision on how to proceed with the Investment Program well in advance of the expiration of the $7,500,000. He mentioned that the Deployment Committee recommended making a decision on how to proceed at the point that $5,000,000 has been committed to projects. After discussing this issue, a suggestion was made to declare steps 1 and 2 the “Investment Program” rather than making predictions beyond steps 1 and 2 at this time and to expressly emphasize that the Board was committed to achieving the overall program goals beyond steps 1 and 2

The Board members concurred and emphasized the need move forward to get projects done as quickly as possible.

There was consensus to discuss and consider the program separate from the operating budget.

**Upon a motion made by Mr. Esty, seconded by Mr. Harris, the Board voted unanimously in favor of adopting the following resolution regarding the Investment Program for CEFIA:**

**RESOLUTION APPROVING THE**
**RESIDENTIAL SOLAR INVESTMENT PROGRAM FOR THE**
**<u>CONNECTICUT ENERGY FINANCE AND INVESTMENT AUTHORITY</u>**

**WHEREAS**, Section 106 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) requires CEFIA to design and implement a Residential Solar Photovoltaic 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 this Program Plan to identify barriers to the development of a permanent Connecticut-based solar workforce and support comprehensive training and accreditation and certification programs.

**WHEREAS**, pursuant to Section 106 of the Act, CEFIA has prepared this Program Plan to offer direct financial incentives, in the form of performance-based incentives or expected performance-based buydowns, for the purchase or lease of qualifying residential solar photovoltaic systems.

**WHEREAS,** CEFIA has prepared a declining incentive block schedule (“Schedule”) that: (1) provides for a series of solar capacity blocks, the combined total of which shall be a minimum of thirty (30) megawatts and projected incentive levels for each such block; (2) provides incentives that are sufficient to meet reasonable payback expectations of the residential consumer; (3) provides incentives that decline over time and will foster the sustained, orderly development of a state-based solar industry; (4) automatically adjusts to the next block; and (5) provides comparable economic incentives for the purchase or lease of qualifying residential solar photovoltaic systems.

**NOW, THEREFORE, BE IT:**

**RESOLVED** that the Board hereby approves of the first two steps of the Schedule.

**RESOLVED,** that Section 2.3.2—Financing of the Program Plan is hereby deleted and will be reviewed by the Deployment Committee at a later date for approval.

**RESOLVED,** that the Board approves a total allocation of $7,500,000 (inclusive and not in addition to any previous funding) to be used for (1) incentives supporting steps one and two of the Program Plan.

**RESOLVED,** the CEFIA staff will (1) continuously monitor activities pursuant to the Program Plan and (2) provide quarterly updates to the Deployment Committee.

**RESOLVED,** at the point that $5,000,000 has been committed to projects under the Program, the Deployment Committee will consider and provide notice of a new Program Plan for a future program to continue to ensure the sustained and orderly deployment of the residential solar market in Connecticut.

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

**RESOLVED**, 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 this Resolution.

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The Board discussed the proposed marketing expense of $250,000 for the Investment Program. Staff was asked to look at other states to determine whether it would be helpful to utilize the Solarize marketing strategy for the Investment program and to provide more information on how the funding will be used and how long it is anticipated to last.

**Upon a motion made by Mr. Esty, seconded by Mr. Ranelli, the Board voted unanimously in favor of authorizing the expenditure of up to $250,000 from the marketing line item of the CEFIA budget to be used for marketing in related to a strategic marketing initiative that would include a "solarize" component to lower acquisition costs for the Residential Solar Investment Program, if determined by the President, in consultation with the Chairperson and/or Vice Chairperson, to be in the best interest of CEFIA, and that staff develop over the next month a comprehensive program and operations budget for consideration by the Board.**

**6. Discussion of the Comprehensive Plan:**

Mr. Farnen mentioned that staff is in the process of developing the Comprehensive Plan for anticipated consideration and approval in March. The Board requested that the Comprehensive Plan be simple, measurable and establish specific, clear goals that align with the State's overall comprehensive energy strategy. The draft Comprehensive Plan should be provided to the Board members at least 5 business days before the meeting to consider its adoption.

**7. Adoption of Broad Standard of Commercially Reasonable Lending Practices:**

Mr. Farnen explained that CEFIA cannot move forward and provide loans until it has adopted standards of commercially reasonable lending practices. After discussion with both Latham & Watkins and Attorney Chudwick from Shipman & Goodwin, staff recommends adopting, as minimum standards, the commercially reasonable lending and risk management standards established by the financial institutions that CEFIA partners with. Some concern was expressed with relying on the standards established by the financial institutions all of the time. The Budget and Operations Committee was directed to look into practices used by other quasi-public agencies (i.e. CHFA and CDA) to develop lending practices for CEFIA and report back to the Board with recommendations. In the interim, there was consensus to adopt the suggested resolution.

**Upon a motion made by Mr. Harris, seconded by Mr. Olsen, the Board voted unanimously in favor of adopting the following resolution adopting a standard of commercially reasonable lending and risk management standards for CEFIA:**

**RESOLUTION ADOPTING**
**COMMERCIALLY REASONABLE**
**LENDING AND RISK MANAGEMENT STANDARDS**

**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") requires CEFIA to develop standards to govern the administration of CEFIA through rules, policies and procedures that specify borrower eligibility and terms of support before making any loan, loan guarantee, or such other form of financing support or risk management for clean energy projects.

**WHEREAS,** CEFIA plans on partnering with financial institutions (i.e. banks, insurers and third-party administrators) for financing support and risk management for all clean energy projects.

**NOW,** therefore be it:

**RESOLVED,** that the Board approves that CEFIA adopt, as minimum standards, the commercially reasonable lending and risk management standards established by the financial institutions that CEFIA partners with in the development and management of financing and risk management for clean energy projects.

**8. Discussion of New Pilot Programs Under Section 103 of Public Act 11-80:**

Mr. Hedman mentioned that staff is beginning to work on putting together two new three-year pilot programs. The Combined Heat and Power Program is to promote the development of up to 50 megawatts of new combined heat and power projects, and the Anaerobic Digestion program is to promote the development of up to five new on-site anaerobic digestion facilities to generate electricity and heat using organic waste.

Mr. Hedman stated that the projects would compete against each other using three cost mechanisms. He explained that the applications meeting minimum requirements would be evaluated by CEFIA and third party evaluations based on specified evaluation criteria. It is anticipated that the funding will be available through the end of 2015, and that one Request for Proposal will be issued per year. On or before January 1, 2016, CEFIA will report to the joint standing committee of the General Assembly on the status of the programs and whether such programs should continue. The Board urged staff to ensure that appropriate documentation sets clear milestones so that funding is returned or can be revoked in the event projects do not come to fruition within a specified time frame.

**9.** **Adjournment**: Upon a motion made by Mr. Olsen, seconded by Mr. Harris, the Board members voted unanimously in favor of adjourning the February 14, 2012 meeting at 4:48 p.m.

Respectfully submitted,

Catherine Smith, Chairperson

# Matchmaking Forum:  Energy Financing Opportunities

**Date**: May 3, 2012

**Time**: 4:00 pm – 7:30 pm

**Location**: Hilton Hotel, One Stamford Plaza, Stamford, CT

**Purpose:** The Clean Energy Finance and Investment Authority (CEFIA) in collaboration with the Renewable Energy & Efficiency Business Association (REEBA), the Connecticut Banking Association and the Connecticut Energy Efficiency Fund are hosting a joint clean energy matchmaking event.  This event will bring together developers and financiers together with the intent of creating strategic partnerships that will further Connecticut's energy, environmental, and economic development objectives.

**Message**: Clean energy project financing opportunities are real and growing in Connecticut.

**Audience:** Contractors, developers, bankers, private equity firms, investors, financial institutions, chambers.

| | | |
|---|---|---|
| 4:00 pm – 4:30 pm | **Registration** | **Room** |
| 4:30 pm - 5:00 pm | **Welcome**<br>• Bryan G. Garcia, President, Clean Energy Finance and Investment Authority<br>• Dannel P. Malloy, Governor, State of Connecticut  (to be invited)<br>• Howard F. Pitkin, Commissioner, Connecticut Department of Banking (to be invited)<br>• CBA Representative<br>• Paul Michaud, REEBA | Ballroom |
| 5:00 pm – 5:30 pm | **Exhibits**<br>**Concurrent Workshops**<br>• Z-Rec / L-Rec (PURA)<br>• CEFIA Financing Programs | Ballroom<br><br>Room 1<br>Room 2 |
| 5:30 pm – 6:00 pm | **Exhibits**<br>**Concurrent Workshops**<br>• Tax Equity (Resnick Group)<br>• Commercial PACE | Ballroom<br><br>Room 1<br>Room 2 |
| 6:00 pm – 7:30 pm | **Networking Reception / Exhibits**<br>• Food and Cash Bar | Ballroom |

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CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Memo

**To:** Board of Directors

**From:** Dave Ljungquist

**Date:** March 16, 2012

**Re:** Transition Incentive Program for Solar Thermal Projects

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### Background

The Solar Thermal Program begun under the State Energy Program funded by the American Recovery and Reinvestment Act (ARRA/SEP) has approved applications totaling $3,782,600 in rebates, more than covering the original $3,600,000 allocated for this program. In addition, 40 commercial applications, totaling $2,543,430 in rebate requests, were received but deferred at staff's request during the program, with the expectation that they would be first in line for any follow-on program.

Because these projects were sold based on the incentives prevailing at the time, only these will be eligible for the "old" rebate levels. Staff anticipates that there will be some attrition among these projects, but substitutions will not be allowed. All new projects will be subject to a revised rebate structure.

To avoid dislocations and loss of jobs in the contractor community, staff recommends an extension of the existing program, covering all applications received to date plus those expected over the next three to four months, to provide a smooth transition from the rebate-based ARRA/SEP program to a program which will lead to minimal grants and maximum reliance on financing.

### ARRA/SEP Program Results – Lessons Learned

Although the market for Solar Thermal (ST) systems was very small in Connecticut prior to the ARRA-funded rebate program, in 27 months over 300 applications were received and 280 projects were approved before funding was exhausted. The number of contractors offering solar hot water systems grew from five at the outset of the program (October, 2009) to 40 by year-end, 2011. While the technology is most cost effective when displacing electric DHW, the majority of Connecticut sites use natural gas or fuel oil as the energy source. Only 17% of our applicants used electricity for domestic hot water (DHW), compared to 25% who use natural gas, 46% who use oil and 12% "other" (kerosene, propane, wood). This is roughly consistent with the home heating fuel breakdown in Connecticut.

Midway through the ARRA/SEP program, the incentive rates were increased to stimulate the application rate, particularly for commercial projects. Although the original intent of the ARRA/SEP program was to divide the rebate funds equally between residential projects and commercial projects, the increase in commercial incentives produced the following result:

| | **% of Applications** | **% of Rebates** | **% of Annual MMBtu** |
|---|---|---|---|
| **Residential:** | 75% | 17% | 25% |
| **Commercial:** | 25% | 83% | 75% |

The increased rebate levels for the commercial projects clearly stimulated the commercial market in Connecticut, but it is equally clear from financial analysis that they are too high. Now that a commercial market has been established and there is no arbitrary deadline by which the funds must be expended, the rebate levels in this proposed program extension have been reduced, making the commercial rates comparable to the residential rate.

Contrary to our expectations, Connecticut's installed costs are not appreciably higher than the national average, according to the year-end 2010 SEIA report, excerpted in the following table. Most significantly, compared to Massachusetts, New Hampshire and New York, our costs were lower in 2010.

**Figure 4-10:** Solar Water Heating Installed Prices by State and Market Segment, Q3-Q4 2010

| | Q3 2010 ($/SQ FT) | | | Q4 2010 ($/SQ FT) | | |
|---|---|---|---|---|---|---|
| SWH: Installed Price by State ($/Sq Ft) | Residential | Non-Residential | Weighted Average | Residential | Non-Residential | Weighted Average |
| Arizona | $184 | $129 | $174 | $216 | $152 | $211 |
| California | $154 | $100 | $146 | $138 | $150 | $140 |
| Colorado | $113 | $84 | $102 | $111 | $105 | $110 |
| Connecticut | $157 | $157 | $135 | $148 | $157 | $150 |
| Florida | $84 | $125 | $90 | $125 | $165 | $132 |
| Hawaii | $185 | $130 | $177 | $125 | $177 | $134 |
| Illinois | $164 | $149 | $162 | $141 | $153 | $143 |
| Maine | $141 | $141 | $141 | $153 | $150 | $152 |
| Massachusetts | $125 | $125 | $125 | $155 | $148 | $154 |
| Minnesota | $161 | $109 | $153 | $138 | $113 | $133 |
| New Hampshire | $141 | $157 | $144 | $157 | $145 | $155 |
| New Mexico | $161 | $148 | $159 | $190 | $174 | $187 |
| New York | $165 | $143 | $161 | $180 | $166 | $178 |
| North Carolina | $166 | $188 | $169 | $139 | $188 | $147 |
| Oregon | $114 | $132 | $106 | $170 | $150 | $167 |
| Puerto Rico | $32 | $48 | $35 | $27 | $85 | $37 |
| Texas | $139 | $96 | $132 | $178 | $163 | $176 |
| Vermont | $163 | $139 | $159 | $145 | $81 | $134 |
| Virginia | $119 | $134 | $121 | $132 | $177 | $140 |
| Wisconsin | $129 | $88 | $98 | $110 | $90 | $107 |
| Other | $140 | $126 | $133 | $140 | $126 | $138 |
| Weighted Average | $133 | $109 | $121 | $140 | $148 | $141 |

The SEIA study agrees nicely with the ARRA/SEP program average cost of $150/square foot for residential projects, and with the ARRA/SEP average of $140/sf for the early commercial projects.

