



**CLEAN ENERGY**  
FINANCE AND INVESTMENT AUTHORITY

May 30, 2013

Dear Clean Energy Finance and Investment Authority Board of Directors:

We are holding two separate special meetings of the Board of Directors on Thursday, June 6, 2013 from 9:00-10:00 a.m. and Monday, June 10, 2013 from 4:00-5:00 p.m. These meetings will be held at our new office at 845 Brook Street, Building 2, Rocky Hill, CT 06067 in the Colonel Albert Pope Board Room.

Both meetings will cover the same material – Program Performance Review for FY 2013 with respect to the two-year Comprehensive Plan. You need only attend one of these special meetings.

Our one-hour agenda includes the following updates:

- **Statutory and Infrastructure Sector Programs** – a review by Dale Hedman, Director of Statutory and Infrastructure Programs, on the progress made with respect to our legislatively mandated programs as well as our grid-tied initiatives.
- **Residential Sector Programs** – a review by Kerry O’Neill, our new Director of Residential Programs, on the status of our new financing programs for homeowners.
- **Institutional Sector Programs** – a brief review by myself on our institutional programs and emerging efforts to work alongside DEEP to support “Leading by Example”.
- **Commercial and Industrial Sector Programs** – a review by Jessica Bailey, Director of C-PACE, on the progress made developing and now implementing C-PACE across the state.
- **Transition and Outreach Programs** – an overall update on the progress made towards our Comprehensive Plan targets by Mackey Dykes, Chief of Staff, and myself, and also an overview on the transition programs and revisions to our outreach programs.

This special meeting will give you an opportunity to engage with the staff and clarify any questions you might have with respect to where we stand on our two-year Comprehensive Plan (2013-2014).

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,

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

Bryan Garcia  
President and CEO



# CLEAN ENERGY

## FINANCE AND INVESTMENT AUTHORITY

### AGENDA

Special Meetings of the Board of Directors of the  
Clean Energy Finance and Investment Authority  
Albert Pope Board Room  
845 Brook Street, Rocky Hill, CT 06067

#### **Thursday, June 6, 2013**

9:00-10:00 a.m.

<https://www4.gotomeeting.com/join/370141871>

Dial +1 (773) 897-3000

Access Code: 370-141-871

Audio PIN: Shown after joining the meeting

Meeting ID: 370-141-871

#### **Monday, June 10, 2013**

4:00-5:00 p.m.

<https://www4.gotomeeting.com/join/209932767>

Dial +1 (805) 309-0012

Access Code: 209-932-767

Audio PIN: Shown after joining the meeting

Meeting ID: 209-932-767

Staff Invited: Jessica Bailey, Mackey Dykes, Brian Farnen, Bryan Garcia, Dale Hedman, Bert Hunter, and Kerry O'Neill

1. Call to order
2. Program Performance Reviews for FY 2013
  - a. Statutory and Infrastructure Programs – Dale Hedman (Director of Statutory and Infrastructure Programs) – 15 minutes
  - b. Residential Sector Programs – Kerry O'Neill (Director of Residential Programs) – 15 minutes
  - c. Institutional Sector Programs – Bryan Garcia (President and CEO) – 5 minutes
  - d. Commercial and Industrial Sector Programs – Jessica Bailey (Director of C-PACE) – 15 minutes
3. Comprehensive Plan Review for FY 2013 – Transition and Outreach Programs – Bryan Garcia and Mackey Dykes – 10 minutes
4. Adjourn

\*Denotes item requiring Board action

***Next Regular Meeting: Friday, June 21, 2013  
Clean Energy Finance and Investment Authority***

***Colonel Albert Pope Board Room  
845 Brook Street, Rocky Hill, CT 06067***



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

**Agenda Item #1**

Call to Order

June 6, 2013



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

**Agenda Item #2**

Program Performance Reviews for FY 2013

June 6, 2013

# Review of FY 2013 Program Performance Outline



- ▶ **Comprehensive Plan** – where do we stand overall and by sector on the following key metrics
  - ▶ Amount of clean energy deployed (or produced) per dollar of ratepayer funds at risk
  - ▶ Amount of clean energy deployed (i.e. MW) and produced (i.e. MWh) over the life of a project and the annual energy saved (i.e. MMBtu and \$'s)
  - ▶ Ratio of ratepayer funds to private capital and ratio of ratepayer funds committed and invested in subsidies, credit enhancements, and loans-leases
  - ▶ Number and amount of grants, loans, and leases
- ▶ **Lessons Learned** – what key lessons have been learned from the first year of the Comprehensive Plan implementation
- ▶ **FY 2014 Quarterly Targets** – performance targets by sector and program



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

## **Agenda Item #2a**

Program Performance Reviews for FY 2013

Statutory and Infrastructure Sector Programs

June 6, 2013



# Statutory and Infrastructure Programs

## Program Performance for FY 2013



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	Sector Targets (through 2014)	RSIP	CHP and AD	Grid and Infrastructure	Total (as of today)
<b>Ratepayer or Public Capital at Risk</b>	\$21,300,000	\$11,015,314	\$934,500	\$5,800,000	\$17,749,814
<b>Private Capital</b>	\$88,600,000	\$20,261,885	\$8,554,500	\$65,000,000	\$93,816,385
<b>Deployed (MW)</b>	26.1	7.0	3.7	14.8	25.5
<b># of Loans/Installs</b>	853	971	4	1	975
<b>Lifetime Produced (MWh)</b>	-	165,529	340,950	1,725,000	2,231,279
<b>Lifetime Saved (\$)</b>	-	-	\$16,500,000	-	\$16,500,000
<b>Full Time Equivalent Staff</b>		5.2	1.2	1.0	7.3

### REFERENCES

Status to Date reflects in aggregation the number of projects approved, under construction, or completed for each of the four (4) program sectors – residential, C&I, institutional, and statutory and infrastructure.



- ▶ **Objective Function** – 2,231,279,000 kWh produced with \$19,342,914 of ratepayer funds at risk equates to 115 kWh produced per \$1 of ratepayer funds at risk
- ▶ **Key Ratios**
  - ▶ Ratepayer Funds of \$17.8 million : Non-Ratepayer Funds of \$93.8 million is a ratio of \$1.00 of ratepayer funds to \$5.27 of non-ratepayer funds
  - ▶ Subsidies of \$11.9 million : Credit Enhancements of \$0 : Loans and Leases of \$5.8 million or 33% of program investments are in loans and leases
- ▶ **Deployment** – 25.5 MW

# Statutory and Infrastructure Programs

## Lessons Learned



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- ▶ **Community-Based Marketing Works** – installed costs down with competition, customer demand up with tiered pricing, and paybacks are quicker...focus now is on scaling up for solar PV and adapting the model for other technologies and sectors.
- ▶ **Competitive RFP Sufficient for CHP** – challenge is to transition away from subsidies and move towards financing (i.e. C-PACE). Status of Class III RPS will determine the future of CHP subsidies.
- ▶ **Competitive RFP Limited for AD** – proactive customer aggregation and pooled financing strategy is the focus for wastewater treatment plants
- ▶ **Microgrid Financing Represents and Opportunity** – fund for third-party financing of fuel cells (i.e. solar lease), direct financing of demonstration projects, and R&D on financial innovation...all depending upon impacts of state budget on CEFIA

# Statutory and Infrastructure Programs

## FY 2014 Quarterly Targets



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### *Installed Capacity (MW)*

Program	Q1	Q2	Q3	Q4	Total FY 2014
RSIP	2	3	3	4	12
CHP and AD	-	3	-	3	6
Grid and Infrastructure	-	-	-	-	-
<b>Total</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>7</b>	<b>18</b>

### *Projects and Funding*

Program	Q1	Q2	Q3	Q4	Total FY 2014
Projects	285	428	425	584	1,722
Funding	\$2,500,000	\$4,750,000	\$3,000,000	\$6,000,000	\$16,250,000



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

## **Agenda Item #2b**

Program Performance Reviews for FY 2013

Residential Sector Programs

June 6, 2013

# Residential Programs

## Program Performance for FY 2013



	<b>Sector Targets</b> (through 2014)	<b>Smart-E and Cozy Loans</b>	<b>Solar Lease</b>	<b>Solar Loan</b>	<b>Total</b> (as of today)
<b>Ratepayer or Public Capital at Risk</b>	\$12,000,000	\$2,910,000	\$11,100,000	\$1,500,000	\$15,510,000
<b>Private Capital</b>	\$60,000,000	\$33,300,000	\$40,000,000	-	\$73,300,000
<b>Deployed (MW)</b>	15.0	-	-	-	-
<b># of Loans/Installs</b>	4,250	-	-	-	-
<b>Lifetime Produced (MWh)</b>	-	-	-	-	-
<b>Lifetime Saved (\$)</b>	-	-	-	-	-
<b>Full Time Equivalent Staff</b>		3.6	1.9	0.8	6.3

### REFERENCES

Status to Date reflects in aggregation the number of projects approved, under construction, or completed for each of the four (4) program sectors – residential, C&I, institutional, and statutory and infrastructure.

# Residential Programs

## Key Metrics



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### ▶ Key Ratios

- ▶ Ratepayer Funds of \$15,510,000 : Non-Ratepayer Funds \$73,300,000 for a ratio of 1 : 4.7
- ▶ Subsidies of \$0 : Credit Enhancements \$6,410,000 : Loans and Leases \$9,100,000

# Residential Programs

## Lessons Learned



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- ▶ **Banks Want to Lend** – capital is available, and is not a limiting factor.
- ▶ **Good Program Design Attracts Capital** – FY 2013 results demonstrate this – the Smart-E and Solar lease programs in particular.
- ▶ **Low FICOs are a Challenge** – banks aren't enthusiastic about FICOs below 680 and require extra credit enhancements to lend there. Not yet clear whether this segment will represent significant volume and whether other strategies will be needed.
- ▶ **Real Innovation Takes Time** – to develop optimal program design, then attract right capital partners, then to develop and negotiate docs to support all the counterparty agreements needed for new programs.
- ▶ **Training is Essential** – contractors and lenders are critical partners and require focused investment in ongoing training/support on program details, process, marketing. Critical to channel marketing strategy.



# Residential Programs

## FY 2014 Quarterly Targets



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### *Installed Capacity (MW) and Energy Saved (MMBtu)*

Program	Q1	Q2	Q3	Q4	Total FY 2014
Smart-E and Cozy	TBD / 2,600	TBD / 5,400	TBD / 10,800	TBD / 18,800	TBD / 37,600
Solar Lease	1.3 / 380	1.4 / 380	2.0 / 935	1.0 / 565	5.7 / 2,260
Solar Loan	0.2 / n.a.	0.3 / n.a.	0.2 / n.a.	0.2 / n.a.	0.9 / n.a.
Total	1.5 / 2,980	1.7 / 5,780	2.2 / 11,735	1.2 / 19,365	6.6 / 39,860

### *Projects and Funding*

Program	Q1	Q2	Q3	Q4	Total FY 2014
Projects	358	479	810	960	2,607
Funding	\$2,002,000	\$2,190,000	\$2,691,000	\$2,046,000	\$8,929,000



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

## **Agenda Item #2c**

Program Performance Reviews for FY 2013

Institutional Sector Programs

June 6, 2013

# Institutional Programs

## Program Performance for FY 2013



	Sector Targets (through 2014)	Campus Efficiency Now	Solar Lease	Total (as of today)
Ratepayer or Public Capital at Risk	\$2,000,000	\$1,000,000	\$1,900,000	\$2,900,000
Private Capital	\$8,000,000	-	\$10,000,000	\$10,000,000
Deployed (MW)	5.0	-	-	-
# of Loans/Installs	30	-	-	-
Lifetime Produced (MWh)	-	-	-	-
Lifetime Saved (\$)	-	-	-	-
Full Time Equivalent Staff		0.9	0.7	1.6

### REFERENCES

Status to Date reflects in aggregation the number of projects approved, under construction, or completed for each of the four (4) program sectors – residential, C&I, institutional, and statutory and infrastructure.