The overall statistics for the program are shown in the table on the following page. These statistics do not include the “deferred” applications, all of which are for-profit commercial projects.

## *Solar Thermal Program (As of 3/1/12)*

| | | **# of Projects** | **Rebates** | **Annual MMBtu** | **# of Collectors** | **Square Feet** | **Cost of Project** | **Rebate % of Cost** | **Rebate per MMBtu** | **MMBtu/ Project** | **Avg MMBtu/ Project** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential** | Completed: | 182 | $534,620 | 2,224.2 | 502 | 14,127.3 | $2,085,833 | 25.63% | $240.37 | 12.22 | |
| | In Progress: | 25 | $90,340 | 321.5 | 77 | 1,997.3 | $300,352 | 30.08% | $280.99 | 12.86 | |
| | **Total Approved:** | **207** | **$624,960** | **2,545.7** | **579** | **16,124.5** | **$2,386,185** | 26.19% | $245.50 | 12.30 | |
| | Pipeline: | 15 | $51,065 | 185.7 | 36 | 969.7 | $167,352 | 30.51% | $275.05 | 12.38 | |
| | **Total Applications:** | **222** | **$676,025** | **2,731.3** | **615** | **17,094.2** | **$2,553,537** | 26.47% | $247.51 | 12.30 | 12.30 |
| **Commercial** | Completed: | 31 | $1,207,690 | 3,839.3 | 554 | 23,164.4 | $2,595,239 | 46.53% | $314.56 | 123.85 | |
| | In Progress: | 42 | $1,949,995 | 4,103.7 | 542 | 18,520 | $4,383,491 | 44.48% | $475.18 | 97.71 | |
| | Total Approved: | **73** | **$3,157,685** | **7,943.1** | **1096** | **41,684.6** | **$6,978,730** | 45.25% | $397.54 | 108.81 | |
| | Pipeline: | 2 | $49,523 | 113.3 | 14 | 580.8 | $109,180 | 45.36% | $437.27 | 56.63 | |
| | Total Applications: | **75** | **$3,207,208** | **8,056.3** | **1110** | **42,265.4** | **$7,087,910** | 45.25% | $398.10 | 107.42 | 107.42 |
| **Total** | Completed: | 213 | $1,742,309 | 6,063.5 | 1056 | 37,291.7 | $4,681,072 | 37.22% | $287.34 | 28.47 | |
| | In Progress: | 67 | $2,040,335 | 4,425.2 | 619 | 20,517.4 | $4,683,843 | 43.56% | $461.07 | 66.05 | |
| | **Total Approved:** | **280** | **$3,782,645** | **10,488.7** | **1675** | **57,809.1** | **$9,364,915** | 40.39% | $360.64 | 37.46 | |
| | Pipeline: | 17 | $100,588 | 298.9 | 50 | 1,550.5 | $276,532 | 36.37% | $336.51 | 17.58 | |
| | **Total Applications:** | **297** | **$3,883,233** | **10,787.6** | **1725** | **59,359.6** | **$9,641,448** | 40.28% | $359.97 | 36.32 | 36.32 |
| | **Overall Rebate $/MMBtu:** | | **$360.64** | | | | | | | | |

**Proposed Interim Program**

The program will be available to the customers of the United Illuminating Company and Connecticut Light & Power, regardless of their current DHW fuel. Funds will be restricted to domestic hot water systems only; space heating and pool heating will not be covered. New construction will receive the same incentive as retrofits. Applications will be processed on a first come, first served basis, and rebates will be paid to contractors.

The interim program will have the same incentive structure as the ARRA-funded program for those projects where we have applications in-house. New project incentives will have a rebate structure revised to reflect lessons learned during the ARRA/SEP program. The government and not-for-profit project owners will receive an incentive that is designed to make the net cost of a system about the same as it would be for a taxpaying entity.

The new incentive will be based on the estimated usable annual thermal output of the system, approximated by the SRCC “Mildly Cloudy C” rating of the collectors used times the number of collectors. This is a simpler rebate calculation than previously used, and will eliminate the manipulation of the various software packages currently being used to estimate the system’s output.

**Program Funding Level and Type**

The Program will have $3.3 million in funding support available for incentives, including $2,600,000 for the “deferred” applications we have in-house. Unused “deferred” funds will be returned to CEFIA general funds. $700,000 is requested for new applications which are expected to come in over the next three months, since many project applications were deferred by the contractors until the follow-on program could be defined.

For new projects, funds for this transition program will be divided equally between residential and commercial projects. The commercial for-profit rebate will be reduced, in recognition of the fact that the rebate level in the ARRA/SEP program was too high. All incentives will be given out as grants, according to the proposed rebate schedule shown in the following table:

| ***Proposed Incentive Rates ($ x SRCC "C" Rating)*** | **Rebate Structure** | **Rebate Basis** | **Incentive Allocated:** | **Estimated MMBtu Incented:** | **Expected # of Projects:** |
|---|---|---|---|---|---|
| **RESIDENTIAL** | **Present*** | $275/MMBtu | $100,000 | 364 | 30 |
| | **Proposed** | $70 x "C" | $300,000 | 984 | 80 |
| **COMMERCIAL - FOR PROFIT** | **Present*** | $450/MMBtu | $2,500,000 | 5,556 | 52 |
| | **Proposed** | $70 x "C" | $200,000 | 758 | 7 |
| **COMMERCIAL - NFP** | **Present** | $550/MMBtu | $0 | 0 | 0 |
| | **Proposed** | $120 x "C" | $200,000 | 428 | 4 |
| **TOTAL SOLAR THERMAL** | | | **$3,300,000** | **8,089** | **173** |

*Applies only to applications received as of 3/16/12

**Measurement & Verification**

We plan to equip installations with metering systems that will provide output data to CEFIA. Because this information will be of great utility for informing the anticipated changes to the incentive program going forward and for the possible inclusion of solar thermal as a Class I eligible renewable energy resource, we expect that many of the monitoring systems will be installed on existing systems, to get a representative population reporting data as quickly as possible.

**RECOMMENDATION**

Although an active solar thermal market has been developed in Connecticut as a result of the ARRA/SEP rebate program, the economics of the technology will still require some buydown of capital costs until parity with conventional hot water systems is achieved. We expect that efficiencies in distribution and increased competition will help drive down system prices toward the national averages over the next year or two. The expected availability of attractive financing will also enhance the attractiveness of this technology as a solution to rising energy costs and as a means of reducing the state's carbon footprint. Consequently, staff recommends approval of this interim rebate program to create an orderly transition from the rebates of the ARRA/SEP program to a more sustainable mix of lower rebates and financing. This interim program will also provide market and technical data that will inform the development of a longer-term program based primarily on financing.

**RESOLVED:**

**WHEREAS** the ARRA/SEP Solar Thermal Rebate Program has provided funds to re-establish an important clean energy industry in Connecticut, and

**WHEREAS** the growth of this industry will play a significant role in helping to meet the clean energy objectives of the State of Connecticut,

(1) that the Clean Energy Finance and Investment Authority (CEFIA) has determined that funding for a Solar Thermal Rebate Program (the "Program"), is consistent with CEFIA's Comprehensive Plan and in the interests of ratepayers, and that funding be approved for the Program in an amount not-to-exceed Three Million Three Hundred Thousand and No/100 Dollars ($3,300,000.00).

(2) the President of CEFIA; and any other duly authorized officer of CEFIA, is authorized to execute and deliver, not later than March 30, 2012, any contract or other legal instrument necessary to effect implement this resolution on such terms and conditions as he or she shall deem to be in the interests of CEFIA and the ratepayers; and

(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.

Submitted by: David L. Ljungquist, Director – Energy Efficiency Deployment

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Residential Solar Investment Program

Solar photovoltaic (PV) systems are now more affordable than ever for Connecticut residents. You can make a smart investment and save money on your electric bills by adding a proven, reliable, pollution-free technology to your home.

## Who is eligible?

If your home is in the Connecticut Light & Power Company or the United Illuminating Company service territories and offers a good location for a solar system, you can qualify to receive CEFIA's residential solar incentives.

## What makes a good location for a solar system?

- The best location for a solar power system is a south-facing roof. A system can also be installed on the ground of your property if a roof can not be used.
- A 35 to 50 degree roof tilt is optimal for year-round energy production.
- Clear access to the sun for most of the day unobstructed by trees, roof-gables, chimneys, buildings and other features of your home or surrounding landscape.
- Adequate space on your roof or property. A typical solar system averages approximately 100 square feet per kilowatt.
- A roof in good condition. If your roof is older and needs to be replaced in the very near future, you may want to replace it at the time the solar system is installed to avoid the cost of removing and reinstalling your system.

1 Step 1: Complete an energy assessment for your home. You may participate in the Home Energy Solutions program offered by the Connecticut Energy Efficiency Fund or schedule an independent review with a contractor certified by the Building Performance Institute, Inc. (BPI), Certified Energy Managers (CEM), Certified Energy Auditors (CEA) or a Professional Engineer (PE). Make sure to take advantage of all of the cost-effective ways to save energy in your home.

2 Step 2: Find a solar installer. Homeowner must use a CEFIA Approved Contractor to qualify for a rebate. Review our list of Approved Contractors. The contractor will review your project with you, provide information on solar PV systems and assist you with CEFIA's application process.* Locate an approved contractor at www.ctcleanenergy.com/solarcontractors

3 Step 3: Install your system!

* As with any significant purchase, homeowners should shop around when considering a solar PV system, check references, seek as much information as possible and obtain multiple quotes.

## Incentives  Available to Help Pay for Solar PV Systems

The Clean Energy Finance and Investment Authority (CEFIA) offers rebates through approved contractors for Connecticut residents who install PV systems on their homes.  A complete list of approved contractors is available at www.ctcleanenergy.com/solarcontractors

## For Residents

Up to $18,500 Rebate Per Household (current level)

The Residential Solar PV Investment Program is offered to residents installing PV systems up to and including 10 kilowatts (PTC).  Homes can be one to four family, owner-occupied residences.

Systems up to and including 5 kilowatts (PTC)

- The program offers a performance-based rebate up to $2.45 per watt (PVUSA Test Conditions or "PTC") for system and installation costs to a maximum of $12,250.

Systems greater than 5 kilowatts and up to and including 10 kilowatts

- The program offers a performance-based rebate up to $2.45 per Watt (PTC) for system and installation costs on the first 5 kW PLUS a performance-based rebate up to $1.25 per watt for the next 5 kW up to $18,500.

## How Are Rebates Calculated?

Solar rebates are based on the expected performance of the PV systems as designed for the chosen site.  CEFIA will apply the parameters below in calculating rebates and will base the rebate on the electricity that your system will produce.  Factors impacting the system's performance and thus the rebate include:

- PV panel selection,
- efficiency of inverter,
- orientation of system to the south,
- tilt of panels, and
- shading on the site.

These factors will affect the number of kilowatt hours the system will be expected to produce and will determine the rebate that CEFIA can offer.

## Leasing Options

Homeowners wishing to finance the purchase of a PV system through a lease, power purchase agreement or energy services agreement must contact a Third-Party PV System Owner which are listed at www.ctcleanenergy.com/solarcontractors.

**FOR MORE INFO**

FIND ADDITIONAL INFORMATION AT **www.ctcleanenergy.com/solarhome**

CALL US AT **860-563-0015**

OR WRITE TO US AT **info@ctcleanenergy.com**

**CLEAN ENERGY**
FINANCE AND INVESTMENT AUTHORITY

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CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# CONNECTICUT SOLAR LEASE PROGRAM SUMMARY

## PROGRAM DESCRIPTION

Connecticut Solar Lease is a program run by the Clean Energy Finance and Investment Authority (CEFIA), formerly the Connecticut Clean Energy Fund, in conjunction with CT Solar Leasing, LLC. The program allowed homeowners to install solar photovoltaic equipment to offset their electric bills. Connecticut Solar Lease is unique in that it allows homeowners to lease solar equipment, rather than purchase, at the lowest possible cost while benefitting from a state-of-the-art solar photovoltaic system.

The average cost of a residential solar PV system in Connecticut was $6 to $8 per installed watt. The average system size installed under CEFIA's rebate program was 7.2 kW and cost between $43,200 and $57,600 with an estimated payback of 8 to 12 years. A CEFIA rebate depended on the design efficiency of the system, and generally covered about 20% of the installation cost. In the CT Solar Lease program, average customers paid around $120 per month with an estimated payback period of 8 to 12 years.

The Connecticut Solar Lease Program worked in union with CEFIA's innovative solar rebate program, which offers rebates through designated Approved Contractors for Connecticut residents who install solar PV systems on their homes. The rebate is utilized by CT Solar Leasing to reduce the monthly cost of the lease. The value of these extra incentives helps eliminate the need for a down payment and reduce the monthly cost of the lease to the homeowner even more. All new CT Solar Lease installations include a "smart monitoring system" which allows customers and installers to constantly monitor the system's performance from any computer connected to the internet. The smart monitoring system helps installers and customers mitigate any unforeseen issues quickly and efficiently. It also reports electric energy generation directly to Connecticut Solar Leasing to earn Renewable Energy Credits (RECs). The RECs earned by solar PV installations are used to fund a reserve for future installations and out of warranty repairs.

### Technology Performance

As of February 2012, The Connecticut Solar Lease program has supported 845 solar photovoltaic installations in Connecticut, which will generate a total of over 190,000 MWh of zero-emission energy over the life of the projects. Systems range from 1 to 10 kW in capacity and will offset nearly 100,000 tons of CO2, 41 tons of SOx and 45 tons of NOx to date. The emissions offset over the life of the installations is equivalent to planting over 2,000 acres of trees.

## Loan Performance

With an average project cost just over $50,000, The Clean Energy Finance and Investment Authority has provided an average loan of $15,000 to each of the 845 solar installation projects participating in the CT Solar Lease. At 5.5%, CEFIA has financed $13 million in loans. To date there has been only one default. This opportunity for over 80 percent lease financing provided access to solar PV for households with an annual income below $75,000. The program has made clean, renewable energy a real possibility for Connecticut residents.

## What's Next for Small Solar

CEFIA is currently in the process of designing and implementing a revamped Residential Solar Program that will result in a minimum of 30 megawatts of new residential PV installations in Connecticut by December 31, 2022. The Program is aimed at reducing the upfront costs of PV through incentives which decline over time. The proposed incentive structure of the Program allows for companies to offer innovative financial products to enter and compete in the Connecticut marketplace, to incorporate energy efficiency as a means to finance PV, to accelerate payback to households, and to achieve sustained orderly deployment of the PV industry in Connecticut.

## About the Clean Energy Finance and Investment Authority

The Clean Energy Finance and Investment Authority was created by Connecticut's General Assembly as a part 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 Authority works closely with the newly created Department of Energy and Environmental Protection and the Department of Economic and Community Development to align the State's energy goals with its economic development mission.

### FACTS

- Solar Photovoltaic gets its name from the process of photons, or packets of energy from light, creating electricity, or voltage from sunlight.
- Solar PV was first discovered in 1954, when scientists found that silicon, an element found in sand, produces an electric charge when exposed to sunlight.
- Local communities benefit from improved air quality, promoting a secure energy supply for the State, and investing energy dollars into our communities.
- Customers will have several options at the end of the 15-year CT Solar Lease. They may purchase the system at a discounted value; extend the lease for another 5 years at a significantly reduced monthly rate; or have the system removed at their expense with no future obligation.

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# RESIDENTIAL CLEAN ENERGY FINANCE PROGRAM

## BACKGROUND

Through an American Recovery and Reinvestment Act (ARRA) State Energy Program Formula Grant, the Clean Energy Finance and Investment Authority (CEFIA) received SEVEN MILLION DOLLARS to invest in credit enhancements for a Residential Clean Energy Financing Program (the Program). Under the Program, CEFIA will work with a financial partner(s) and a third party administrator to expend the funds to provide two credit enhancements for a loan and/or lease program for clean energy installations.

The two credit enhancements to be utilized under the Program are:

1. Loan Loss Reserves (LLR), and
2. Interest Rate Buy-downs (IRB)

## BY THE NUMBERS

Target Interest Rate: 4 to 6%

Expected Program Launch: July 2012

## Role of Financial Partners

CEFIA will be issuing a Request for Proposals (RFP) to attract one or more financial partners willing to make low interest loans for residential clean energy projects made possible through CEFIA's LLR and IRB credit enhancement mechanisms. The Lender(s) will provide the following services:

- provide capital for energy efficiency and renewable energy loans to residential energy users at the most attractive rates possible;
- provide and/or partner to provide related loan administration services (e.g., marketing, origination, servicing), and provide reports on the loan portfolio and the LLR/IRB.

## About the Clean Energy Finance and Investment Authority

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# Clean Energy Financial Innovation Program


## Background

Through an American Recovery and Reinvestment Act (ARRA) State Energy Program Formula (SEP) Grant, the Clean Energy Finance and Investment Authority ("CEFIA") has ONE MILLION TWO HUNDRED AND FIFTY THOUSAND DOLLARS to invest in financing strategies to scale-up the deployment of residential clean energy (the "Program"). The financing strategies with the greatest potential to attract and deploy capital to help Connecticut meet its clean energy goals will be provided with credit enhancement funds through the Program.

Uses of funds might include the buy-down of interest rates, support for loan losses, third party insurance, issuance of bonds (i.e. Clean Energy Victory Bonds) or other credit enhancement tools of financing.

## GOALS OF THE PROGRAM

1. Create a competition that incites financial innovation around residential clean energy financing;
2. Transition away from the subsidy model towards financing of clean energy; and
3. Provide access to capital at attractive rates and terms to Connecticut residents who are underserved by existing financial products.

Areas of financial innovation may include, but are not limited to:

- Credit enhancements that encourage third party lenders to extend credit;
- Experimentation with non-traditional underwriting, such as the use of utility bill payment history as a proxy for credit;
- Development of micro-loans for low and middle income households seeking financing for clean energy projects and qualification of financial institutions for CRA credits;
- Creation of insurance to guaranty the energy savings for households to demonstrate the value of energy efficiency and renewable energy savings covering debt service payments and reduce risk;
- Providing households with an opportunity to realize the economic value of solar PV systems through ownership versus a lease; and
- Selling a Clean Energy Victory Bond valued at the present value of a future stream of renewable energy certificates from a residential solar PV project with the bond proceeds paying for part of the initial cost, or an interest rate buy-down, or various cost-effective energy efficiency measures.

Expected Number of Projects / Credit Enhancements to be Supported: **Up to 3**

Expected Interest Rate: **5.99% APR** (or best rate to attract consumer demand for financing)

Expected Program Launch: **June 2012**

## About the Clean Energy Finance and Investment Authority

The Clean Energy Finance and Investment Authority was created by Connecticut's General Assembly as a part 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 Authority works closely with the newly created Department of Energy and Environmental Protection and the Department of Economic and Community Development to align the State's energy goals with its economic development mission.

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# Commercial Property Assessed Clean Energy (C-PACE) Financing

## ENERGY EFFICIENCY OPPORTUNITY

There are 36,000 commercial buildings in Connecticut. Reducing energy consumption by 20% in just 1 in 10 commercial buildings will save $43M per year in energy costs. The up-front cost for these upgrades will be $264M. Using these conservative estimates, the payback is just over 6 years and the energy savings continues through the life of the buildings.

## Commercial Property Assessed Clean Energy (C-PACE) Financing

PACE, which stands for Property Assessed Clean Energy, allows commercial property owners to pay for energy-related improvements to their properties using a finance program that offers low fixed rates and longer repayment periods than traditional loans. Eligible interested commercial property owners, in consultation with their existing mortgage holders, opt-in to receive long term financing (up to 20 years) for these improvements.

The cost of the energy project, initially funded by special financing arranged through the Clean Energy Finance and Investment Authority, is repaid annually by the property owner through a special assessment on their property tax bill. Repayments are structured to be equal to, if not less than, the amount of money the property owner is saving on utility bills due to the energy savings achieved by the project. PACE spreads the cost of energy improvements - such as weather sealing, insulation upgrades, more efficient heating and cooling systems, solar installations - over the expected life of the measures and allows the repayment obligation to transfer automatically, like other property assessments, to the next owner if the property is sold.

The repayment is secured through a voluntary contractual assessment placed on subject property's property tax bill. The property owner pays taxes, the tax district peels off the PACE Benefit Assessment and remits principal and interest payments to PACE investor.

Benefits assessments are a safe and familiar tool of municipal finance that have been used for street paving, parks, open space, water and sewer systems, septic tank replacement, and street lighting. Like all public benefits assessments, the PACE lien is a senior lien, the repayment obligation automatically transfers to the next property owner if the property is sold, and the payment on the lien does not accelerate in case of a default.

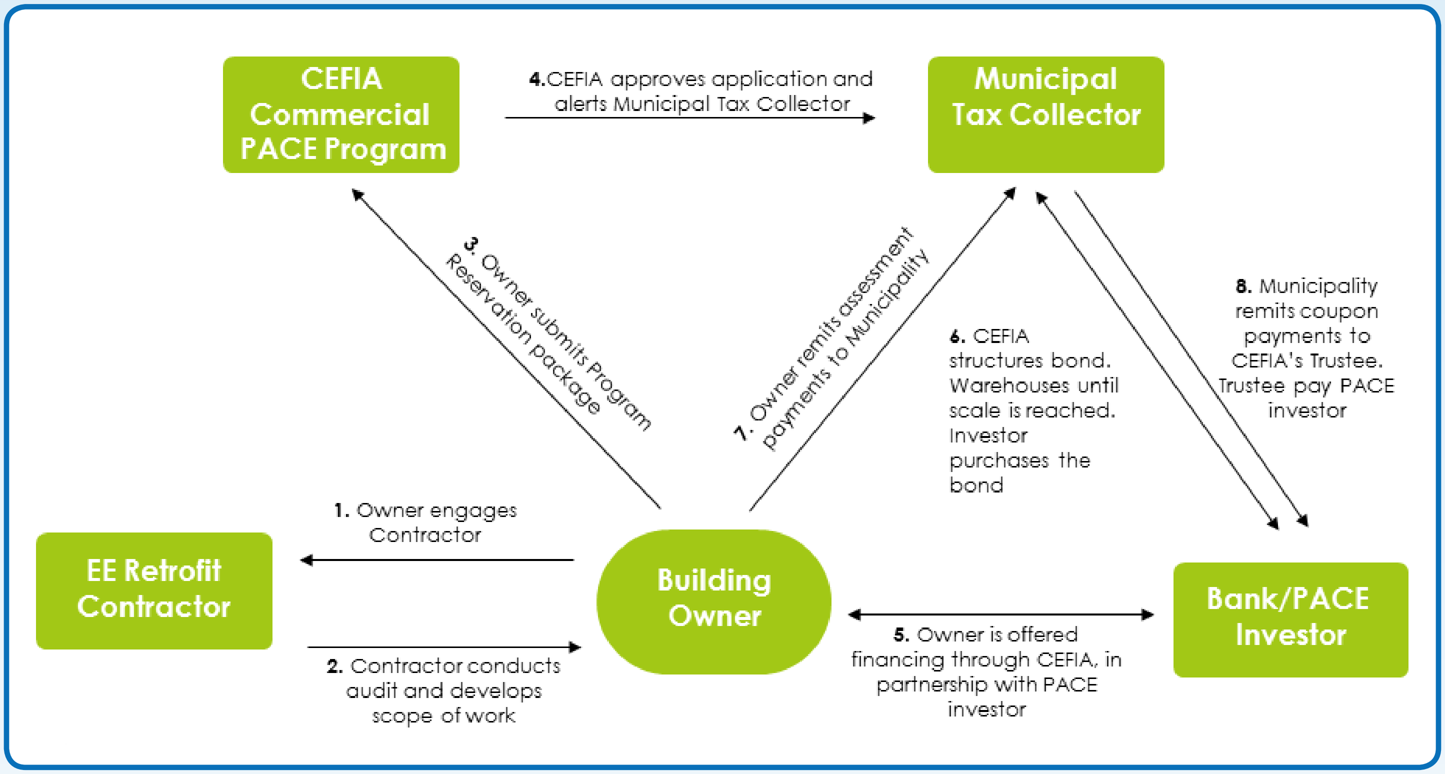
C-PACE is a proven and effective tool to attract private capital into the clean energy and energy efficiency market. Twenty seven states and the District of Columbia have PACE enabling policy and thousands of energy upgrades have been funded through PACE assessments.