# Institutional Programs

## FY 2014 Quarterly Targets



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### *Installed Capacity (MW) and Energy Saved (MMBtu)*

Program	Q1	Q2	Q3	Q4	Total FY 2014
Campus Efficiency Now	0 / 1,250	0 / 1,250	0 / 1,250	0 / 1,250	0 / 5,000
Solar Lease	0.5 / 0	0.5 / 0	0.5 / 0	0.5 / 0	2.0 / 0
Total	0.5 / 1,250	0.5 / 1,250	0.5 / 1,250	0.5 / 1,250	2.0 / 5,000

### *Projects and Funding*

Program	Q1	Q2	Q3	Q4	Total FY 2014
Projects	7	7	8	8	30
Funding	\$565,000	\$565,000	\$565,000	\$565,000	\$2,260,000



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

## **Agenda Item #2d**

Program Performance Reviews for FY 2013

Commercial and Industrial Sector Programs

June 6, 2013

# C-PACE program development



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June 2012

Public Act 12-2 signed by Governor, enabling C-PACE financing in CT.

September 2012

Bridgeport & Norwalk become first two municipalities to opt into program.

November 2012

C-PACE Program Guidelines published.

December 2012

Qualified capital providers join C-PACE.

January 2013

C-PACE program launches: website & application go live.

February 2013

CEFIA Board creates \$20M Construction Term Loan Program.

March 2013

C-PACE program trains 150+ contractors.

April 2013

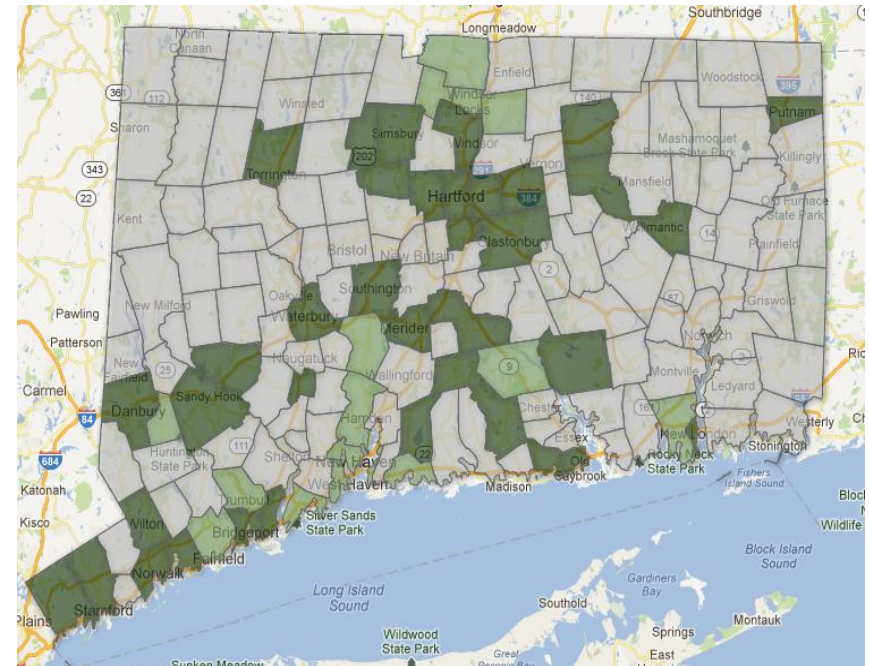
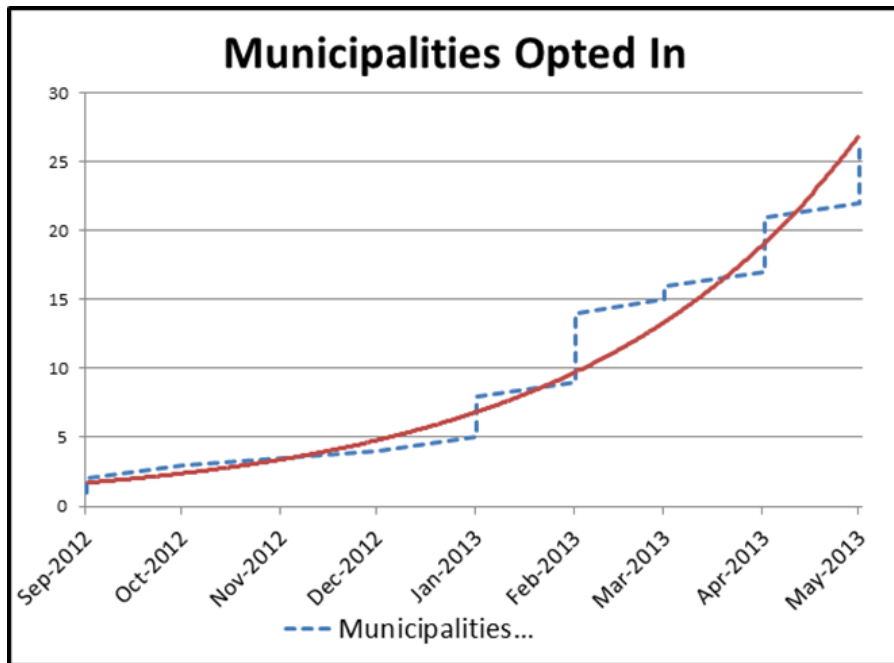
First C-PACE project closes.

May 2013

35<sup>th</sup> municipality joins C-PACE program.

# Municipal Outreach

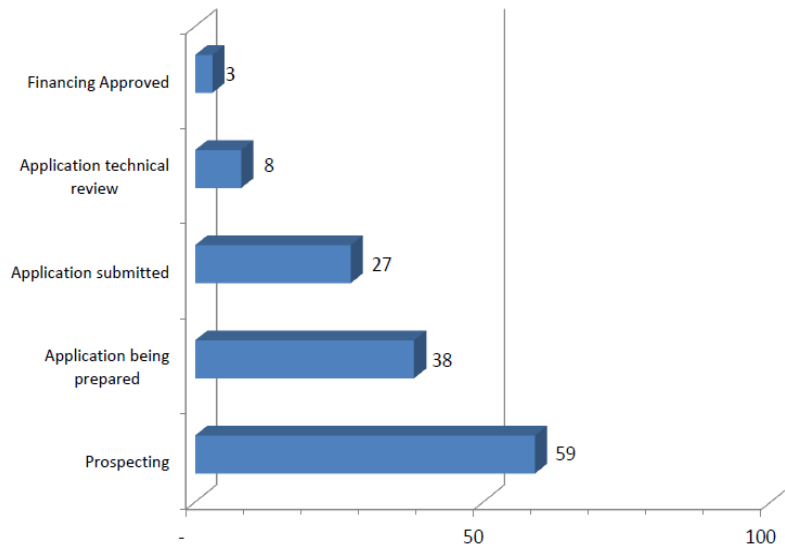
- ▶ 44 towns on board
- ▶ Over 50% of market eligible



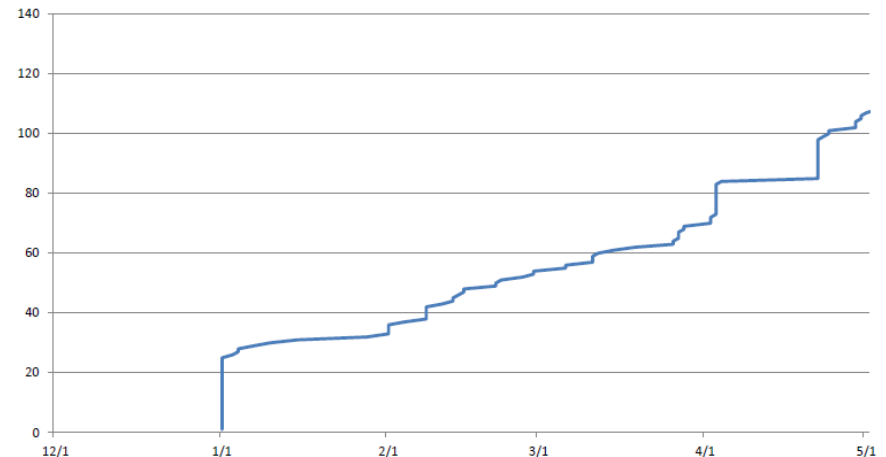
# Applications and pipeline

- ▶ 135 deals in the pipeline = roughly \$51M in transactions
- ▶ 56%, or 76 transactions, are progressing towards financing

Projects in Pipeline By Stage



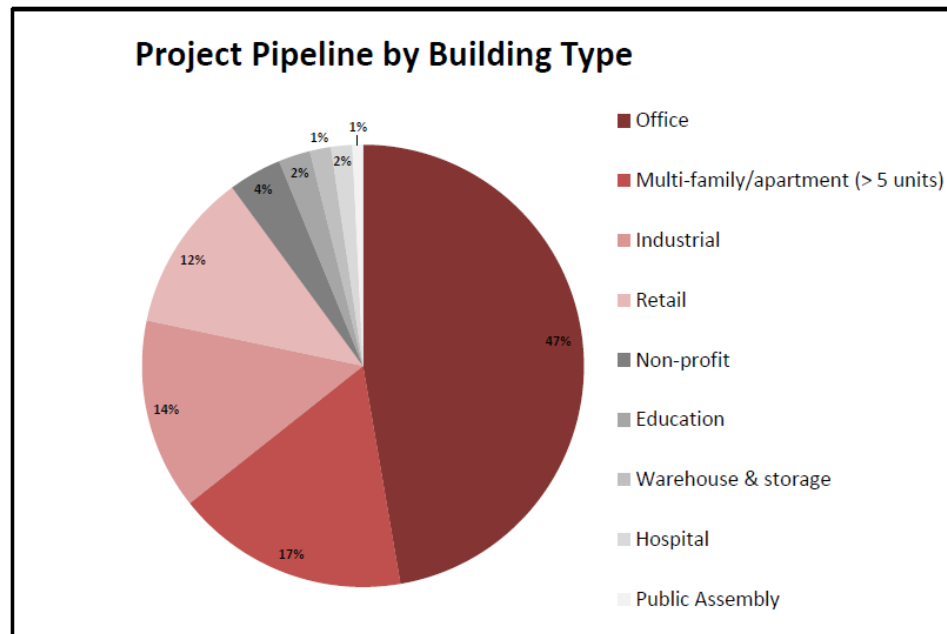
Intake of Opportunities Over Time





# Project breakdown

- ▶ 50% of C-PACE applications are for energy efficiency upgrades; 36% for renewable energy systems (mostly solar); and 15% both.
- ▶ 50% of C-PACE applications are from office buildings, with the balance split between industrial, multi-family, retails, and non-profit.



# Commercial and Industrial Programs

## Program Performance for FY 2013



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	Sector Targets (through 2014)	C-PACE	CEBS	Total (as of today)
<b>Ratepayer or Public Capital at Risk</b>	\$10,000,000	\$3,443,106	\$250,000	\$3,693,106
<b>Private Capital</b>	\$30,000,000	-	-	-
<b>Deployed (MW)</b>	5.0	0.1	-	0.1
<b># of Loans/Installs</b>	150	5	1	5
<b>Lifetime Produced (MWh)</b>	-	2,376	-	2,376
<b>Lifetime Saved (\$)</b>	-	\$10,388,508	-	\$10,388,508
<b>Full Time Equivalent Staff</b>		7.2	0.2	7.4

### REFERENCES

Status to Date reflects in aggregation the number of projects approved, under construction, or completed for each of the four (4) program sectors – residential, C&I, institutional, and statutory and infrastructure.



- ▶ **Objective Function** – Lifetime Clean Energy Produced (2,376 MWh) / Ratepayer Funds at Risk (\$3,693,106)
- ▶ **Key Ratios**
  - ▶ Ratepayer Funds of (\$3,693,106) : Non-Ratepayer Funds (\$0)
  - ▶ Subsidies (\$250,000 ) : Credit Enhancements (NA) : Loans and Leases (\$3,693,106)
- ▶ **Deployment** – Clean Energy Deployed (0.1 MW)

# Commercial and Industrial Programs

## Lessons Learned



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### Key Challenges:

- ▶ Lender Consent
- ▶ No Benchmarking/Disclosure Policy
- ▶ Uncertain ZREC market
- ▶ Fragmented Real Estate Market
- ▶ Few full service companies
- ▶ New financial product
- ▶ DECD Education/Coordination

# Commercial and Industrial Programs

## FY 2014 Quarterly Targets



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### *Installed Capacity (MW) and Energy Saved (MMBtu)*

Program	Q1	Q2	Q3	Q4	Total FY 2014
C-PACE	0.5	1.0	1.5	2.0	5.0
CEBS	-	-	-	-	-
Total	0.5	1.0	1.5	2.0	5.0

### *Projects and Funding*

Program	Q1	Q2	Q3	Q4	Total FY 2014
Projects	8	12	15	20	55
Funding	\$4,000,000	\$6,000,000	\$7,500,000	\$12,500,000	\$30,000,000



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

**Agenda Item #3**

Comprehensive Plan Review for FY 2013

June 6, 2013

# Program Performance for FY 2013

## Comprehensive Plan



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	Targets (through 2014)	Statutory & Infrastructure	Residential	Institutional	Commercial & Industrial	Total (as of today)
<b>Ratepayer or Public Capital at Risk</b>	\$45,300,000	\$17,749,814	\$15,510,000	\$2,900,000	\$3,693,106	\$39,852,920
<b>Private Capital</b>	\$186,600,000	\$93,816,385	\$73,300,000	\$10,000,000	*	\$177,116,385
<b>Deployed (MW)</b>	51.1	25.5	-	-	0.1	25.6
<b># of Loans/Installs</b>	5,283	975	-	-	5	980
<b>Lifetime Produced (MWh)</b>	-	2,231,279	-	-	2,376	2,323,655
<b>Annual Saved (kMMBtu)</b>	180	82	-	-	9	91
<b>Full Time Equivalent Staff</b>		7.3	6.3	1.6	7.4	22.6

### REFERENCES

Status to Date reflects in aggregation the number of projects approved, under construction, or completed for each of the four (4) program sectors – residential, C&I, institutional, and statutory and infrastructure.

# Transition Programs

## Complete



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- ▶ **On Site Distributed Generation Program**
- ▶ **Early Stage Technology Innovation Programs**
  - ▶ Alpha Program
  - ▶ Operational Demonstration Program
  - ▶ Clean Tech Fund
  - ▶ Technology Resource Assessments – fuel cells and micro wind
- ▶ **Education Programs**
  - ▶ Workforce Development Program
  - ▶ Formal Education Program



# Outreach Programs

## Revisions in Implementation



- ▶ **Workforce Development Program** – made final investment in technical high school E-House program and transitioned to UI
- ▶ **Formal Education Program** – transitioned to UI
- ▶ **Clean Energy Communities Program**
  1. Restructured to align with new mission of clean energy deployment and financing and support goals of the four sectors
  2. Will allow municipalities to satisfy pledge by becoming “investment ready for clean energy” (e.g., opting in to C-PACE, adopting stretch building codes, implementing streamlined permitting for renewable systems, etc.)
  3. Incentivizes towns and task forces to promote deployment of clean energy (renewable energy systems, energy efficiency upgrades and fuel conversions) and utilization of new financing products (i.e. leases and loans)

# Outstanding Commitments

## Prior to July 1, 2012



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- ▶ **Outstanding (as of June 30, 2012)** – \$27 million of outstanding commitments
  - ▶ Project 150 – \$7 million
  - ▶ OSDG – \$12 million
  - ▶ Solar Hot Water and Geothermal - \$2.5 million
  
- ▶ **Outstanding (as of April 30, 2013)** – \$12 million of outstanding commitments
  - ▶ Project 150 - \$1.5 million (Bridgeport Fuel Cell Park)
  - ▶ OSDG – \$7 million
  - ▶ Solar Hot Water - \$2 million



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

- ▶ **Review of Draft FY 2014 Budget – May 8, 2013 (Complete)**
- ▶ **Further Review of Draft FY 2014 Budget – June 11, 2013**

### ▶ **Board of Directors**

- ▶ **Overview of the FY 2013 Program Performance to Comprehensive Plan and Draft FY 2014 Budget Processes – May 17, 2013 (Complete)**
- ▶ **Review of FY 2013 Program Performance to Comprehensive Plan – June 6<sup>th</sup> and 10<sup>th</sup> (In Process)**
- ▶ **Recommendation for the Approval of the FY 2014 Budget – June 21, 2013**



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

**Agenda Item #4**

Adjourn

June 6, 2013

# How does it work?



- ▶ 1. Building owner engages contractor to develop scope of work; works with utilities (CEEF) to incorporate incentives



**cp**pace

- ▶ 2. Owner applies to C-PACE program at [www.c-pace.com](http://www.c-pace.com)

**cp**pace



- ▶ 3. Third party review of technical and financial details

# How does it work?

**cpace** →



- ▶ 4. C-PACE alerts municipality; lien is placed on property

**cpace** →



- ▶ 5. CEFIA offers 100% upfront financing to owner



→



- ▶ 6. Project commences

# How does it work?



- ▶ 7. Owner remits payment to municipality as benefit assessment charge



**cp**pace

- ▶ 8. Municipality remits PACE assessment to CEFIA

**cp**pace



- ▶ 9. CEFIA “sells down” transaction to capital provider to replenish funds

# Capital Partners



## Construction and Term Financing from CEFIA

- CEFIA authorized \$20M short term facility for construction and term financing.

## Qualified Capital Providers

- CEFIA qualified 10 capital providers through a RFI.
- “Lending tree” model

## Owner Arranged Financing

- Property owner is free to choose their capital provider from the private market.



**structured finance** ASSOCIATES, LLC

Patolan Partners





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# Memo

**To:** Board of Directors of the Clean Energy Finance and Investment Authority

**From:** Dale Hedman (Director of Statutory and Infrastructure Programs), Bryan Garcia (President and CEO), Bert Hunter (EVP and CIO), Mackey Dykes (Chief of Staff)

**Cc:** Jessica Bailey (Director of C-PACE), Andy Brydges (Director of Institutional Sector Programs), and Kerry O'Neill (Director of Residential Programs)

**Date:** May 30, 2013

**Re:** Statutory and Infrastructure Sector Programs – Program Performance FY 2013

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## Overview

Public Act 11-80 (the Act), *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future*, requires that the Clean Energy Finance and Investment Authority (CEFIA) develop and implement several programs to support the deployment of solar photovoltaic (PV), combined heat and power (CHP), and anaerobic digester (AD) technologies. Alongside the Act, through the Comprehensive Energy Strategy (CES) released by the Department of Energy and Environmental Protection (DEEP), there is the goal of delivering cleaner, cheaper and more reliable sources of energy through the deployment of in-state renewable energy sources, including the need for more microgrids.

With respect to the Total Addressable Market (TAM), a quick metric to help prioritize the business opportunities of the underlying potential for residential solar PV, CHP and AD, the following are estimates of the technical potential:

- Residential Solar PV – there is a TAM of between 560 to 1,300 MW of residential solar PV in Connecticut.<sup>1</sup> To date, the Serviceable Available Market (SAM) is 23 MW of solar PV deployment leaving a substantial market opportunity for investment of over \$2.5 billion.
- Industrial CHP – there is a TAM of nearly 700 MW of industrial CHP in Connecticut.<sup>2</sup> To date, the SAM is 260 MW of CHP deployments leaving about 440 MW of market opportunity for investment of over \$750 million.

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<sup>1</sup> *U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis* by NREL (July 2012) estimates 1,300 MW. CEFIA staff estimate 560 MW, or approximately 10% of the 870,000 single-family homes in Connecticut. A more thorough assessment of the TAM is being done in FY 2014 to better determine the market opportunity for residential solar PV deployment in Connecticut.

<sup>2</sup> *2013 Comprehensive Energy Strategy for Connecticut* by the Department of Energy and Environmental Protection (February 2013).

- Anaerobic Digester – for wastewater treatment facilities, there is a TAM of 90 locations or about 15 MW of capacity in Connecticut. To date, the SAM is 18 facilities with anaerobic digesters with approximately 3 MW of generating capacity leaving approximately 12 MW of market opportunity for an investment of between \$150-\$200 million

It is clear that residential solar PV represents a significant market opportunity to deploy in-state renewable energy resources while serving the goals of delivering cleaner, cheaper and more reliable sources of energy while creating jobs and supporting local economic development.

### Performance Targets and Progress

With respect to the Comprehensive Plan approved by the Board of Directors of the Clean Energy Finance and Investment Authority on September 28, 2012, the following are the performance targets through 2014 and the progress made thus far for the Statutory and Infrastructure Sector Programs (see Table 1). Also, for comparative purposes, included are the total performance targets for all programs through 2014.

**Table 1. Program Performance Targets and Progress Made to the Comprehensive Plan as of May 30, 2013**

Key Metrics	Program Performance Targets	Program Progress	Overall Targets
Ratepayer Capital at Risk <sup>3</sup>	\$21,300,000	\$17,749,814	\$45,300,000
Private Capital	\$88,600,000	\$93,816,385	\$186,600,000
Deployed (MW)	26.1	25.5	51.1
# of Loans/Projects	853	975	5,283
Lifetime Production (MWh)	-	2,231,279	-
Annual Saved (kMMBtu)	-	82	180
Lifetime Saved (\$)	-	\$16,500,000	-

The ratio of ratepayer funds to private capital for the Statutory and Infrastructure Sector Programs to date is 5:1. Of the nearly \$18 million in ratepayer funds committed or invested to date, the following is a breakdown of the use of these funds:

- \$11.9 million in subsidies was invested to support 974 projects – 971 residential solar PV installations or 7.0 MW, and 3 CHP installations or 3.7 MW
- \$5.8 million in loans and leases to support 1 project – the 15 MW Bridgeport Fuel Cell Park. It should be noted, that there is an estimated additional ratepayer impact of approximately \$50 million with the BFCP as the result of Project 150.<sup>4</sup>

With regards to the objectives functions of:

<sup>3</sup> Includes funds from the Clean Energy Fund, RGGI allowance revenue, repurposed ARRA-SEP funds, and other resources that are managed by CEFIA that are committed and invested in subsidies, credit enhancements, and loans and leases.

<sup>4</sup> In comparison to Round 1 of the LREC auction, 14 fuel cell projects were selected by CL&P and UI totaling 6.8 MW of deployment. Ratepayers will pay \$3.5 million a year in LREC costs for the next 15 years for a total of \$52.5 million.