CEFIA views its role as establishing a program that takes into account the interests of existing lenders, municipalities, building owners, and project lenders. To insure a robust and sound C-PACE program, CEFIA is following federal guidance on underwriting standards and building eligibility standards, such as audit requirements, savings ratios, and equity requirements.

## Role of Financial Partners

CEFIA will be working closely with the financial community in Connecticut as it develops a C-PACE program in 2012. For existing commercial mortgage holders, CEFIA intends to design a program that respects their contractual rights and invites their full partnership on C-PACE assessments – including underwriting and purchasing the C-PACE bond as a value-add product for existing customers, co-investing with another C-PACE investor through a "parity bond" structure, and/or consenting to a third party investor purchasing the bond subject to certain conditions, which can be formalized in an Inter-Creditor Agreement. For interested third party C- PACE investors, CEFIA invites participation in the design of a program that will most effectively attract capital to Connecticut's building sector.

## C-PACE Financing Mechanics




## About the Clean Energy Finance and Investment Authority

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**Clean Energy Finance and Investment Authority**

**FY 2012 Consolidated Budget and Cash Forecast**

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**January, 2012**

**Clean Energy Finance and Investment Authority**

**FY 2012 Consolidated Budget**

**Statement of Revenues and Expenses-Summary of Budget to Actual Variance**

**January, 2012**

**(000's)**

| | Budget | Actual YTD -7months | Over (Under) Budget |
|---|---|---|---|
| **Operating Revenues** | | | |
| Utility customer assessments | $ 27,515.0 | $ 16,436.8 | $ (11,078.2) |
| RGGI auction proceeds | $ 1,100.0 | $ 762.0 | $ (338.0) |
| Interest on bank deposits | $ 118.0 | $ 108.7 | $ (9.3) |
| Renewable Energy Credits,net of fees | $ 100.0 | $ 79.9 | $ (20.1) |
| Interest Income - Solar Lease Notes, net of fees | $ 120.0 | $ 57.8 | $ (62.2) |
| RPS compliance penalty payments | $ 100.0 | $ - | $ (100.0) |
| Grant income ARRA-EECBG | $ - | $ 748.2 | $ 748.2 |
| Grant income ARRA-SEP | $ 9,550.0 | $ 4,991.1 | $ (4,558.9) |
| Grant income-Foundations | $ 47.0 | $ - | $ (47.0) |
| Other income | $ 60.0 | $ 83.1 | $ 23.1 |
| **Total revenues:** | $ 38,710.0 | $ 23,267.6 | $ (15,442.4) |
| **Operating Expenses and Program Expenditures** | | | |
| **Operations:** | | | |
| *Compensation* | | | |
| -Salaries & Wages - CEFIA Employees | $ 2,179.7 | $ 1,056.8 | $ (1,122.9) |
| -Salaries & Wages - CI Shared Services | $ 398.4 | $ 221.5 | $ (176.9) |
| -Employee Benefits - CEFIA Employees | $ 1,351.4 | $ 666.8 | $ (684.6) |
| -Employee Benefits - CI Shared Services | $ 247.0 | $ 139.6 | $ (107.4) |
| *Consulting and professional fees* | | | |
| - Legal | $ 100.0 | $ 65.2 | $ (34.8) |
| - Accounting & Audit | $ 21.0 | $ 1.1 | $ (19.9) |
| - Advisory fees | $ 50.0 | $ 25.1 | $ (24.9) |
| *Marketing/External relations* | $ 238.0 | $ 68.3 | $ (169.7) |
| *Rent and location related expenses* | | | |
| -Rent/Utilities/Maintenance | $ 165.0 | $ 82.6 | $ (82.4) |
| -Telephone/Communications | $ 30.0 | $ 16.0 | $ (14.0) |
| -Equipment & storage space rental | $ 10.8 | $ 0.3 | $ (10.5) |
| -Depreciation FF&E | $ 41.2 | $ 24.4 | $ (16.8) |
| *Office, computer & other expenses* | | | |
| -Office expense | $ 44.0 | $ 23.0 | $ (21.0) |
| -Computer operations | $ 32.0 | $ 20.4 | $ (11.6) |
| -Subscriptions | $ 24.0 | $ 4.3 | $ (19.7) |
| -Training and education | $ 33.0 | $ 11.1 | $ (21.9) |
| -Temporary employees | $ 50.0 | $ 35.5 | $ (14.5) |
| -Travel & related expenses | $ 43.0 | $ 28.3 | $ (14.7) |
| -Insurance: GL/P&C | $ 8.0 | $ 3.6 | $ (4.4) |
| -Insurance D&O | $ 56.0 | $ 25.9 | $ (30.1) |
| **Program Administrative Expenses:** | | | |
| Program development/IT/marketing/collaboration | $ 1,588.0 | $ 184.3 | $ (1,403.7) |
| **Total operations and program administrative expense:** | $ 6,710.5 | $ 2,704.0 | $ (4,006.4) |
| **Program expenditures:** | | | |
| Financial incentives | $ 38,310.8 | $ 9,045.5 | $ (29,265.2) |
| Contracted direct labor | $ 3,104.8 | $ 101.0 | $ (3,003.7) |
| Contracted direct materials & supplies | $ 156.5 | $ 29.2 | $ (127.3) |
| Monitoring & Evaluation | $ 590.0 | $ - | $ (590.0) |
| **Total Program Expenditures:** | $ 42,162.0 | $ 9,175.8 | $ (32,986.2) |
| Change in fund net assets before change in value of investments | $ (10,162.5) | $ 11,387.7 | $ 21,550.2 |
| Net realized gain (loss) on investments | $ - | $ (11.1) | $ (11.1) |
| Net increase (decrease) in fair value of investments | $ - | $ - | $ - |
| Change in net assets: | $ (10,162.5) | $ 11,376.7 | $ 21,539.2 |

**Clean Energy Finance and Investment Authority**

**FY 2012 Consolidated Budget**

**Statement of Revenues and Expenses**

**(000's)**

| | General Administration | Goal 1 | Goal 2 | Goal 3 | Goal 4 | Goal 5 | ARRA SEP | ARRA EECBG | Res. PV Prg PA 11-80 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Operating Revenues** | | | | | | | | | | |
| Utility customer assessments | $ 27,515.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 27,515.0 |
| RGGI auction proceeds | $ - | $ 1,100.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 1,100.0 |
| Interest on bank deposits | $ 118.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 118.0 |
| Renewable Energy Credits,net of fees | $ - | $ 100.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 100.0 |
| Interest Income - Solar Lease Notes, net of fees | $ - | $ 120.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 120.0 |
| RPS compliance penalty payments | $ - | $ 100.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 100.0 |
| Grant income ARRA-EECBG | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Grant income ARRA-SEP | $ - | $ - | $ - | $ - | $ - | $ - | $ 9,550.0 | $ - | $ - | $ 9,550.0 |
| Grant income-Foundations | $ - | $ - | $ - | $ 47.0 | $ - | $ - | $ - | $ - | $ - | $ 47.0 |
| Other income | $ 60.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 60.0 |
| **Total revenues:** | $ 27,693.0 | $ 1,420.0 | $ - | $ 47.0 | $ - | $ - | $ 9,550.0 | $ - | $ - | $ 38,710.0 |
| **Operating Expenses and Program Expenditures** | | | | | | | | | | |
| **Operations:** | | | | | | | | | | |
| *Compensation* | | | | | | | | | | |
| -Salaries & Wages - CEFIA Employees | $ 749.3 | $ 696.5 | $ 360.0 | $ 373.8 | $ - | $ - | $ - | $ - | $ - | $ 2,179.7 |
| -Salaries & Wages - CI Shared Services | $ 398.4 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 398.4 |
| -Employee Benefits - CEFIA Employees | $ 464.6 | $ 431.8 | $ 223.2 | $ 231.8 | $ - | $ - | $ - | $ - | $ - | $ 1,351.4 |
| -Employee Benefits - CI Shared Services | $ 247.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 247.0 |
| *Consulting and professional fees* | | | | | | | | | | |
| - Legal | $ 100.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 100.0 |
| - Accounting & Audit | $ 21.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 21.0 |
| - Advisory fees | $ 50.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 50.0 |
| *Marketing/External relations* | $ 238.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 250.0 | $ 488.0 |
| *Rent and location related expenses* | | | | | | | | | | |
| -Rent/Utilities/Maintenance | $ 165.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 165.0 |
| -Telephone/Communications | $ 30.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 30.0 |
| -Equipment & storage space rental | $ 10.8 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 10.8 |
| -Depreciation FF&E | $ 41.2 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 41.2 |
| *Office, computer & other expenses* | | | | | | | | | | |
| -Office expense | $ 44.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 44.0 |
| -Computer operations | $ 32.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 32.0 |
| -Subscriptions | $ 24.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 24.0 |
| -Training and education | $ 33.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 33.0 |
| -Temporary employees | $ 50.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 50.0 |
| -Travel & related expenses | $ 43.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 43.0 |
| -Insurance: GL/P&C | $ 8.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 8.0 |
| -Insurance D&O | $ 56.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 56.0 |
| **Program Administrative Expenses:** | | | | | | | | | | |
| Program development/IT/marketing/collaboration | $ - | $ 666.5 | $ 144.8 | $ 226.8 | $ - | $ - | $ 300.0 | $ - | $ - | $ 1,338.0 |
| **Total Ops and program administrative expenses:** | $ 2,805.3 | $ 1,794.8 | $ 728.0 | $ 832.3 | $ - | $ - | $ 300.0 | $ - | $ 250.0 | $ 6,710.5 |
| **Program expenditures:** | | | | | | | | | | |
| Financial incentives | $ - | $ 16,288.5 | $ 3,396.3 | $ 1,876.0 | $ - | $ - | $ 9,250.0 | $ - | $ 7,500.0 | $ 38,310.8 |
| Contracted direct labor | $ - | $ 375.0 | $ 144.0 | $ 2,210.8 | $ 300.0 | $ 75.0 | $ - | $ - | $ - | $ 3,104.8 |
| Contracted direct materials & supplies | $ - | $ - | $ - | $ 156.5 | $ - | $ - | $ - | $ - | $ - | $ 156.5 |
| Monitoring & Evaluation | $ - | $ 100.0 | $ 415.0 | $ 75.0 | $ - | $ - | $ - | $ - | $ - | $ 590.0 |
| **Total Program Expenditures:** | $ - | $ 16,763.5 | $ 3,955.3 | $ 4,318.3 | $ 300.0 | $ 75.0 | $ 9,250.0 | $ - | $ 7,500.0 | $ 42,162.0 |
| Change in fund net assets before change in value of investments | $ 24,887.7 | $ (17,138.3) | $ (4,683.3) | $ (5,103.6) | $ (300.0) | $ (75.0) | $ - | $ - | $ (7,750.0) | $ (10,162.5) |
| Net realized gain (loss) on investments | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Net increase (decrease) in fair value of investments | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Change in net assets: | $ 24,887.7 | $ (17,138.3) | $ (4,683.3) | $ (5,103.6) | $ (300.0) | $ (75.0) | $ - | $ - | $ (7,750.0) | $ (10,162.5) |

Goal 1 - Increase supply

Goal 2. - Accelerate the commercialization of new technologies

Goal 3. - CT communities will adopt comprehensive clean and efficient energy measures

Goal 4. - Further the goals of clean energy development through advocacy and adoption of supporting public policies.