- Increasing the amount of clean energy produced per dollar of ratepayer funds at risk; and
- Increasing the efficiency of consumption to maximize benefits to consumers per dollar of ratepayer funds at risk

The following is a breakdown of the progress made to date (see Table 2):

**Table 2. Progress Achieved on the Objective Functions as of May 30, 2013**

Lifetime Production (MWh)	2,231,279
Ratepayer Capital at Risk (\$)	\$17,749,814
Administrative and Program Costs (\$)	\$1,593,100
Ratepayer Funds at Risk (\$)	\$19,342,914
Production per Funds at Risk (kWh/\$)	115 kWh/\$1.00

Lifetime Saved (\$)	\$16,500,000
Ratepayer Capital at Risk (\$)	\$17,749,814
Administrative and Program Costs (\$)	\$1,593,100
Ratepayer Funds at Risk (\$)	\$19,342,914
Lifetime Savings per Funds at Risk	\$0.85/\$1.00

Overall, the Statutory and Infrastructure Sector Programs are ahead of target and we expect significant growth in residential solar PV deployment in FY 2014.

### **Description of Statutory and Infrastructure Sector Programs**

The following are brief descriptions of the Statutory and Infrastructure Sector Programs being implemented or in development, progress made thus far, and the contributions towards the achievement of the targets noted in the Comprehensive Plan.

- Residential Solar Investment Program (RSIP) – a subsidy program that provides up to one-third of CEFIA’s annual receipts from the Clean Energy Fund (approximately \$9.25 million) that are approved by the Board of Directors for the goal of meeting Section 106 of the Act. The program provides two different types of incentives that decrease over time: an upfront rebates and a performance-based incentive that is paid out over six-years. The RSIP is one of CEFIA’s key programs – the results of which are reported on a weekly basis.<sup>5</sup> CEFIA has thus far achieved great progress in reducing installed costs and increasing consumer demand for residential rooftop solar PV (see Figure 1). To support the successful implementation of the RSIP, CEFIA has pursued federal grants<sup>6</sup> and undertaken new and innovative marketing campaigns<sup>7</sup> to reduce soft costs that result in making solar PV more accessible and affordable to customers. With the roll-out of the various financing programs – Solar Lease, Solar Loan, and the Smart-E Loan –

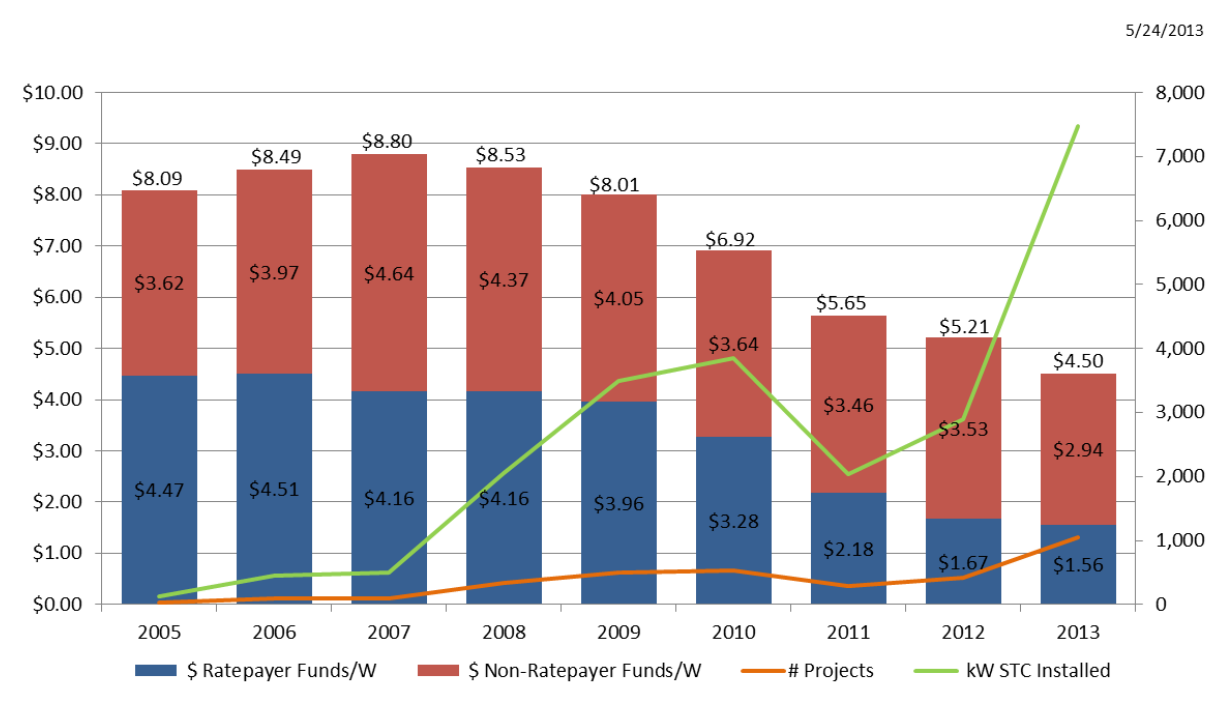
<sup>5</sup> Market Watch Report – [click here](#).

<sup>6</sup> CEFIA won a \$480,000 SunShot Initiative grant in 2012 to reduce soft costs in 12 communities in Connecticut and recently applied with four (4) other New England states for a follow-on grant that would bring an additional \$500,000 in federal grants to Connecticut for statewide rollout.

<sup>7</sup> CEFIA partnered with SmartPower and several private foundations to launch the Solarize Connecticut campaign which resulted in a 20% cost reductions in installed costs and a significant increase in deployment – [click here](#).

we expect that the RSIP deployment of solar PV will increase while the need for subsidies will decrease.

Figure 1. Installed Cost (\$/W) and Installed Capacity (kW) by Fiscal Year



- **Capital Competition** – to further support the RSIP and transition from subsidies to financing, the Capital Competition was approved by the Deployment Committee to provide \$1 million of low interest (i.e. 2%) and long-term (i.e. 20 years) debt to a qualified installer, third-party financier, or financial institution that can maximize the amount of residential solar PV deployed per dollar of ratepayer funds at risk. CEFIA staff conducted major outreach on the RFP including a Yale-DOE webinar (over 150 participants on the webinar), Wall Street Green Trading Summit announcement (over 150 participants at the event and over 100,000 noticed by e-mail), and a pre-bid webinar (with 20 people in attendance). Only one (1) proposal was received.
- **CHP and AD Program** – a subsidy and loan program that provides up to \$4 million a year – \$2 million for CHP and \$2 million for AD – that are approved by the Board of Directors for the goal of meeting Section 103 of the Act. The program has undergone several RFPs, which have resulted in very few project submissions. The CEFIA staff is now pursuing a different approach for CHP (an open solicitation instead of an RFP) and AD (a market potential study with the goal of wrapping up a number of AD facilities at wastewater treatment facilities) to generate better deal flow.
- **Grid and Infrastructure Program** – a loan program that provides capital to support the deployment of large-scale grid-tied renewable energy projects that are approved by the Board of Directors. The program supported the financing of the Bridgeport Fuel Cell Park and expects to play a role in future renewable energy projects that are grid-tied or microgrids.

Overall, the implementation of these three programs has been steady and progress has been substantial given the Comprehensive Plan targets through 2014. We expect to deliver results beyond the Comprehensive Plan targets – with residential solar PV being a major focus of local renewable energy deployment and job creation.

Of these programs, the following is a breakdown of their contributions made thus far towards the performance target and the human resources required to implement them (see Table 3):

**Table 3. Program Progress Made as of May 30, 2013**

<b>Key Metrics</b>	<b>RSIP</b>	<b>CHP and AD Program</b>	<b>Grid and Infrastructure Program</b>	<b>Total Program Progress</b>
Date of Program Approval	Feb 2012	Feb 2012	Nov 2012	
Date of Program Launch	Mar 2012	Jun/Dec 2012	Dec 2013	
Ratepayer Capital at Risk	\$11,015,314	\$934,500	\$5,800,000	\$17,749,814
Private Capital	\$20,261,885	\$8,554,500	\$65,000,000	\$93,816,385
Deployed (MW)	7.0	3.7	14.8	25.5
# of Loans/Installations	971	4	1	975
Lifetime Production (MWh)	165,529	340,950	1,725,000	2,231,279
Annual Saved (kMMBtu)	-	1,230	-	1,230
Lifetime Saved (\$)	-	\$16,500,000	-	\$16,500,000
Full Time Equivalent Staff	5.2	1.2	1.0	7.3
Program Expenses	\$1,254,600	\$274,400	\$64,100	\$1,593,100

### **Lessons Learned**

Based on the implementation of the Statutory and Infrastructure Sector Programs thus far, the following are the “Top 4” lessons learned:

1. **Community-Based Marketing Works for Solar PV** – the piloting of Solarize Connecticut with SmartPower in four (4) communities demonstrated dramatic results in cost reductions (more than 20% to \$3.70/W saving customers \$2.2 million or \$7,500 per home), significant deployment increases (nearly 300 projects deploying 2.2 MW), and reduced payback periods (from 11 years to 6 years). Scaling up and adapting Solarize is an opportunity to reduce installed costs, increase consumer demand, and transition subsidy programs to financing programs.
2. **Competitive RFP Sufficient for CHP** – the pilot RFP for combined heat and power projects yielded three (3) submissions – requiring about \$950,000 in subsidies to support 3.7 MW of CHP deployment in a hospital, at a university, and on a farm. Keeping an open RFP process for projects should yield a sufficient number of projects to achieve the statutory requirement. The challenge will be to transition the market away from subsidies and towards financing. The status of the Class III RPS will play a key role in this future transition and the scaled deployment of CHP in Connecticut.
3. **Competitive RFP Limited for AD** – the pilot RFP for anaerobic digester projects yielded one (1) submission – a \$4.5 million loan for a project in Ansonia that CEFIA staff is

continuing to pursue. To better support the increased deployment and financing of AD across the state, the staff is also pursuing a targeted strategy focused on assessing the opportunities presented by the more than ninety (90) waste water treatment plants for a financing aggregation strategy with private capital providers. Biogas from anaerobic digestion can be generated from a number of different feedstocks (i.e. wastewater sludge, manure, food waste, etc.), which will impact the kind of project that can be developed (i.e. behind the meter or grid-tied), as well as its size, location and economics. By focusing on one sector staff will be able use its resource more effectively and efficiently.

4. **Microgrid Financing Represents an Opportunity** – given the state’s commitment to support the deployment of microgrids and CEFIA’s experience with supporting such installations in grocery stores, hospitals, schools and universities, and manufacturing, CEFIA is pursuing a strategy to finance microgrids. This strategy may include a fund for third-party financing of fuel cell deployment to scale-up the use of this high reliable technology that produces power and heat in critical applications, direct financing of microgrid demonstration projects with diverse end-users in a system, and some financial innovation research and development to better understand the risk and return expectations of microgrid financing.

### Statutory and Infrastructure Sector Programs FY 2014 Quarterly Targets

Of the three programs being implemented in the Statutory and Infrastructure Sector Programs, the following is a breakdown of the key quarterly targets for each program (see Tables 4-6):

**Table 4. Number of Projects**

Program	FY 2014 Q1 (Jul-Sep)	FY 2014 Q2 (Oct-Dec)	FY 2014 Q3 (Jan-Mar)	FY 2014 Q4 (Apr-Jun)
RSIP <sup>8</sup>	285	425	425	575
CHP and AD <sup>9</sup>	-	3	-	4
Grid and Infrastructure <sup>10</sup>	-	-	-	-
Total	285	428	425	584

**Table 5. Amount of Subsidies, Credit Enhancements, and Loans and Leases**

Program	FY 2014 Q1 (Jul-Sep)	FY 2014 Q2 (Oct-Dec)	FY 2014 Q3 (Jan-Mar)	FY 2014 Q4 (Apr-Jun)
RSIP <sup>11</sup>	\$2,500,000	\$3,750,000	\$3,000,000	\$4,000,000
CHP and AD	-	\$1,000,000	-	\$2,000,000
Grid and Infrastructure	-	-	-	-

<sup>8</sup> Assumes 12 MW of installed capacity for FY 2014 or approximately 1,700 projects.

<sup>9</sup> Assumes CHP projects are recommended for approval through an open RFP process in Q2 along with additional CHP projects in Q4 as well as an anaerobic digester project.

<sup>10</sup> CEFIA anticipates working with DEEP, DECD, and the Treasurer’s Office on accessing \$18 million of bond funds per Sections 36-37 of PA 12-189 “An Act Authorizing and Adjusting Bonds of the State for Capital Improvements, Transportation and Other Purposes”. A determination as to the number of projects supported by various financing mechanisms will be determined in FY 2014.

<sup>11</sup> Assumes average incentive of \$1,250/kW for Q1 and Q2 and \$1,000/kW for Q3 and Q4

Total	\$2,500,000	\$4,750,000	\$3,000,000	\$6,000,000
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**Table 6. Amount of Renewable Energy Deployed (MW)**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
RSIP	2	3	3	4
CHP and AD	-	3	-	3
Grid and Infrastructure	-	-	-	-
<b>Total</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>18</b>

To achieve these quarterly targets, the Statutory and Infrastructure Sector Programs will focus its programmatic expenses in the following areas:

- **Reduction of Soft Costs** – continuing to lower soft costs of customer acquisition through aggregation strategies, financing, and permitting processes and standardization through the expansion and adaptation of Solarize campaigns and the extension of the SunShot Initiative.<sup>12</sup>
- **Collaboration with the Residential, Commercial, Industrial, and Institutional Sector Programs** – to support the integration of financing programs with the statutory and infrastructure sector programs, further collaboration between directors will be pursued.
- **Total Available Market Assessments** – continuing to better understand the market opportunity for all statutory and infrastructure programs so as to develop financing programs that will maximize the amount of clean energy deployed per dollar of ratepayer funds at risk. Determining the TAM will allow CEFIA to develop financing strategies to deliver results beyond the legislative targets.

The statutory and infrastructure programs are making good progress towards meeting the two-year targets underneath the Comprehensive Plan. Continuing to make steady progress will ensure that these targets are met.

<sup>12</sup> CEFIA has a joint proposal into the U.S. Department of Energy with the Clean Energy States Alliance on a New England wide program in partnership with Massachusetts, New Hampshire, Rhode Island, and Vermont. The decision by the DOE is expected in June of 2013.



# Market Watch Report

## Residential Solar Investment Program

Program Data as of May 10, 2013

### Executive Summary

Spring Review Edition, 2012 vs. 2013:

- Last year, 88 residential solar PV systems were approved in the month of April (totaling 602 kW of installed capacity), compared with 106 in April 2013 (totaling 727 kW of installed capacity) – an increase of 20%
- Installed cost per Watt from April 2012 to April 2013 declined by more than 7% (or a 9% total decline year-over-year to date)
- In the first four months of 2013, Connecticut installers were approved to install over 3.3 MW of new residential solar PV capacity, equivalent to 60% of the amount installed over the whole of 2012

Race to the Rooftop

### REBATE

24% of Goal



### PBI

6% of Goal



The **YELLOW BAR** at 1,800 kW represents a point in time when CEFA staff will make a recommendation on the Step 4 funding and incentive level to the Deployment Committee for consideration. The **GREEN BAR** at 2,800 kW represents a point in time when the Deployment Committee and CEFA staff will propose Step 4 funding and incentive level to the Board of Directors for consideration and approval.

	Rebate Step 3	PBI Step 3	Total	Average
Applications Received	136	36	172	
Applications Approved	123	30	153	
Applications In Progress	23	0	23	
Applications Completed	7	0	7	
Total Cost	\$4,189,834	\$893,403	\$5,083,237	
Total kW STC	906.2	176.3	1,082.5	
Average System Size kW STC	7.4	5.9		7.1
Cost / kW STC	\$4,623	\$5,068		\$4,696
Average Total Cost	\$34,064	\$29,780		\$33,224
Total Incentive Amount	\$1,065,530	\$261,097	\$1,326,626	
Incentive / kW STC	\$1,176	\$1,481		\$1,226
ZREC Equivalent Incentive Price	\$0.077	\$0.090		
Rooftop Solar Capacity Remaining	2,893.8 kW	2,623.7 kW	5,517.5 kW	

Applications Received – the total number of applications submitted by installers and received by CEFA through PowerClerk.

Applications Approved – the total number of applications received and approved by CEFA staff for project incentives.

Applications In Progress – the total number of projects that have received 60% in upfront incentives for delivery of materials to the site.

Applications Completed – the total number of projects that have received 100% in incentives after inspection and completion of the project.

ZREC Equivalent Incentive Price - Given the total system cost, total incentive and total capacity (stc) of all Approved applications, the ZREC Equivalent Price is determined by calculating the net present ZREC Equivalent Price from a 15 years stream of payments that equals net present value of CEFA's incentive.

Note: Solarize kW's are now included in the pricing data.



## About the Clean Energy Finance and Investment Authority

CEFIA was established by Connecticut's General Assembly on July 1, 2011 as a part of Public Act 11-80. This new quasi-public agency supersedes the former Connecticut Clean Energy Fund. CEFIA's mission is to help ensure Connecticut's energy security and community prosperity by realizing its environmental and economic opportunities through clean energy finance and investments. As the nation's first full-scale clean energy finance authority, CEFIA will leverage public and private funds to drive investment and scale-up clean energy deployment in Connecticut.

### Historical Program Data (Previous Steps)

Combined Fully Subscribed Steps	Rebate	PBI	Total	Average
Applications Received	806	330	1,136	
Applications Approved	806	330	1,136	
Applications In Progress	191	87	278	
Applications Completed	495	158	653	
Total Cost	\$25,920,191	\$11,205,632	\$37,125,823	
Total kW STC	5,679.9	2,353.6	8,033.5	
Average System Size kW STC	7.0	7.1		7.1
Cost / kW STC	\$4,563	\$4,761		\$4,621
Average Total Cost	\$32,159	\$33,956		\$32,681
Total Incentive Amount	\$9,052,585	\$4,331,512	\$13,384,097	
Incentive / kW STC	\$1,594	\$1,840		\$1,666
ZREC Equivalent Incentive Price	\$0.105	\$0.113		

Based on estimated lifetime system production at the current installed cost of top residential solar PV installers in Connecticut, and incorporating financing charges, RSIP projects now represent an average levelized cost of solar energy of about \$0.238 / kWh. Of that total, CEFIA's support accounts for about \$0.068 / kWh.

### Estimated Environmental Benefits based upon all Approved Applications

Lifetime CO <sub>2</sub> Reduction	Lifetime NO <sub>x</sub> Reduction	Lifetime SO <sub>2</sub> Reduction	Annual Cars off the Road	Equivalent Acres of Trees Planted
224,625,556 lbs.	101,807 lbs.	93,143 lbs.	748	1,498

### Estimated Economic Development and Jobs Benefits based upon all Approved Applications<sup>1</sup>

Direct Jobs Created	Indirect and Induced Jobs	Total Jobs Created
249	401	650

- <sup>1</sup>
- Direct jobs are jobs created in CT that are directly related to manufacturing and system assembly in CT, as well as installation of the PV systems.
  - Indirect jobs are jobs created at CT suppliers in order to meet demand resulting from the new systems coming on line. An example would be increased employment associated with metal bending or wiring supplied to integrate and install the units.
  - Induced jobs are jobs generated by spending from households that benefit from the additional wages and business income they earn through all of the direct and indirect activity. An example would be increased employment at a local restaurant, because installers are working overtime, have extra income and don't have time to eat at home.



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## Leasing The Sun: Solar Panels For The Rest Of Us



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By BRIAN DOWLING, [bdowling@courant.com](mailto:bdowling@courant.com)

The Hartford Courant

2:30 PM EDT, May 24, 2013

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The same pathway that has put many in the seat of a new car — the lease — is taking off as a financial vehicle for homeowners who don't have tens of thousands of dollars sitting around to buy a rooftop solar-panel system outright.

And in Connecticut, a mixture of subsidies, high energy prices and ingenuity has made for fertile ground for the sales model that is attracting interest from investors and homeowners. At least 1,350 residences in the state are leasing solar-power system, with plans for thousands more. And the capital is flowing in to private firms as well as the state's clean energy office to support the programs.

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It works like this. A solar company that offers a lease option — like SolarCity and Sungevity — comes to your house to determine whether a solar array would work on your roof. If it's suitable, depending on the company, you can choose either to pay zero upfront and a regular lease fee each month, or you can pay some money up front and have lower or no monthly lease fees.

A rooftop solar system from SolarCity, for example, that's guaranteed to produce a little more than 6,000 kilowatt hours annually would cost \$63 a month with nothing up front. The payment is set to increase 2.9 percent annually, which the company says is lower than average price increases from the utilities.

Putting some money down on the system, say \$2,500, lowers the monthly payment to \$53 and erases the yearly percent increase. The last option would be to pay the lease upfront, which costs \$7,920 and results in no monthly payments for all 20 years of the lease.

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This week, Goldman Sachs said it would put up \$500 million in financing for SolarCity leases, a chunk of the \$40 billion the investment bank plans to set aside for renewable projects in the next decade.

"The ability to get in front of homeowners is kind of the biggest hurdle," said Lee Keshishian, SolarCity's head of operations for the East Coast. "Once we get there, the vast majority decide to go with us."

Keshishian said that, as a result, most customers see a 10 percent to 20 percent drop in their energy bills. And SolarCity, as well as other companies, also ensure the system's productivity for the entire 20-year lease.

## **Hands-Off Solar**

Jay Pelchar, a high school math teacher who lives in Burlington, went with SolarCity after wading into the complicated world of solar systems. He researched the tax credits, the subsidies, took a step back and sought help.

"The learning curve on this is enormous," said Pelchar, 45.

An intermediary company, One Block Off the Grid, hooked him up with SolarCity. During a conference call last summer, Pelchar heard his options and agreed to lease a solar system.

"Without the leasing option, we would not have solar," he said. "No question, I would not be able to purchase a system for myself."

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While the solar company handles installation, does maintenance and ensures the system's productivity, it also collects the subsidies and tax credits that the state and federal government give to people willing to invest in the renewable energy.

The solar company, not you, owns the equipment — just like car dealership owns a leased car. And so in many cases, when it comes time for routine maintenance or repairs, the company is responsible. When the lease ends, you have the option of buying the system, renewing the lease or having it removed. If you move out, the solar systems also can be transferred to a new owner.

SolarCity, a California solar outfit that has offered solar leases in Connecticut since 2011, has signed more than 350 leases in the state and more than 40,000 countrywide. The company's chairman, Elon Musk, is the CEO of electric car company Tesla Motors and spacecraft firm Space-X.

On the money and billing side, with the leased system, homeowners will now get two bills a month — one for the lease payment and the usual electric bill from the utility — and the savings from the system comes when the total of those two bills is lower than previous energy bills.

He took to option of putting up money for the system — about \$8,000, which covers all of his lease payments. This way, SolarCity still handles the maintenance and repairs of the 20 solar panels that sit on a steep south-facing portion of his roof.

The process from "yes" to solar power coming down from above took just a few months. SolarCity did a site visit to inspect his house, making sure that it didn't have anything blocking the sun and that its roof was structurally sound. They later came back and did a home energy evaluation. By the first of the year, the system was up and running, with little effort from Pelchar.