Goal 5. - Increase CCEF's effectiveness

## Clean Energy Finance and Investment Authority
### Actual FY 2012 through January 31, 2012
### Statement of Revenues and Expenses
(000's)

| | General Administration | Goal 1 | Goal 2 | Goal 3 | Goal 4 | Goal 5 | ARRA SEP | ARRA EECBG | Res. PV Prg PA 11-80 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Operating Revenues** | | | | | | | | | | |
| Utility customer assessments | $ 16,436.8 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 16,436.8 |
| RGGI auction proceeds | $ - | $ 762.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 762.0 |
| Interest on bank deposits | $ 108.7 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 108.7 |
| Renewable Energy Credits,net of fees | $ - | $ 79.9 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 79.9 |
| Interest Income - Solar Lease Notes, net of fees | $ - | $ 57.8 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 57.8 |
| RPS compliance penalty payments | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Grant income ARRA-EECBG | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 748.2 | $ - | $ 748.2 |
| Grant income ARRA-SEP | $ - | $ - | $ - | $ - | $ - | $ - | $ 4,991.1 | $ - | $ - | $ 4,991.1 |
| Grant income-Foundations | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Other income | $ - | $ 79.9 | $ - | $ 3.3 | $ - | $ - | $ - | $ - | $ - | $ 83.1 |
| **Total revenues:** | $ 16,545.5 | $ 979.5 | $ - | $ 3.3 | $ - | $ - | $ 4,991.1 | $ 748.2 | $ - | $ 23,267.6 |
| **Operating Expenses and Program Expenditures** | | | | | | | | | | |
| **Operations:** | | | | | | | | | | |
| *Compensation* | | | | | | | | | | |
| -Salaries & Wages - CEFIA Employees | $ 287.3 | $ 406.7 | $ 191.1 | $ 171.7 | $ - | $ - | $ - | $ - | $ - | $ 1,056.8 |
| -Salaries & Wages - CI Shared Services | $ 221.5 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 221.5 |
| -Employee Benefits - CEFIA Employees | $ 181.3 | $ 256.6 | $ 120.6 | $ 108.4 | $ - | $ - | $ - | $ - | $ - | $ 666.8 |
| -Employee Benefits - CI Shared Services | $ 139.6 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 139.6 |
| *Consulting and professional fees* | | | | | | | $ - | $ - | | |
| - Legal | $ 65.2 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 65.2 |
| - Accounting & Audit | $ 1.1 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 1.1 |
| - Advisory fees | $ 25.1 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 25.1 |
| *Marketing/External relations* | $ 68.3 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 68.3 |
| *Rent and location related expenses* | | | | | | | $ - | $ - | | |
| -Rent/Utilities/Maintenance | $ 82.6 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 82.6 |
| -Telephone/Communications | $ 16.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 16.0 |
| -Equipment & storage space rental | $ 0.3 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 0.3 |
| -Depreciation FF&E | $ 24.4 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 24.4 |
| *Office, computer & other expenses* | | | | | | | $ - | $ - | | |
| -Office expense | $ 23.0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 23.0 |
| -Computer operations | $ 20.4 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 20.4 |
| -Subscriptions | $ 4.3 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 4.3 |
| -Training and education | $ 11.1 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 11.1 |
| -Temporary employees | $ 35.5 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 35.5 |
| -Travel & related expenses | $ 28.3 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 28.3 |
| -Insurance: GL/P&C | $ 3.6 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 3.6 |
| -Insurance D&O | $ 25.9 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 25.9 |
| **Program Administrative Expenses:** | | | | | | | | | | |
| Program development/IT/marketing/collaboration | $ - | $ 72.4 | $ 56.2 | $ 55.7 | $ - | $ - | $ - | $ - | $ - | $ 184.3 |
| **Total Ops and program administrative expenses:** | $ 1,264.6 | $ 735.7 | $ 368.0 | $ 335.8 | $ - | $ - | $ - | $ - | $ - | $ 2,704.0 |
| **Program expenditures:** | | | | | | | | | | |
| Financial incentives | $ - | $ 3,574.6 | $ - | $ 20.8 | $ - | $ - | $ 4,714.3 | $ 735.8 | $ - | $ 9,045.5 |
| Contracted direct labor | $ - | $ 52.8 | $ - | $ 48.3 | $ - | $ - | $ - | $ - | $ - | $ 101.0 |
| Contracted direct materials & supplies | $ - | $ - | $ - | $ 29.2 | $ - | $ - | $ - | $ - | $ - | $ 29.2 |
| Monitoring & Evaluation | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| **Total Program Expenditures:** | $ - | $ 3,627.4 | $ - | $ 98.4 | $ - | $ - | $ 4,714.3 | $ 735.8 | $ - | $ 9,175.8 |
| Change in fund net assets before change in value of investments | $ 15,280.9 | $ (3,383.5) | $ (368.0) | $ (430.9) | $ - | $ - | $ 276.8 | $ 12.4 | $ - | $ 11,387.7 |
| Net realized gain (loss) on investments | $ (11.1) | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ (11.1) |
| Net increase (decrease) in fair value of investments | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Change in net assets: | $ 15,269.8 | $ (3,383.5) | $ (368.0) | $ (430.9) | $ - | $ - | $ 276.8 | $ 12.4 | $ - | $ 11,376.7 |

Goal 1 - Increase supply

Goal 2. - Accelerate the commercialization of new technologies

Goal 3. - CT communities will adopt comprehensive clean and efficient energy measures

Goal 4. - Further the goals of clean energy development through advocacy and adoption of supporting public policies.

Goal 5. - Increase CCEF's effectiveness

# Clean Energy Finance and Investment Authority
## Commitment Analysis
## As of January 31, 2012

| | General | RGGI | RGGI-CMEEC | Total |
|---|---|---|---|---|
| Unrestricted cash balance as of January 31, 2012 | $ 52,510,984 | $ 7,333,248 | $ 600,195 | $ 60,444,427 |
| Unfunded commitments as of 01/31/2012 ( see analysis below ): | $ (24,862,578) | $ (2,102,542) | $ - | $ (26,965,120) |
| Cash available as of 01/31/2012 to fund future programs and fund operations: | $ 27,648,406 | $ 5,230,706 | $ 600,195 | $ 33,479,307 |

**Unfunded grant & financial assistance programs commitments as of January 31, 2012:**

| | General | RGGI | RGGI-CMEEC |
|---|---|---|---|
| Project 150 & Pre-Development Program | | | |
| Project 150 | $ 10,174,391 | $ - | $ - |
| Predevelopment program | $ 458,603 | $ - | $ - |
| Strategic Investment Program | $ 35,000 | $ - | $ - |
| CI&I On Site Generation Program - Solar | | | |
| Commercial solar program | $ 3,188,744 | $ - | $ - |
| Not for Profit/Municipal solar program | $ 372,088 | $ 2,102,542 | $ - |
| Residential (Small Solar) rebate program | $ 464,284 | $ - | $ - |
| Affordable Housing solar program | $ - | $ - | $ - |
| Solar Lease Program promissory notes to be purchased | $ 117,410 | $ - | $ - |
| Solar Lease Program loan loss reserve | $ 273,418 | $ - | $ - |
| CI&I On Site Generation Program - Fuel Cell | $ 7,245,200 | $ - | $ - |
| CI&I On Site Generation Program - Wind | $ - | $ - | $ - |
| CI&I On Site Generation Program - Other Technologies | $ - | $ - | $ - |
| CI&I On Site Generation Program - Feasibility Studies | $ 198,825 | $ - | $ - |
| Operational Demonstration Program | $ 1,277,023 | $ - | $ - |
| Education & Outreach | $ 211,392 | $ - | $ - |
| Education & Outreach-Communities Program Earned not Contracted | $ 731,200 | $ - | $ - |
| Program Development | $ 115,000 | $ - | $ - |
| | $ 24,862,578 | $ 2,102,542 | $ - |
| | | $ 26,965,120 | $ 26,965,120 |

**By Fiscal Year Budget:**

| FY12 | FY11 | Pre FY11 |
|---|---|---|
| $ 8,100,613 | $ 4,440,037 | $ 14,424,476 |
| | | $ 26,965,126 |

**Clean Energy Finance and Investment Authority**
**Projections of Cash Available for Programs**
**As of January 31, 2012**

| | February | March | April | May | June |
|---|---|---|---|---|---|
| **Cash available after unfunded commitments as of 01/31/2012:** | 33,479,307 | | | | |
| **Funds available for new commitments - begining of the month:** | | 35,564,307 | 37,849,307 | 39,934,307 | 42,019,307 |
| **Utility customer assessments:** | 2,500,000 | 2,500,000 | 2,500,000 | 2,500,000 | 2,500,000 |
| **RGGI auction income:** | | 200,000 | | | 200,000 |
| **Other income:** | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| **Monthly operating expenses:** | (440,000) | (440,000) | (440,000) | (440,000) | (440,000) |
| **Funds available for new commitments - end of month:** | 35,564,307 | 37,849,307 | 39,934,307 | 42,019,307 | 44,304,307 |

**Potential commitments to be entered into by 6/30/2012:**

| | |
|---|---|
| *Residential PV Program PA 11-80:* | |
| Financial Incentives | (7,500,000) |
| Marketing | (250,000) |
| *Goal 1-Best of Class RFP:Public Buildings and Affordable Housing:* | |
| *PV* | (4,500,000) |
| *Fuel Cell* | (2,500,000) |
| *Other Technologies* | (1,000,000) |
| *Goal 1-Repurposed ARRA SEP projects:* | |
| *Geothermal* | (1,550,000) |
| *Solar thermal* | (1,000,000) |
| *Goal 1-Loan Guarantee Program:* | |
| Winn Development/HUD | (2,500,000) |
| *Goal 2-RFP Programs:* | |
| Alpha Program | (1,200,000) |
| Operational Demo Program | (1,500,000) |
| **Estimated uncommited cash on hand to carryforward to FY13:** | 20,804,307 |
| **Estimated cash available from FY 13 operations for program expenditures:** | 24,350,000 |
| **Estimated Cash Available for FY13 Comprehensive Plan Budget:** | 45,154,307 |

*Forcasted Operations Income & Expense FY13*

| | |
|---|---|
| Revenue | |
| Utilitiy customer assessments | 28,000,000 |
| RGGI auction proceeds | 1,500,000 |
| Interest-solar lease notes | 150,000 |
| Other | 200,000 |
| | 29,850,000 |
| Operating Expenses | (5,500,000) |
| Available for comprehensive plan program budget: | 24,350,000 |

## Clean Energy Finance and Investment Authority
### Statement of Net Assets
### as of January 31, 2012

| | | Actual |
|---|---|---|
| **Assets** | | |
| Cash and cash equivalents | $ | 60,444,427 |
| Cash and cash equivalents,restricted ARRA | $ | 302,569 |
| Investments - equity | $ | 1,709,769 |
| Investments-REC's | $ | 1,429,920 |
| Solar lease notes (net of allowance of $273k) | $ | 11,965,669 |
| ARRA grant receivable | $ | 2,991,077 |
| Utility receivables | $ | 2,869,711 |
| Other assets | $ | 254,387 |
| **Total assets** | $ | 81,967,529 |
| | | |
| **Liabilities and Net Assets** | | |
| Liabilities | | |
| Account payable and accrued expenses | $ | 483,792 |
| Net Assets: | | |
| Restricted | $ | 81,081,168 |
| Unrestricted | $ | 302,569 |
| **Total Net Assets** | $ | 81,383,737 |
| **Total Liabilities and Net Assets** | $ | 81,867,529 |

# Renewable Energy Investments Board

**Draft Minutes – Regular Meeting**
**Monday, June 20, 2011**

A regular meeting of the **Renewable Energy Investments Board, also known as the Connecticut Clean Energy Fund Board** (the "Board"), was held on June 20, 2011, at the office of the Connecticut Clean Energy Fund, 865 Brook Street, Rocky Hill, CT.

**1. Call to Order**: Noting the presence of a quorum, Norma Glover, Chairperson of the Board, called the meeting to order at 12:06 p.m. Board members participating: Eric Brown; Norma Glover; Alan Greene (by phone); Bob Maddox; Carol Muradian; John Olsen; Matthew Ranelli; Rich Steeves representing the Office of Consumer Counsel; and Patricia Wrice.

Board members absent: Tracy Babbidge, representing the Commissioner of the Department of Environmental Protection; Mun Young Choi; Scott DeVico, representing Emergency Management and Homeland Security; and Raymond Wilson, representing the Secretary of the Office of Policy and Management.

Staff and Adjunct Staff Attending: George Bellas, Christin Cifaldi, Keith Frame, Bryan Garcia, David Goldberg, Dale Hedman, Shelly Mondo, Cheryl Samuels, Emily Smith, Kimberly Stevenson, Matthew Stone and Bob Wall.

**2. Public Comments:** There were no public comments.

**3. Approval of Minutes:** Ms. Glover asked the members of the Board to consider the minutes from the May 31, 2011, meeting.

> **Upon a motion made by Ms. Muradian, seconded by Mr. Steeves, the Board voted in favor of adopting the minutes from the May 31, 2011, meeting as presented (Ms. Wrice was not present for the vote).**

**4. DEEP Commissioner Esty:**

Mr. Garcia introduced Commissioner Esty. Mr. Esty explained the significance and importance of Senate Bill 1243 "An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future" in helping to build a platform to make Connecticut an energy leader in the 21st century. He noted that clean energy is one of Governor Malloy's top priorities. Commissioner Esty stated that clean and cheaper energy is driving innovation, economic growth and job creation. Mr. Esty noted that this legislation is a result of the cooperation between the executive branch and legislature working together for a new vision of clean energy in Connecticut. He indicated that there was consensus between the parties on these critical issues. Commissioner Esty explained that the legislation creates a new Clean Energy Finance and Investment Authority to help leverage targeted government funds to engage the private sector. The focus of this new agency will be financing and finding ways to leverage private capital. The legislation also changes the Department of Environmental Protection to the Department of Energy and Environmental Protection ("DEEP") to allow DEEP to focus on energy policies and activities. The legislation also encourages cooperation and collaboration among the various governmental agencies in the State of Connecticut.

Mr. Esty thanked CI, the CI Board, and the CCEF Board for the work done to provide a platform to build upon. In particular, Commissioner Esty thanked Ms. Glover, Mr. Olsen, Mr. Ranelli and the CCEF Board for their support. He noted that there will be changes to the Board going forward. Commissioner Esty indicated the need to create a transition committee to help move from the Connecticut Clean Energy Fund to the CleanEnergy Finance and Investment Authority. He noted that a lot is expected, and he is eager to move this forward as quickly as possible. Mr. Esty asked the CCEF Board to consider ways to help make the transition smooth, including revised bylaws, revised operating procedures, designing the organizational structure and anything else that is needed and utilizing staff resources including Matt Stone and Bryan Garcia.

Ms. Glover mentioned that Commissioner Esty has asked her to chair the transition committee, and she will be appointing members to the transition committee.

Mr. Maddox cautioned that it may be ambitious to achieve all of the mandates in the legislation with respect to producing 10 times more megawatts of renewable energy. Commissioner Esty clarified that the target referred to by Mr. Maddox is not for renewables alone but included energy efficiency savings. He stated that the legislation represents the governor's commitment to getting projects completed. Commissioner Esty indicated the desire to work with the transition team to put together an institutional structure that will succeed.

**5. <u>Chairman's Report</u>:**

Ms. Glover noted that this is the last regularly scheduled meeting of the CCEF Board. In accordance with the legislation, the new authority begins July 1, 2011. Ms. Glover appointed the CCEF Executive Committee members—Norma Glover, John Olsen, Matthew Ranelli and Eric Brown—to the transition committee. She stated that the transition committee will also be making some programmatic suggestions to the Board of the new authority. Ms. Glover stated that the transition committee will be looking at the technologies that generate jobs and whether the workforce is ready and prepared.

Ms. Glover reported that she attended a fuel cell dedication ceremony at the Coca Cola plant in East Hartford. She recognized and encouraged others to view the wonderful artwork by a local high school student that is displayed at the facility.

**6. <u>President's Report</u>:**

Mr. Garcia discussed the <u>*CT Renewable Energy and Energy Efficiency Baseline Study*</u> performed by Navigant. A list of the data sources for the study was distributed. In summary, Mr. Garcia stated that the report indicates that both geothermal and solar thermal installations have the highest job creation potential. He indicated the need to plan for the future in terms of job creation and determine whether the workforce is in place to serve the demand. Several Board members noted the potential for both geothermal and solar thermal and the need to take steps to get solar thermal included as a Class I renewable energy. There was consensus that the CCEF take steps to get the Department of Public Utility Control to recognize Solar Thermal as a Class I renewable energy. A question arose regarding the readiness of the workforce for both solar and geothermal. Mr. Olsen stated that the workforce is ready with respect to solar thermal. However, the geothermal workforce may be more challenging.

A discussion ensued on the legislative mandates and some of the potential issues with how each of the agencies is funded (i.e. natural gas customers, electric customers and oil customers).

Mr. Garcia asked Attorney Stone to provide an update on the Department of Public Utility Control ("DPUC") Docket No. 10-03-17. Attorney Stone mentioned that the DPUC issued a draft approval of CCEF's Comprehensive Plan with a few recommendations and orders for the next Comprehensive Plan. CCEF filed written exceptions and indicated that changes would be necessary as a result of the new authority being created and the DPUC's recommendations and orders may not be consistent with the requirements in the new legislation. Mr. Stone noted that the new Board will take the recommendations into consideration as the new Comprehensive Plan is developed. Mr. Garcia stated that staff wanted to have a plan in place to help with the transition to the new authority, and the Comprehensive Plan approved by the DPUC will serve as a temporary bridge to get to the next iteration of the Comprehensive Plan which is required by S.B. 1243. Ms. Glover thanked Attorney Stone for his efforts with respect to the Comprehensive Plan.

Mr. Garcia reported that the fourth Regional Greenhouse Gas Initiative ("RGGI") auction took place, and the pricing was down considerably. In addition to the pricing being down, he expressed concern with the substantial reduction in the volume that was traded at the auction. A discussion ensued on the pullout of New Jersey and the potential pullout of New Hampshire. A suggestion was made to reduce the revenue projections for RGGI proceeds by 50 percent for the 2012 fiscal year. Mr. Garcia cautioned about relying on RGGI proceeds for the future.

Mr. Maddox suggested that the CCEF Board members meet with the new Board members to provide an historical briefing on certain issues.

**7. Projects Committee Report:**

Mr. Greene provided the Projects Committee report. He mentioned that the Projects Committee met on June 17 and approved an incentive of $471,300 for a 227.24 $kW_{STC}$ PV system for Unified Realty LLC under the American Recovery and Reinvestment Act ("ARRA") Commercial Solar Photovoltaic ("PV") Program. The Projects Committee also approved an incentive of $389,970 for a 100.9 $kW_{STC}$ solar photovoltaic system for the Windham Water Works project under the ARRA Commercial Solar PV Program.

**8. Technology Committee Report:**

Mr. Garcia reiterated that the new Clean Energy Finance and Investment Authority becomes effective July 1. However, there may be a need to discuss some issues or take some action with the CCEF Technology Committee before July 1. Mr. Frame mentioned that CCEF recently launched the Alpha Program, which received more responses than the Operational Demonstration Program. He stated that CCEF received approximately 20 applications, and staff is in the process of reviewing the applications before going to a judging panel. Mr. Frame indicated that after preliminary review, there are many good applications which are likely to be approved for funding. He stated that the Alpha projects provide a pipeline for the Operational Demonstration Program. Mr. Frame stated that as a result of some technical difficulties, modifications are being made to the OptiWind demonstration project, and staff will be recommending follow-on equity funding. He noted that it is hopeful that these issues can be discussed at a technology committee meeting to be scheduled before July 1.

**9. Update on S.B. 1243:**

Ms. Smith summarized how S.B. 1243 "An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future" affects CCEF. She mentioned that the bill establishes a new quasi-public agency, the Clean Energy Finance and Investment Authority ("CEFIA"), which subsumes CCEF. Ms. Smith stated that there are significant program changes as well, including the creation of new programs. She indicated that the legislation shifts the state's focus from renewable energy to clean energy and energy efficiency. She noted that the transition to the new agency has to be done by July 1. Ms. Smith mentioned that she will be meeting with Mr. Longo and Mr. Garcia to discuss a smooth transition. Ms. Smith stated that this structure is a new model, and the chair of the Energy Committee encouraged comments if issues are encountered so that modifications can be made during the special legislative session.

A concern was expressed that the funding is not sufficient to accomplish all of the initiatives indicated in the legislation. Mr. Garcia explained that efforts will be made to utilize private sector funding. A discussion ensued on some of the proposed new programs. Mr. Garcia noted that the new agency will work in cooperation with the other agencies. A discussion ensued on the value of acquiring information and getting information out about CCEF and the programs being offered. Mr. Garcia explained some of the initial target markets for disseminating information, which include: 1) municipalities to show how property assessed clean energy programs apply to them; 2) the workforce communities and 3) the banking communities.

**10. Transition—Clean Energy Finance and Investment Authority ("CEFIA"):**

Mr. Garcia discussed some of the ways staff will be transitioning to the new Clean Energy Investment and Finance Authority. He talked about the importance of disseminating information and becoming more involved with stakeholders. Mr. Garcia indicated the need to obtain solid data and to be transparent with the data. He talked about moving forward to obtain a declaratory ruling to get solar thermal classified as a Class I renewable.

**11. Solar Thermal Declaratory Ruling Update:**

Mr. Goldberg mentioned that as requested by the CCEF Board, staff will proceed with developing a request for a declaratory ruling from the Department of Public Utility Control for solar thermal to be recognized as a Class I renewable energy source. Staff will be meeting with stakeholders to discuss how to develop the declaratory ruling request.

**12. Collaboration between CCEF and CEEF on Connecticut Clean Energy Communities Program:**

Mr. Wall mentioned that the CCEF Board and the Energy Conservation Management Board in August 2010 passed a resolution recommending that CCEF and ECMB partner on communities programs for the purpose of limiting ratepayer confusion, increasing program participation and more efficiently using ratepayer funds. A number of meetings have been held. Mr. Wall stated that the challenge is how to take a successful program, the *Connecticut Clean Energy Communities Program,* and make it even better. He indicated that the partners continue to meet to refine the joint program. Mr. Wall explained some of the issues still being discussed. He stated that the Connecticut Energy Efficiency Fund ("CEEF") has been asked to provide more information about certain energy efficiency elements intended to be incorporated into the program. CCEF also wants to see more equal financial commitment from CEEF. The CCEF Communities budget is currently $3,670,000, and the CEEF budget for 2011 allocates approximately $95,000 for actual program incentives. Mr. Wall stated that the partners have not yet agreed upon a program name. Richard Steeves commented that there was no point in changing the name of an already successful and established program. The Board discussed the success of CCEF's award-winning *Connecticut Clean Energy Communities Program* which has attracted commitments from more than 103 municipalities throughout the state. Mr. Wall was commended for his efforts.

**13. Other Business:**

Ms. Glover stated that she has enjoyed being chair of the Board and working with everyone. She indicated that she received a request from Dot Kelly, who arrived late, to provide public comments. Ms. Glover invited Ms. Kelly to provide comments.

Ms. Kelly spoke about the geothermal system that was installed at the public library in Darien. She stated that the bureaucratic reshuffling takes away from some of the energy of the agency, and she implored the current Board members to stay involved. Ms. Kelly talked about an application submitted by the Connecticut Resource Recovery Authority for the installation of solar panels at the Hartford Landfill. She discussed the project and stated that application was denied by CCEF. Mr. Garcia stated that he would look into this issue further. He stated that discussions will be held with project developers and consumers about the new zero-emissions renewable energy certificates and noted that there may be other opportunities to finance these types of projects.

**14. Adjournment**: Upon a motion made by Ms. Muradian, seconded by Mr. Olsen, the Board members voted unanimously in favor of adjourning the June 20, 2011, meeting at 1:40 p.m.

Respectfully submitted,

Norma Glover, Chairman

Matthew Ranelli, Secretary

CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY

# Comprehensive Plan

FY 2013 through FY 2015

# Table of Contents

# OVERVIEW

## Background

With the passage 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 state's clean energy efforts were dramatically changed. There were several major components of this legislation, including:

- **Behind the Meter Renewable Energy Credit Program** – the creation of a $1 billion market-based mechanism that provides 15-year contracts to support the deployment of in-state behind-the-meter zero emissions renewable energy credit (ZREC) and low emissions renewable energy credit (LREC) projects
- **Grid Tied Renewable Energy Program** – the ability for the electric distribution companies to procure power from and own and operate up to 30 MW of grid tied zero emission renewable energy projects
- **Energy Savings Performance Contracts** – a "leading by example" effort to develop a standardized process for state agencies to engage in energy savings performance contracts (ESPC) and work with Connecticut's municipalities to implement similar efforts

The legislation also created the nation's first "green bank" in the Clean Energy Finance and Investment Authority (CEFIA). CEFIA is the successor organization to the Connecticut Clean Energy Fund (CCEF) – with a different organizational status as a quasi-public organization and a new focus on financing the deployment of clean energy in Connecticut. As clean energy is one of Governor Malloy's key areas of priority, CEFIA provides the state a means to scale up its investments in the deployment of clean energy. Connecticut's General Assembly has also indicated its firm support for clean energy. This was clearly indicative in the overwhelming non-partisan support of Public Act 11-80.

Connecticut's energy future will provide cleaner, cheaper, and more reliable sources of energy for its residential, commercial and industrial customers. Additionally, this platform will realize benefits within government operations by taking advantage of energy savings opportunities.

Over 170 trillion Btus of residential energy consumption in Connecticut is comprised predominantly of fuel oil (43%), natural gas (26%) and electricity use (25%) – with wood and solar comprising a little more than two percent of consumption.[1] Per capita home energy use in Connecticut of natural gas, heating oil and other petroleum products is higher than New York, Massachusetts, and Vermont[2] and the state has had one of the highest electric rates in the country over the past ten years.[3] Households emit 30 percent of the greenhouse gas (GHG) emissions from their energy consumption and pay on average over

[1] Residential energy consumption in Connecticut in trillion Btus. U.S. Energy Information Administration
[2] Housing Development Fund's "Energy Smart Solutions: A Strategic Simulation (Residential Energy Efficiency in Connecticut)" (March 2012)
[3] Data ('99-'09) from Connecticut's High Electric Rates and the Legislative Response by Kevin E. McCarthy, Principal Analysts, Connecticut Office of Legislative Research.