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"I never filled out a form for a rebate or tax credit," he said.

Pelchar also passed another of the hurdles to leasing a solar system — credit check.

The economics of Pelchar's decision to invest up front in the system, rather than choosing to pay nothing up front, were well thought out.

"I'm only five months into it but it seems to me, investment-wise, to be the most secure investment you can make," he said. With electricity rates an uncertain thing at best, the solar array locks in a set price for Pelchar.

"I'm pretty much guaranteed that I will generate enough in eight or nine years to pay back my investment," he said. So the next 11 years would all be profit.

### **A Homegrown Model**

About the time that SolarCity had its bright idea to lease solar systems out on the West Coast, the state of Connecticut started a solar lease program of its own that took a different tack.

Instead, the state trained about 20 existing solar installers to offer their leasing product.

In the next few weeks the state is launching a second round of solar leases. Bert Hunter, the chief investment officer at the clean energy authority, said that the next round should result in 1,600 residential leases — and one big thing that the commercial players haven't touched on yet.

"It will also have a solar hot water lease," he said. Solar hot water systems are big in Europe, the Carribean and Hawaii, where fossil fuels are particularly expensive. "It's going to offer very price advantage for homewoners who heat with fossil fuels."

So far, he has raised \$50 million from private investors for the program, to which an additional \$10 million from CEFIA will be added.

"What we're doing is providing a financial option for the homeowners so they can have a wide array of options at the installer level," Hunter said.

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The state's program was run by then-Connecticut Clean Energy Fund — now known as the Clean Energy Finance and Investment Authority, or CEFIA — and it signed more than 1,000 solar leases in the time it took the state to hit its funding cap. And on that success, CEFIA is in the middle of launching another \$60 million round of leases.

Much of how the state's program mirrored how SolarCity ran: down-payment options, monthly lease payments, many options at the end of the lease or when a homeowner moves. But the state didn't want to get into the business of designing and installing solar systems. There were plenty of companies already doing that.

The state's program was noted in a 2009 report from the National Renewable Energy Laboratory in Golden, Colo., that, after running the numbers, found that the Connecticut lease option offered the "most attractive" price of energy when compared to paying for a system with cash or through a home equity loan.

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## **Leasing Solar Power**

**What:** Leased solar-power systems

**Companies:** SolarCity (solarcity.com, 888-765-2489), Sungevity (sungevity.com, 866-SUN-4ALL)

**State-run leasing program:** Clean Energy Finance and Investment Authority (www.ctcleanenergy.com, 860-563-0015)

**Number of households in Connecticut with leased systems:** About 1,350

**Cost:** With no money down, about \$65 a month depending on the size of the system.

**Lease Term:** Usually 20 years

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

# Memo

**To:** Board of Directors of the Clean Energy Finance and Investment Authority

**From:** Kerry O'Neill (Director of Residential Programs), Bryan Garcia (President and CEO), Bert Hunter (EVP and CIO), Mackey Dykes (Chief of Staff)

**Cc:** Jessica Bailey (Director of C-PACE), Andy Brydges (Director of Institutional Programs), Dale Hedman (Director of Statutory and Infrastructure Programs)

**Date:** May 30, 2013

**Re:** Residential Sector Programs – Program Performance FY 2013

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## **Overview**

Public Act 11-80 (PA 11-80), *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future*, requires that the Clean Energy Finance and Investment Authority (CEFIA) develop and implement several programs to finance and otherwise support clean energy investment in residential projects to promote deep energy efficiency retrofits, renewable energy deployment, and fuel and equipment conversions in single-family homes across the state. PA 11-80 Section 33 also requires that 80% of households be weatherized by 2030. Additionally, the state's Comprehensive Energy Strategy sets out a goal of completing 200,000 oil-to-gas fuel conversions over the next 7-10 years and places a major emphasis on energy efficiency, with a focus on achieving deeper efficiency measures in the residential sector.

To give a sense of the market scope for efficiency, in Connecticut, there are about 950,000 households that are eligible for the Home Energy Solutions (HES) program – and according to the 2012 Conservation & Load Management Plan, about 875,000 have yet to participate in the HES program. The state's Comprehensive Energy Strategy estimates that approximately 634,000 homes likely need additional, deeper efficiency measures<sup>1</sup>. HES typically converts about 10% of participants to additional measures, but applying best practices suggests that this figure could be tripled. If so, nearly 200,000 potential HES participants could be seen as highly likely targets for such deeper retrofits and measures – which, if achieved, would mean a \$2 billion market for energy efficiency improvements using the \$10,000 average project size that is typical for these types of upgrades (which may include oil-to-gas conversions since Connecticut has a lower penetration of natural gas usage at the residential level (30%) compared with the rest of New England (50%). The state's goal of converting 200,000 customers to natural gas for heating and cooling represents a \$1.5 billion market for fuel conversions. Note that experience

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<sup>1</sup> The Energy Efficiency Fund is completing a market potential study by the end of 2013 to establish a baseline of homes that currently meet the 80% weatherization standard and to identify what % of homes would need to be weatherized to meet the 80% goal by 2030.



in other energy loan programs around the country indicates that 20-40% of customers will utilize energy loan programs (vs. cash, home equity lines of credit, credit cards, vendor financing, etc.).

### Performance Targets and Progress

With respect to the Comprehensive Plan approved by the Board of Directors of the Clean Energy Finance and Investment Authority on September 28, 2012, the following are the performance targets through 2014 and the progress made thus far for the Residential Sector Programs (see Table 1). Also, for comparative purposes, included are the total performance targets for all programs through 2014.

**Table 1. Program Performance Targets and Progress Made to the Comprehensive Plan as of May 30, 2013**

Key Metrics	Program Performance Targets	Program Progress	Overall Targets
Ratepayer Capital at Risk <sup>2</sup>	\$12,000,000	\$15,510,000	\$45,300,000
Private Capital	\$60,000,000	\$73,300,000	\$186,600,000
Deployed (MW)	15.0	-	51.1
# of Loans/Projects	4,250		5,283
Lifetime Production (MWh)	-		-
Annual Saved (kMMBtu)	75	-	180
Lifetime Saved (\$)	-	-	-

The ratio of ratepayer funds to private capital for the Residential Sector Programs to date is roughly 4.7:1. Of the roughly \$15.5 million in ratepayer and ARRA-SEP funds committed or invested to date, the following is a breakdown of the use of these funds:

- \$6.4 MM in credit enhancements was invested to support an estimated 5,390 projects
  - Solar Lease 2 1,950
  - Solar Loan Pilot 240
  - Cozy Loan 200
  - Smart-E Loan 3,000
- \$9.1 in senior or subordinated loans to support 2,200 projects
  - Solar Lease 2 1,950
  - Solar Loan Pilot 240
  - Multifamily Energy Loan Fund 10

With regards to the objectives functions of:

- Increasing the amount of clean energy produced per dollar of ratepayer funds at risk; and
- Increasing the efficiency of consumption to maximize benefits to consumers per dollar of ratepayer funds at risk

<sup>2</sup> Includes funds from the Clean Energy Fund, RGGI allowance revenue, repurposed ARRA-SEP funds, and other resources that are managed by CEFIA that are committed and invested in subsidies, credit enhancements, and loans and leases.

The following is a breakdown of the progress made to date (see Table 2):

**Table 2. Progress Achieved on the Objective Functions as of May 30, 2013**

Lifetime Production (MWh)	-
Ratepayer Capital at Risk (\$)	\$15,510,000
Administrative and Program Costs (\$)	\$1,356,400
Ratepayer Funds at Risk (\$)	\$18,571,400
Production per Funds at Risk (kWh/\$)	-

Lifetime Saved (\$)	-
Ratepayer Capital at Risk (\$)	\$15,510,000
Administrative and Program Costs (\$)	\$1,356,400
Ratepayer Funds at Risk (\$)	\$18,571,400
Lifetime Savings per Funds at Risk	-

Overall, the Residential Sector Programs are making tremendous progress toward the goals of attracting private capital for energy efficiency retrofits and renewable energy projects and creating programs that are bringing homeowners, contractors and lenders together with a process that is easy to understand and quickly arranges the capital needed for these projects at attractive rates. The focus for FY 2013 has been on product design and implementation, with launches at the end of FY 2013, therefore it is too early to realize project volume or energy savings.

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### **Description of Residential Sector Programs**

The following are brief descriptions of the Residential Sector Programs being implemented or in development, progress made thus far, and the contributions towards the achievement of the targets noted in the Comprehensive Plan.

- **Smart-E Loan** – a credit enhancement program that uses \$2.5 million of repurposed ARRA-SEP funds as a loan loss reserve and interest rate buy down to attract nearly \$31 million of private capital from local credit unions and community banks. The product provides low interest (i.e. 4.49-6.99%) unsecured loans at long terms (i.e. between 5 to 12 years) for technologies that are consistent with the goals of the Comprehensive Energy Strategy.
- **Cozy Home Loan** – a credit enhancement program that uses \$410,000 of repurposed ARRA-SEP funds as a loan loss reserve and interest rate buy down to attract \$2.5 million of private capital from Community Development Financial Institutions (i.e. Opportunity Finance Network). The product, administered by the Housing Development Fund, provides 10-year loans for technologies that are consistent with the goals of the Comprehensive Energy Strategy to households below 80% of area median income in the Fairfield, Litchfield, and New Haven counties.
- **Solar Lease** – a lease program that uses \$3.5 million in repurposed ARRA-SEP funds as a loan loss reserve and \$7.6 million in debt and equity from CEFIA approved by the Board of Directors to attract \$40 million of private capital from a syndicate of local

lenders to provide homeowners with FICO scores of 640 and above with a no upfront financing option for residential solar PV and solar hot water system deployment.

- **Solar Loan** – a loan program that uses \$300,000 in repurposed ARRA-SEP funds as a loan loss reserve and \$1.5 million in debt from CEFIA approved by the Board of Directors to attract \$4.5 million in private capital to provide 15-year secured loans at 6.49% interest rate for homeowners interested in owning solar PV systems.

Overall, the implementation of these four programs is on track to deliver significant project volume, ramping up quarter by quarter through FY 2014. Strong program design, a focus on processes that are customer, contractor and lender friendly, and a channel marketing strategy are critical ingredients to lay the foundation for achieving the projected ramp in FY 2014.

Of these programs, the following is a breakdown of their contributions made thus far towards the performance target and the human resources required to implement them (see Table 3):

**Table 3. Program Progress Made as of May 30, 2013**

<b>Key Metrics</b>	<b>Smart-E Loan and Cozy Home Loan</b>	<b>Solar Lease</b>	<b>Solar Loan</b>	<b>Total Program Progress</b>
Date of Program Approval	Nov 2012	Feb 2013	Nov 2012	
Date of Program Launch	May 2013	June 2013	Mar 2013	
Ratepayer Capital at Risk	\$2,910,000	\$11,100,000	\$1,500,000	\$15,510,000
Private Capital	\$33,300,000	\$40,000,000	-	\$73,300,000
Deployed (MW)	-	-	-	-
# of Loans/Installations	-	-	-	-
Lifetime Production (MWh)	-	-	-	-
Annual Saved (kMMBtu)	-	-	-	-
Annual Saved (\$)	-	-	-	-
Full Time Equivalent Staff	3.6	1.9	0.8	6.3
Program Expenses				\$1,356,400 <sup>3</sup>

In addition to the financing programs for single family households, CEFIA is currently developing programs for multifamily properties as well. For example, the Open Market ESCO is a \$2 million loan program in partnership with HUD, Connecticut Housing Finance Authority (CHFA), Winn Development, and the Local Initiatives Support Corporation (LISC). The program leverages up to \$6 million of financing from other sources to provide ESAs for multifamily properties to undertake energy efficiency measures without the need for upfront capital and pay for them through the savings that are delivered over time. Such programs are currently at a nascent stage of development.