$3,600 per year in energy expenditures[4] - nearly 70 percent of these expenditures were made through a utility. For electricity, there is an economic potential to reduce consumption by 30 percent.[5]

The commercial sector accounts for the largest share of electricity usage in Connecticut. The largest end use is lighting (46%), followed by cooling (26%) and refrigeration (10%). An aggregation of items, such as computers, vending machines and water heating, accounts for the remainder (18%).[6]

The industrial sector accounts for the smallest amount of energy consumption in Connecticut. In 2009, it consumed 83.6 trillion British thermal units (Btu), placing Connecticut 45th in the nation in industrial energy consumption.[7]

For electricity, there is an economic potential to reduce consumption by between 30 to 40 percent.[8]

CEFIA's role in Connecticut's energy future is to help realize the energy consumption reduction potential by attracting and deploying capital to finance the clean energy goals of the state.

## Purpose of the Organization

The Clean Energy Finance and Investment Authority (CEFIA) was created through the passage of Public Act 11-80 to support financing or other expenditures that promote the deployment of clean energy in Connecticut in accordance with a comprehensive plan.

CEFIA's purposes are:

- Developing programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects and such other programs as CEFIA may determine;
- Supporting financing or other expenditures that promote investment in clean energy sources to foster the growth, development and commercialization of clean energy sources and related enterprises; and
- Stimulating demand for clean energy and the deployment of clean energy sources within the state that serves end-use customers in the state.

CEFIA's purposes are codified in Section 16-245n(d)(1) of the Connecticut General Statutes (C.G.S.) and its board approved Resolution of Purposes.

## Clean Energy Defined

Clean energy has the meaning as provided in C.G.S. Section 16-245n(a), and includes (see Table 1):

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[4] U.S Energy Information Administration
[5] *Connecticut Electric Residential, Commercial, and Industrial Energy Efficiency Potential Studies* by Kema (April 2010)
[6] Kema 2010
[7] U.S. Energy Information Administration
[8] Kema 2010

**Table 1. Clean Energy Technologies**

- Solar photovoltaic energy
- Solar thermal
- Geothermal energy
- Wind
- Ocean thermal energy
- Wave or tidal energy
- Fuel cells
- Landfill gas
- Hydropower[11]
- Hydrogen production
- Hydrogen conversion technologies
- Biomass conversion technologies[9]
- Alternative fuels[10]
- Waste heat recovery systems
- Thermal storage systems
- Financing of energy efficiency projects
- Storage technologies
- Distribution technologies
- Manufacturing technologies
- EV, HEV, and AFV and infrastructure projects

Clean energy also includes other energy resources and emerging technologies which have significant potential for commercialization and which do not involve the combustion of coal, petroleum, or petroleum products, municipal solid waste or nuclear fission.

## Governance

Pursuant to Section 16-245n of the Connecticut General Statutes, the powers of CEFIA are vested in and exercised by a Board of Directors that is comprised of eleven voting and two non-voting members each with knowledge and expertise in matters related to the purpose of the organization (see Table 2).

**Table 2. Board of Directors of CEFIA**

| Position | Status | Voting or Non-Voting | Name | Organization |
|---|---|---|---|---|
| State Treasurer (or designee) | Ex officio | Voting | Jonathan Harris | Treasurer's Office |
| Commissioner of DEEP[12] (or designee) | Ex officio | Voting | Dan Esty[13] | DEEP |
| Commissioner of DECD[14] (or designee) | Ex officio | Voting | Catherine Smith[15] | DECD |
| Residential or Low Income Group | Appointed | Voting | Pat Wrice | Operation Fuel |
| Investment Fund Management | Appointed | Voting | Norma Glover | NJG Associates |
| Environmental Organization | Appointed | Voting | Matthew Ranelli[16] | Shipman & Goodwin |
| Finance or Deployment | Appointed | Voting | (unfilled) | (unfilled) |

9 Low emission
10 Used for electricity generation including ethanol, biodiesel, or other fuel produced in Connecticut and derived from agricultural produce, food waste or waste vegetable oil provided the Commissioner of the Department of Energy and Environmental Protection determines that such fuels provide net reductions in greenhouse gas emissions and fossil fuel consumption
11 Must meet the low-impact standards of the Low Impact Hydropower Institute
12 Department of Energy and Environmental Protection
13 Vice Chairperson of the Board of Directors and Chairperson of the Budget and Operations Committee
14 Department of Economic and Community Development
15 Chairperson of the Board of Directors
16 Secretary of the Board of Directors

| | | | | |
|---|---|---|---|---|
| Finance of Renewable Energy | Appointed | Voting | Mark Cirilli | Mission Point Capital |
| Finance of Renewable Energy | Appointed | Voting | Reed Hundt[17] | Coalition for Green Capital |
| Labor | Appointed | Voting | John Olsen[18] | AFL-CIO |
| R&D or Manufacturing | Appointed | Voting | Mun Choi | University of Connecticut |
| President of CEFIA | Ex officio | Non | Bryan Garcia | CEFIA |
| Board of Connecticut Innovations | Ex officio | Non | (unfilled) | (unfilled) |

CEFIA is governed through its bylaws adopted August 3, 2011, revised September 29, 2011, and as amended from time-to-time. There are currently three committees of the Board of Directors, including:

- Audit, Compliance and Governance
- Budget and Operations
- Deployment

These committees carry out the purposes of CEFIA. As required in P.A. 11-80 a joint-standing committee of CEFIA and the Connecticut Energy Efficiency Fund (CEEF) is being established to coordinate programs and activities.

## KEY ELEMENTS OF THE COMPREHENSIVE PLAN

### Vision

The vision of the Clean Energy Finance and Investment Authority is to help ensure Connecticut's energy security and community prosperity by realizing its environmental and economic opportunities through clean energy finance and investments.

### Mission

To assist in the implementation of the Department of Energy and Environment Protection's (DEEP) Comprehensive Energy Plan and Integrated Resource Plan and the Department of Economic and Community Development's (DECD) economic development plans, the mission of CEFIA is to support the Governor's energy strategy to achieve cleaner, cheaper and more reliable sources of energy through clean energy finance.

### Goals

In order to achieve the vision and mission of CEFIA, the following are a set of goals for clean energy in Connecticut:

- Attract and deploy capital to finance the clean energy goals for Connecticut
  - Assist Connecticut in becoming the most energy efficient state in the nation
  - Scale-up the deployment of renewable energy in the state

[17] Chairperson of the Deployment Committee
[18] Chairperson of the Audit, Compliance and Governance Committee

- Support the infrastructure needed to lead the clean energy economy
- Develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers
- Reduce reliance on grants, rebates and other subsidies and move towards innovative low-cost financing of clean energy deployment

### Measures of Success

In order to determine the success of CEFIA's programs, the following are a core set of measures:

- Amount of clean energy deployed (i.e. MW and MWh)
- Total dollars of investment in clean energy
- Ratio of private capital to public and ratepayer funds
- Deploy X amount of private capital leveraged by Y amount of public funds by year Z
- Ratio of public and ratepayer funds invested in subsidies (i.e. grants and credit enhancements) versus financing programs (i.e. loans)
- Installed and levelized cost of clean energy resources (i.e. $/kW and $/kWh)

## PROGRAMS

CEFIA's programs will reflect the strategic transition away from technology innovation, workforce development, formal education and subsidies towards a focus on low-cost financing of clean energy deployment. Existing technology innovation, formal education, workforce development, and subsidy-based programs will either move towards a financing model or be transitioned to another public or quasi-public organization. CEFIA's new and statutorily required programs will all seek to leverage ratepayer dollars to deploy clean energy in Connecticut.

### Programs in Transition

As a result of Public Act 11-80, new policy approaches have been instituted to support the deployment of clean energy in Connecticut, including the ZREC-LREC policies. Also, as CEFIA transitions from a subsidy-driven model towards a low-cost financing and credit enhancement model, there are a number of existing programs that will be either phased out or transitioned to another organization over time.

#### ON-SITE DISTRIBUTED GENERATION "BEST OF CLASS" PROGRAMS

OSDG is a grant program that promotes the installation of a range of behind the meter clean energy generation systems in the commercial, industrial, institutional, not-for-profit, government and affordable housing sectors. The program requires that host sites undertake a reasonable level of energy efficiency upgrades (e.g. measures with less than a 5-year simple payback). Through the implementation of the ZREC and LREC policies in Q3 of 2012, the OSDG program will be phased out by July 1, 2012.

#### *Objectives*

CEFIA is currently supporting a final round of the OSDG program to ensure clean energy market continuity as the state transitions to the ZREC-LREC policy.

### *Financing Strategies*

CEFIA is providing its last grants to commercial, industrial and institutional ratepayers:

- $4.5 million competitive RFP to support transition to the ZREC market with a focus on solar PV
- $3.5 million open solicitation to support transition to the LREC market

## ALPHA PROGRAM

The Alpha Program invests in technologies beyond the stage of basic research and development, which requires further testing in a laboratory or simulated environment. As CEFIA focuses on financing the deployment of commercially available technologies as opposed to supporting technology innovation, the Alpha Program may be transitioned to another governmental entity or CEFIA will wind down activity in an orderly fashion by July 1, 2012.

### *Objectives*

Invest in early-stage, high-potential renewable energy companies and technologies that employ advanced energy methods including renewable energy, energy efficiency, and advanced energy storage techniques to address Connecticut's energy issues.

### *Financing Strategies*

CEFIA is providing a combination of grants and nonrecourse loan financing for the Alpha Program:

- $1.2 million competitive RFP has been completed and select bids are awaiting external technical review and staff recommendation for funding to the Board of Directors
- $200,000 made available to individual projects through a competitive RFP process - $50,000 grant and $150,000 nonrecourse loan
- Requirement that a minimum cash cost share of twenty-five percent (25%) applies to each project

## OPERATIONAL DEMONSTRATION PROGRAM

The Operational Demonstration Program supports the demonstration of individual technologies or integrated technology solutions that employ advanced energy methods. The program is not intended to support research and development or alpha-stage projects. As CEFIA focuses on financing the deployment of commercially available technologies as opposed to supporting technology innovation, the Operational Demonstration Program may be transitioned to another governmental entity or CEFIA will wind down activity in an orderly fashion by July 1, 2012.

### *Objectives*

Encourage the commercialization and deployment of innovative clean energy technologies in Connecticut to help create and grow a vibrant clean energy industry with accompanying jobs in the state.

### *Financing Strategies*

CEFIA is providing unsecured loan financing for the Operational Demonstration Program:

- $1.5 million competitive RFP has been completed and bids are awaiting external technical review and staff recommendations for funding to the Board of Directors
- Maximum loan amount for any individual project is $500,000
- Requirement that a minimum cash cost share of twenty-five percent (25%) applies to each project

## CLEAN TECH FUND

The Clean Tech Fund invests in early-stage clean energy companies that employ advanced energy methods including renewable energy, energy efficiency, and advanced energy storage technologies. DECD, Connecticut Innovations (CI) and CEFIA pledged funds to make equity investments in promising clean energy technologies and ventures. As CEFIA focuses on financing the deployment of commercially available technologies as opposed to supporting technology innovation, the Clean Tech Fund has been transitioned to CI.

### *Objectives*

Provide equity funding for high growth potential companies in Connecticut to support manufacturing and commercial deployment to help grow the clean energy industry in Connecticut.

### *Financing Strategies*

CEFIA is no longer providing equity capital to the Clean Tech Fund.

## TECHNOLOGY AND RESOURCE ASSESSMENTS

The Technology Assessment programs monitor the performance of (1) Connecticut-deployed fuel cell projects and (2) small wind projects deployed by the Clean Energy Fund. A Waste Heat Resource Assessment is underway to asses Connecticut's potential for power generation from waste heat. As CEFIA focuses on financing the deployment of commercially available technologies, the Technology & Resource Assessment Programs may be transitioned to another governmental entity or CEFIA will wind down activity in an orderly fashion by July 1, 2012.

### *Objectives*

For the fuel cell program, to substantiate the value proposition for fuel cell technologies. For the small wind program, to determine the feasibility of establishing a small wind rebate program. Both projects disseminate performance data and analysis to stakeholders. The Waste Heat Resource Assessment will determine the amount of waste heat that could be viably converted into electricity.

### *Financing Strategies*

CEFIA is no longer providing funding for the technology assessments.

## WORKFORCE DEVELOPMENT PROGRAMS

The post-secondary green job training programs offered by the Connecticut Technical High School System offers solar photovoltaic (PV) and solar thermal education and training. The program provides teacher professional development, curriculum materials, hands-on solar PV and solar thermal systems, diagnostic and troubleshooting equipment and materials to construct "Ehouses". As CEFIA focuses on financing the deployment of commercially available technologies, the workforce development programs will be transitioned to another governmental entity and/or the CEEF.

#### *Objectives*

Increase the knowledge and awareness of clean energy technologies and its benefits to society among Connecticut Technical High School faculty and students and prepare students for emerging employment opportunities in renewable energy and energy efficiency fields.