### **Lessons Learned**

Based on the implementation of the Residential Sector Programs thus far, the following are the “Top 5” lessons learned:

1. **Banks Want to Lend** – capital is available, and is in no way a limiting factor.

<sup>3</sup> Programs were not developed when FY13 budget was developed so aren't broken out by program.

2. **Good Program Design Attracts Capital** – FY 2013 results to date in attracting capital demonstrate this – the Smart-E and Solar Lease programs have shown particular success.
3. **Low FICOs are a Challenge** – Banks are not enthusiastic about lending at FICOs below 680 and extra credit enhancements are required to attract capital to this segment. It remains to be seen how much volume the 680 and below FICO segment will represent in the residential programs, and whether other strategies will need to be employed.
4. **Real Innovation Takes Time** – in terms of developing the optimal program design, then attracting the right capital partners, and in developing the necessary documentation to support all the counterparty agreements required for new programs.
5. **Training is Essential** – Contractors and lenders are critical partners and require a significant investment in up front on-boarding and training, as well as ongoing support and re-training on program details, process, and available marketing materials. This is a critical investment in the channel marketing strategy that is being employed across the residential programs.

### Residential Sector Programs FY 2014 Quarterly Targets

Of the four programs being implemented in the Residential Sector Programs, the following is a breakdown of the key quarterly targets for each program (see Tables 4):

**Table 4. Number of Projects**

Program	FY 2014 Q1 (Jul-Sep)	FY 2014 Q2 (Oct-Dec)	FY 2014 Q3 (Jan-Mar)	FY 2014 Q4 (Apr-Jun)
Smart-E and Cozy Home Loan	105	215	430	750
Solar Lease	220	224	345	186
Solar Loan	33	40	26	24
Total	358	479	810	960

**Table 5. Amount of Subsidies, Credit Enhancements, and Loans and Leases (Thousands of \$s)**

Program	FY 2014 Q1 (Jul-Sep)	FY 2014 Q2 (Oct-Dec)	FY 2014 Q3 (Jan-Mar)	FY 2014 Q4 (Apr-Jun)
Smart-E and Cozy Home Loan	\$365	\$375	\$750	\$810
Solar Lease	\$885	\$903	\$1,348	\$689
Solar Loan	\$752	\$912	\$593	\$547
Total	2,002	2,190	2,691	2,046

**Table 6. Amount of Renewable Energy Deployed (MW)**

Program	FY 2014 Q1 (Jul-Sep)	FY 2014 Q2 (Oct-Dec)	FY 2014 Q3 (Jan-Mar)	FY 2014 Q4 (Apr-Jun)
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Smart-E and Cozy Home Loan <sup>4</sup>	TBD	TBD	TBD	TBD
Solar Lease – PV	1.3	1.4	2.0	1.0
Solar Loan	0.2	0.3	0.2	0.2
Total	1.5	1.7	2.2	1.2

**Table 7. Amount of Energy Saved (MMBtu)**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
Smart-E and Cozy Home Loan	2,600	5,400	10,800	18,800
Solar Lease – SHW	380	380	935	565
Solar Loan	n.a.	n.a.	n.a.	n.a.
Total	2,980	5,780	11,375	19,365

To achieve these quarterly targets, the Residential Sector Programs will focus its programmatic expenses in the following areas:

- **Channel Marketing Strategy** – including marketing support for contractors, lenders, online (web, email, social media), community pilots; and supporting strategies including website development, consumer tools, and market segmentation data
- **Process Support** – including outsourced infrastructure for technical underwriting/approvals and quality assurance/quality control; data analytics
- **Staff** – to support iterative product development, refinement and implementation, with a particular focus on training and ongoing support for contractors and lenders

All Residential Sector Programs are new and include aggressive quarterly ramp targets for FY 2014. The challenge for these programs will be in driving demand, which will require successfully launching and implementing the products across the state and executing against the channel marketing strategy, ensuring contractors and lenders, in particular, are adequately trained and supported – as they will be the source of a significant majority of project volume. FY 2014 will need to be a year of learning what works and what doesn't, with respect to driving demand through a channel marketing strategy, and understanding the customer acquisition cost metrics in these programs.

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<sup>4</sup> Note that the breakdown between renewable energy and energy efficiency measures in the Smart-E and Cozy Home Loan programs are not known, Only estimated MMBtu's saved are reflected.

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<http://www.theday.com/apps/pbcs.dll/article?AID=/20130412/NWS01/304129948/-1/zip0...>

Page 1 of 1

Article published Apr 12, 2013 **Utility customers can get loans to convert to natural gas.**

**For more information** • [www.energizect.com/smart](http://www.energizect.com/smart)  
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**Norwich -** Homeowners who are Norwich Public Utilities customers now have access to low-interest loans to convert their homes to natural gas heat, install insulation, new windows or solar panels and make other energy efficient improvements, thanks to a program announced on Thursday. "We're hoping this is something that can be a model for other places in the state," John Bilda, general manager of NPU, said during a news conference announcing the new loan program. He added that part of the utility's mission is to find ways to lower energy costs for customers. The Smart-E Loans program was created through a partnership with the Rocky Hill-based Clean Energy Finance and Investment Authority, NPU and two local financial institutions, CorePlus Credit Union and Eastern Savings Bank. It will make 5-, 7-, 10- and 12-year loans available at 4.49 percent to 6.99 percent interest, without a requirement for any home equity or a lien on the home. Bert Hunter, executive vice president and chief investment officer for the Clean Energy Finance Investment Authority, said the program received \$2.5 million in federal stimulus funds to support a \$30 million loan program for Connecticut. The program is being launched as a pilot in Norwich but will be expanded statewide, he said. CorePlus President Warren Scholl and Eastern Savings President Gerald Coia said their banks will both loan up to \$25,000 for 12 years for energy projects. The funds will only be available to owners who live in their homes. Jeff Brining, energy services division manager at NPU, said he anticipates most of the loans will go to homeowners looking to convert from oil or electric heat to natural gas service. With new energy-efficient equipment and lower gas prices in recent years, the conversion can cut heating bills in half, he said. NPU gas service has recently been expanded to about 300 homes, and a planned \$8 million gas line expansion is slated to expand service further, Bilda said. The expansion of service fits perfectly with the state energy strategy announced in October by Gov. Dannel P. Malloy to increase use of natural gas in the state, he noted. In addition to customers on new gas lines, NPU also anticipates conversions from oil or electric heat to gas from the 4,000 households in areas already served by gas lines but that use other types of heat, Bilda added. Brining said that for the average home with oil

heat, the conversion to natural gas can cost from about \$1,500 to \$8,000, depending on the extent of the work needed. Converting from electric heat to natural gas can cost an average of \$10,000, he said, but the savings in heating costs are much greater because of the high cost of electric heat. [j.benson@theday.com](mailto:j.benson@theday.com)

5/29/2013



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

# Memo

**To:** Board of Directors of the Clean Energy Finance and Investment Authority

**From:** Bryan Garcia (President and CEO), Bert Hunter (EVP and CIO), and Mackey Dykes (Chief of Staff)

**Cc:** Jessica Bailey (Director of C-PACE), Andy Brydges (Director of Institutional Programs), Dale Hedman (Director of Statutory and Infrastructure Programs), and Kerry O'Neill (Director of Residential Programs)

**Date:** May 30, 2013

**Re:** Institutional Sector Programs – Program Performance FY 2013

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## **Overview**

As part of CEFIA's goal of attracting and deploying capital to finance the clean energy goals of Connecticut, we have initiated institutional sector programs to support the State and its efforts to work with municipalities through the "Leading by Example" program and to go further into communities with assistance to its universities, schools, hospitals, and other important non-profit organizations. These programs are nascent and admittedly have only just begun given the recent retirement of a CEFIA staff member administering these programs and the hiring of a Director of Institutional Programs at CEFIA and a Program Manager for the "Leading by Example" program at the Department of Energy and Environmental Protection (DEEP).

There are more than 3,600 buildings that are owned or leased by the State of Connecticut to carry-out its governmental functions. These buildings consume an estimated 4,000 kMMBtu per year – approximately 700,000 MWh of electricity and 15,400,000 CCF of natural gas. Through Sections 118 and 122-123 of PA 11-80, DEEP and the Department of Administrative Services are to develop a plan to reduce state building energy consumption by 10% by 2013 and an additional 10% by 2018. The law authorizes state agencies and municipalities in coordination with the Energy Conservation Management Board (ECMB) to be able to engage in energy savings performance contracts.

This memo provides a brief overview of CEFIA's efforts to address the institutional sector to date.

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## **Performance Targets and Progress**

With respect to the Comprehensive Plan approved by the Board of Directors of the Clean Energy Finance and Investment Authority on September 28, 2012, the following are the performance targets through 2014 and the progress made thus far for the Institutional Sector



Programs (see Table 1). Also, for comparative purposes, included are the total performance targets for all programs through 2014.

**Table 1. Program Performance Targets and Progress Made to the Comprehensive Plan as of May 30, 2013**

Key Metrics	Program Performance Targets	Program Progress	Overall Targets
Ratepayer Capital at Risk <sup>1</sup>	\$2,000,000	\$2,900,000	\$45,300,000
Private Capital	\$8,000,000	\$10,000,000	\$186,600,000
Deployed (MW)	5.0	-	51.1
# of Loans/Projects	30	-	5,283
Lifetime Production (MWh)	-	-	-
Annual Saved (kMMBtu)	5	-	180
Lifetime Saved (\$)	-	-	-

The ratio of ratepayer funds to private capital for the Institutional Sector Programs to date is \$1:\$3.4. Of the \$2.9 million in ratepayer funds committed or invested to date, the following is a breakdown of the use of these funds:

- \$2.9 million in loans and leases to support an estimated 34 projects

With regards to the objective functions of:

- Increasing the amount of clean energy produced per dollar of ratepayer funds at risk; and
- Increasing the efficiency of consumption to maximize benefits to consumers per dollar of ratepayer funds at risk

The following is a breakdown of the progress made to date (see Table 2):

**Table 2. Progress Achieved on the Objective Functions as of May 30, 2013**

Lifetime Production (MWh)	-
Ratepayer Capital at Risk (\$)	\$2,900,000
Administrative and Program Costs (\$)	\$259,700
Ratepayer Funds at Risk (\$)	\$3,159,700
Production per Funds at Risk (kWh/\$)	-
Lifetime Saved (\$)	-
Ratepayer Capital at Risk (\$)	\$2,900,000
Administrative and Program Costs (\$)	\$259,700
Ratepayer Funds at Risk (\$)	\$3,159,700
Lifetime Savings per Funds at Risk	-

Overall, the Institutional Sector Programs are just beginning and there is little progress to report. With the recent hiring of a Director of Institutional Programs at CEFIA (starting in June of 2013)

<sup>1</sup> Includes funds from the Clean Energy Fund, RGGI allowance revenue, repurposed ARRA-SEP funds, and other resources that are managed by CEFIA that are committed and invested in subsidies, credit enhancements, and loans and leases.

and a Program Manager at DEEP (starting in July of 2013), there will be more progress towards targets to report in FY 2014.

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### Description of Institutional Sector Programs

The following are brief descriptions of the Institutional Sector Programs being implemented or in development, progress made thus far, and the contributions towards the achievement of the targets noted in the Comprehensive Plan.