#### *Financing Strategies*

CEFIA will complete its existing funding obligations for the remaining nine (9) technical high schools with matched funds from the CEEF.

### FORMAL EDUCATION PROGRAMS

The Learning for Clean Energy Innovation program is a professional development opportunity for Connecticut teachers focused on renewable energy sources. Developed in consultation with the Connecticut Department of Education the program is offered statewide and provides education for teachers on how to incorporate specially designed alternative energy lessons into their existing curriculum, provides teacher training workshops, curriculum materials, and clean energy classroom toolkits. As CEFIA focuses on financing the deployment of commercially available technologies, the formal education programs will be transitioned to the eesmarts program of the CEEF.

#### *Objectives*

The LCEI program seeks to provide resources to support educators and students throughout the state of Connecticut in an effort to educate them about smart energy usage, the impact of their energy usage on the environment and the economics of clean energy.

#### *Financing Strategies*

CEFIA will complete its funding obligation for the development of curriculum and the Summer Institute workshops in conjunction with the CEEF's eesmarts program.

## Programs Required by Statute

Public Act 11-80 directs CEFIA to develop and implement the following clean energy programs.

### COMBINED HEAT AND POWER AND ANAEROBIC DIGESTER PILOT PROGRAMS

Section 103 of Public Act 11-80 directs CEFIA to establish two 3-year pilot programs (1) to promote the development of new combined heat and power (CHP) projects in Connecticut and (2) create a program to support on-site anaerobic digestion (AD) facilities to generate electricity and heat from organic waste.

#### *Objectives*

For CHP, each individual project must be below 2 MW in capacity size and the overall program cannot exceed 50 MW. For anaerobic digesters, up to 5 projects are to be supported each with a maximum size of 1,500 KW.

#### *Financing Strategies*

CEFIA will provide loans, power purchase agreements, and/or subsidies for these test pilot programs:

- CHP – incentives are capped at $350 per kilowatt (KW) and a total budget of $2 million per year for three (3) years for the test pilot
- AD – incentives are capped at $450 per kilowatt (KW) and a total budget of $2 million per year for three (3) years for the test pilot

## RESIDENTIAL SOLAR INVESTMENT PROGRAM

Per Section 106 of Public Act 11-80, CEFIA has established the Residential Solar PV Investment Program. Pursuant to the Act, CEFIA has published the first two steps of a schedule of declining incentives, in the form of performance-based incentives and expected performance-based buydowns. Given the new focus on finance rather than subsidies, CEFIA, will look to transition the program to a financing mechanism over time.

CEFIA will also develop a pilot program, the New England Solar Challenge, leveraging funding from philanthropic foundations in partnership with the Massachusetts Clean Energy Center. This program will use a proven community-based approach featuring trusted messengers (i.e., Solar Coaches and Ambassadors) along with a "Solarize" aggregation strategy to lower costs and accelerate adoption of solar.

### *Objectives*

The Residential Solar Investment Program will result in at least 30 megawatts of solar residential installations by December 31, 2022

### *Financing Strategies*

CEFIA will initially offer incentives in the form of performance-based incentives, expected performance-based buy-downs, credit enhancements and loans, with the goal of completely replacing direct incentives with loans.

## CONDOMINIUM RENEWABLE ENERGY GRANT PROGRAM

The Condominium Renewable Energy Grant Program will provide incentives and financing for clean energy sources, including solar energy, geothermal energy and fuel cells or other energy-efficient hydrogen-fueled energy, for residential condominium associations and residential condominium owners per Section 111 of P.A. 11-80.

### *Objectives*

The Condominium Renewable Energy Grant Program will provide financial support to residential condominium associations and residential condominium owners to purchase or lease clean energy sources.

### *Financing Strategies*

Per section 111 of Public Act 11-80, CEFIA will provide financial support in the form of grants to help residential condominium associations and residential condominium owners purchase or lease clean energy sources.

### GREEN LOAN GUARANTY FUND

Per section 124 of Public Act 11-80, CEFIA will establish the Green Loan Guaranty Fund (GLGF) to guarantee loans made by participating lending institutions to individuals, non-profits and businesses with less than 50 employees.

#### *Objectives*

Together with existing financing programs of the Energy Efficiency Board and the Connecticut Health and Educational Facilities Board, the GLGF will enable at least 15 percent of single family homes in Connecticut to receive efficiency improvements by 2020. Loan guarantees will support clean energy generation systems, energy conservation measures, replacement furnaces and boilers, and advanced energy-conserving equipment. Approval from the Bond Commission will be required for any investment made through the Green Loan Guaranty Fund.

#### *Financing Strategies*

Through the Winn Program, which creates a subsidy which is intended to attract smaller performance contractors to the multifamily (40 – 300 unit) housing market by making available low-interest debt capital to finance energy efficiency projects in this underserved market, CEFIA will commit $2.5 million as a loan loss reserve for some fraction (70-90%) of the first losses due to loan repayment default for projects in Connecticut.

## New Programs

CEFIA's new programs will use innovative financing techniques to leverage ratepayer dollars and attract private capital to finance clean energy in Connecticut.

### RESIDENTIAL CLEAN ENERGY FINANCING PROGRAM

The Residential Clean Energy Financing Program shall be a long-term comprehensive low interest loan and/or leasing program for clean energy installations (i.e. energy efficiency and renewable energy systems).

#### *Objectives*

The objectives of the program are to create a loan and/or credit enhancement program(s) that are both attractive to consumers and capital providers. Through low cost financing, the need for subsidies will be reduced over time if not eliminated. Through proper marketing to contractors and consumers, the financial products developed will create additional demand.

#### *Financing Strategies*

Through the use of a combination of repurposed American Recovery and Reinvestment Act (ARRA) State Energy Program (SEP) grant funds and ratepayer funds through the Connecticut Clean Energy Fund, residential clean energy financing programs will be developed.

### COMMERCIAL CLEAN ENERGY FINANCING PROGRAM

The Commercial Clean Energy Financing Program, developed with the Connecticut Development Authority, will finance clean energy projects in the private and public sector. The program consists of several elements, including, but not limited to:

- Support for the implementation of Commercial Property Assessed Clean Energy (PACE) should the legislature approve of it in the Spring 2012 session
- Creation of a Clean Energy Solutions initiative to provide technical assistance and low interest loans to businesses that have a strategic importance for the Department of Economic and Community Development

### *Objectives*

CEFIA will offer the public and private commercial sector support to address their energy problems with energy efficiency and renewable energy solutions.

### *Financing Strategies*

CEFIA will provide loans and loan enhancements at attractive terms and conditions.

## SOLAR THERMAL INVESTMENT PROGRAM

The Solar Thermal Investment Program will bridge the transition from the American Recovery and Reinvestment Act solar thermal program that CEFIA administered to a future, financing only program.

### *Objectives*

The Solar Thermal Investment Program will maintain and grow the contractor infrastructure in Connecticut for solar thermal installations and increase demand for these systems, while moving from an incentive towards a more sustainable financing program.

### *Financing Strategies*

The program will offer rebates that will decline rapidly from the current levels, which will only cover applications received through March 1, 2012.  The program will then transition to a more sustainable approach designed to allow a reasonable payback.

## FEASIBILITY STUDIES

Feasibility Studies provide financial support for assessing the technical and economic feasibility of using complex clean energy systems.

### *Objectives*

Assist commercial and industrial end-users and developers to make informed decisions about using complex clean energy systems by understanding and solving technical and economic uncertainties.

### *Financing Strategies*

CEFIA provides direct grants or indirect technical assistance support for Feasibility Studies:

- $750,000 combined total budget with Feasibility Studies program
- Up to $50,000 in grants or technical assistance for each project
- Must support the economic development goals of DECD and/or the energy goals of DEEP

## PREDEVELOPMENT LOANS

Predevelopment Loans support projects at the earliest stages of their development (i.e. siting, permitting, or feasibility analyses) to position them for follow-on investments from financial institutions.

#### *Objectives*
Support projects that are deploying commercially available and proven technologies for power production with a high likelihood of successful development and commercialization.

#### *Financing Strategies*
CEFIA provides unsecured loan financing for the Predevelopment Loan Program:

- $2,500,000 combined total budget with Predevelopment Loan program
- Maximum loan amount for any individual project is $500,000

### STRATEGIC INVESTMENTS
Strategic Investments are unique opportunities that arise that aren't directly associated with any existing program, but that the Board of Directors determines are deserving of financial support. Such investments must meet at least three (3) of five (5) key criteria to be considered as a strategic investment.

#### *Objectives*
Support unique project opportunities that have important strategic reasons for investment.

#### *Financing Strategies*
CEFIA will provide grants and loan financing for the Strategic Investments Program.

## Marketing and Outreach Programs

### CLEAN ENERGY COMMUNITIES
The Clean Energy Communities program serves as a platform for municipalities to lead by example in their support of energy efficiency and renewable energy and thereby encourage residents, businesses and institutions within the community and other cities and towns throughout the state to adopt similar measures. Key changes will include the formal partnership with the Energy Efficiency Fund as co-administrator of the program, performance-based incentives for meeting both renewable energy and energy efficiency milestones and bonuses for additional actions that demonstrate that a community is "investment ready" for clean energy (e.g., adoption of streamlined permitting and planning and zoning processes, commercial PACE, high performance building codes, finance seminars in conjunction with strategic partners such as realtor groups and chambers of commerce).

### COMMUNITY INNOVATION GRANTS
The Community Innovation Grants program provides micro-grants to qualifying communities to support projects that expand the market for clean energy. The program guidelines will be modified to provide assistance with energy benchmarking efforts as well as support for the "investment ready" initiatives described above including education and outreach on new energy financing mechanisms.

### NEIGHBOR TO NEIGHBOR ENERGY CHALLENGE
The Neighbor to Neighbor Energy Challenge is a U.S. Department of Energy (DOE) grant program administered by CEFIA in partnership with various public and private entities and 14

municipalities. CEFIA will incorporate lessons learned over the course of the three-year project (as well as through other Better Buildings projects) into its deployment, outreach and financing programs.

### SUN RISE NEW ENGLAND – OPEN FOR BUSINESS

Sun Rise New England – Open for Business project is a DOE grant program administered by CEFIA in partnership with various public and private entities, academic institutions, non-profits and 12 municipalities. The project partners will seek to improve processes for permitting, planning and zoning and interconnection processes, promote financing programs and test customer acquisition strategies with the goal of reducing the non-hardware costs associated with solar PV.

### LEAD BY EXAMPLE

The Lead By Example Initiative is led by DEEP with support from CEFIA and through funding from three philanthropic foundations. It is designed to meet certain goals of Public Act 11-80, which calls for a 10 percent reduction in energy used by State facilities by 2013 and a further 10 percent reduction by 1018. Following an initial focus on state facilities, the initiative will provide assistance to municipalities to achieve similar goals particularly with regard to energy benchmarking and energy performance savings contracts. In addition to bond funds from the state, CEFIA will provide low-cost financing for state building projects identified by an Energy Service Company (ESCO) and backed with a performance guarantee.

## MARKETING AND OUTREACH

CEFIA will provide full marketing and communications services and outreach for both end-use customers and financial audiences including website development and enhancements, program collateral, press releases, events, sponsorships, speaking engagements and social media. With respect to end-use customers, our strategy will be drawn from market research and national best practices as the organization transitions from rebate-driven programs to market-based programs that incorporate innovative financing opportunities. We will further utilize outreach programs to raise awareness and accelerate adoption of energy efficiency and renewable energy by promoting the full suite of financing tools authorized by Public Act 11-80.

CEFIA is also partnering with DEEP and the Energy Efficiency Fund on a statewide energy marketing initiative that will provide research-driven integrated branding, marketing, outreach and website development services in support of making Connecticut the nation’s leading state in clean energy. This project will develop a brand platform, marketing materials, website, social media and other tools that resonate with core audiences (e.g., residential, large and small commercial and industrial, institutional, municipal, non-profits, agricultural) and drive action to adopt broader and deeper energy efficiency measures and renewable energy technologies. The objective will be to change the clean energy market from one which is driven largely by the suppliers and contractors to a “pull-through” market driven by consumer demand and financing. The work plan and timelines are currently under negotiation but the project partners are striving for an initial launch and public relations campaign in June 2012 and rollout of an expanded website in September 2012.

## MONITORING AND EVALUATION

Robust monitoring and evaluation will be a part of all of CEFIA's major programs as we seek to improve program structures and delivery. These evaluations will consider, among other things, program metrics, measurement of performance, and process activities and improvements. Program plans for all major programs will include a budget allocation for monitoring and evaluation. CEFIA will rely on an open and competitive RFP process in selecting independence third-party evaluators.

## BUDGET

The fiscal year 2013 budget is under development with the Budget and Operations Committee.