- Campus Efficiency Now – a loan program in partnership with the Connecticut Conference of Independent Colleges (CCIC) and GreenerU that provides \$1 million in CEFIA funds (into a special purpose vehicle) approved by the Board of Directors to engage in Energy Savings Agreements (ESAs) with several private colleges and universities. These ESAs will allow colleges and universities to undertake energy efficiency measures without the need for upfront capital and pay for them through the savings that are delivered over time. The Campus Efficiency Now program has not had any college or university engage in an ESA to date. CEFIA staff will seek to close on several transactions before the end of 2013, otherwise the program will be cancelled.
- Solar Lease – a loan-lease program that provides approximately \$12 million in public and private funding through the Connecticut Solar Lease Program to provide Power Purchase Agreements (PPAs) for solar PV to creditworthy commercial and institutional end-users of electricity. This program will support solar PV projects between 50-200 kW in size – with an average size of 75 kW.

Overall, the implementation of these two programs will begin to pick up as we now have the staff resources to manage such programs in FY 2014.

Of these programs, the following is a breakdown of their contributions made thus far towards the performance target and the human resources required to implement them (see Table 3):

**Table 3. Program Progress Made as of May 30, 2013**

<b>Key Metrics</b>	<b>Campus Efficiency Now</b>	<b>Solar Lease</b>	<b>Total Program Progress</b>
Date of Program Approval	Jul 2012	Feb 2013	
Date of Program Launch	Sep 2012	Jun 2013	
Ratepayer Capital at Risk	\$1,000,000	\$1,900,000	\$2,900,000
Private Capital	-	\$10,000,000	\$10,000,000
Deployed (MW)	-	-	-
# of Loans/Installations	-	-	-
Lifetime Production (MWh)	-	-	-
Annual Saved (kMMBtu)	-	-	-
Annual Saved (\$)	-	-	-
Full Time Equivalent Staff	0.9	0.7	1.6
Program Expenses			\$259,700 <sup>2</sup>

<sup>2</sup> Programs were not developed when FY13 budget was developed so aren't broken out by program.

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## Lessons Learned

Based on the nascent stage of the Institutional Sector Programs, there are no lessons learned.

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## Institutional Sector Programs FY 2014 Quarterly Targets

Of the two programs being implemented in the Institutional Sector Programs, the following is a breakdown of the key quarterly targets for each program (see Tables 4):

**Table 4. Number of Projects**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
Campus Efficiency Now	1	1	1	1
Solar Lease	6	6	7	7
Total	7	7	8	8

**Table 5. Amount of Subsidies, Credit Enhancements, and Loans and Leases**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
Campus Efficiency Now	\$250,000	\$250,000	\$250,000	\$250,000
Solar Lease	\$315,000	\$315,000	\$315,000	\$315,000
Total	\$565,000	\$565,000	\$565,000	\$565,000

**Table 6. Amount of Renewable Energy Deployed (MW)**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
Solar Lease	0.5	0.5	0.5	0.5
Total	0.5	0.5	0.5	0.5

**Table 7. Amount of Energy Saved (MMBtu)**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
Campus Efficiency Now	1,250	1,250	1,250	1,250
Total	1,250	1,250	1,250	1,250

The Institutional Sector programs are at a nascent stage of development and implementation. The focus of the programs for FY 2014 will involve leadership and management by staff to develop and implement programs in partnership with DEEP.



**CLEAN ENERGY**  
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# Memo

**To:** Board of Directors of the Clean Energy Finance and Investment Authority

**From:** Jessica Bailey (Director of C-PACE), Bryan Garcia (President and CEO), Bert Hunter (EVP and CIO), Mackey Dykes (Chief of Staff)

**Cc:** Andy Brydges (Director of Institutional Programs), Dale Hedman (Director of Statutory and Infrastructure Programs), and Kerry O'Neill (Director of Residential Programs)

**Date:** May 30, 2013

**Re:** Commercial and Industrial Sector Programs – Program Performance FY 2013

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## **Overview**

Pursuant to Public Act 12-2, under which the legislature directed CEFIA to establish a commercial sustainable energy program for Connecticut, staff has been working to develop the C-PACE program. C-PACE is a statutorily mandated program that is a key component of the CEFIA comprehensive plan and budget for FY 2013 and consequently is consistent with CEFIA's Comprehensive Plan. Statutorily, CEFIA is permitted to use its resources "...for expenditures that promote investment in clean energy in accordance with [CEFIA's Comprehensive Plan]..."

With respect to the Total Addressable Market (TAM) for C-PACE in Connecticut, program staff estimates 15,845 buildings and nearly 800 million square feet. In this metric, staff counts commercial, industrial, and multi-family buildings over 10,000 square feet. Counting only buildings within the 35 municipalities which have opted into C-PACE, staff estimates a TAM of 7,742 buildings and over 400 million square feet.

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## **Performance Targets and Progress**

With respect to the Comprehensive Plan approved by the Board of Directors of the Clean Energy Finance and Investment Authority on September 28, 2012, the following are the performance targets through 2014 and the progress made thus far for the Commercial and Industrial Sector Programs (see Table 1). Also, for comparative purposes, included are the total performance targets for all programs through 2014.

**Table 1. Program Performance Targets and Progress Made to the Comprehensive Plan as of May 30, 2013**

<b>Key Metrics</b>	<b>Program Performance Targets</b>	<b>Program Progress</b>	<b>Overall Targets</b>
Ratepayer Capital at Risk <sup>1</sup>	\$10,000,000	\$3,693,106	\$45,300,000
Private Capital	\$30,000,000	(see below)	\$186,600,000
Deployed (MW)	5.0	0.1	51.1
# of Loans/Projects	150	5	5,283
Lifetime Production (MWh)		2,376	-
Annual Saved (kMMBtu)	107	9	180
Lifetime Saved (\$)		\$10,388,508	-

The ratio of ratepayer funds to private capital for the Commercial and Industrial Sector Programs to date is [\$3,693,106: \$0]. This is due to the unique financing structure of C-PACE and the phase at which approved projects rest. C-PACE (and CEFIA as the program’s administrator) uses the security provided by a municipal tax lien on a benefitting property to raise low-cost capital from private lenders to finance **100%** of a project’s costs. Since this security becomes active upon completion of a project (per the C-PACE statute), CEFIA received approval for \$20 million to provide construction and term financing as a credit enhancement for lenders that do not wish to carry risk during the construction phase of an energy improvement financed through C-PACE. CEFIA intends to package small pools of C-PACE projects and sell them down to private lenders via our ‘Prequalified Capital Provider’ list. Once this existing pool of assessments is sold down, the ratio of ratepayer funds to private capital will reverse as private capital replenishes the CEFIA construction facility.

In financing projects outright, CEFIA is able to set the interest rate for C-PACE transactions. It is possible that private lenders will require a higher interest rate to purchase C-PACE assessments. In this case, the interest rate differential will become an additional credit enhancement provided to the benefitting property (the borrower).

Therefore, of the [\$3,693,106] in ratepayer funds committed or invested to date, the following is a breakdown of the use of these funds:

- \$250,000 in subsidies was invested to support 1 project
- [\$3,693,106] in construction loans to support [5] projects

With regards to the objectives functions of:

- Increasing the amount of clean energy produced per dollar of ratepayer funds at risk; and
- Increasing the efficiency of consumption to maximize benefits to consumers per dollar of ratepayer funds at risk

The following is a breakdown of the progress made to date (see Table 2):

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<sup>1</sup> Includes funds from the Clean Energy Fund, RGGI allowance revenue, repurposed ARRA-SEP funds, and other resources that are managed by CEFIA that are committed and invested in subsidies, credit enhancements, and loans and leases.

**Table 2. Progress Achieved on the Objective Functions as of May 30, 2013**

Lifetime Production (MWh)	2,376
Ratepayer Capital at Risk (\$)	\$3,693,106
Administrative and Program Costs (\$)	\$1,416,500
Ratepayer Funds at Risk (\$)	\$5,109,606
Production per Funds at Risk (kWh/\$)	0.5 kWh/\$1 <sup>2</sup>
Lifetime Saved (\$)	\$10,388,508
Ratepayer Capital at Risk (\$)	\$3,693,106
Administrative and Program Costs (\$)	\$1,416,500
Ratepayer Funds at Risk (\$)	\$5,109,606
Lifetime Savings per Funds at Risk	\$2.0/\$1.0

Overall, the Commercial and Industrial Sector Programs are progressing well. The program was designed and launched very quickly – between September and January. Focus for the program now has been to bring in deals, streamline approval process, and attract private capital providers to the structure. Nationally, the C-PACE program in CT has set a standard that others are now emulating including MA, OH, NY, and TX.

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### **Description of Commercial and Industrial Sector Programs**

The following are brief descriptions of the Commercial and Industrial Sector Programs being implemented or in development, progress made thus far, and the contributions towards the achievement of the targets noted in the Comprehensive Plan.

- C-PACE – Commercial Property Assessed Clean Energy (C-PACE) is an innovative financing program that is helping commercial, industrial and multi-family property owners access affordable, long-term financing for smart energy upgrades to their buildings. \$20 million in CEFIA funds for C-PACE transactions was approved by the Board of Directors to finance clean energy upgrades in commercial properties. Using CEFIA funds to catalyze program growth, transactions will be sold down to Qualified Capital Providers to replenish CEFIA’s funds. Because the building owners places a voluntary tax lien on their property to access this capital and agrees to repay the C-PACE assessment through their property tax bills, low-interest capital can be raised from the private sector. In other words, the structure of C-PACE allows the building itself to become the collateral in the loan, thereby enabling capital providers – both CEFIA and private lenders – to lend at lower rates for longer terms.
- The C-PACE program has been developing quickly since policy was passed in June 2012. The first towns joined the program in September 2012; the Program Guidelines were published in November and on January 24, 2013, the C-PACE program officially launched.

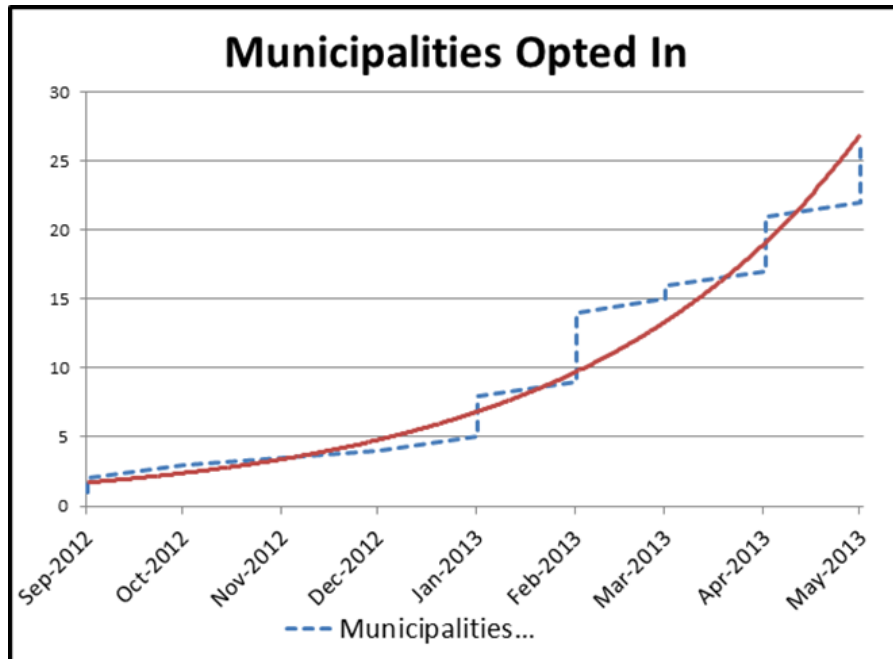
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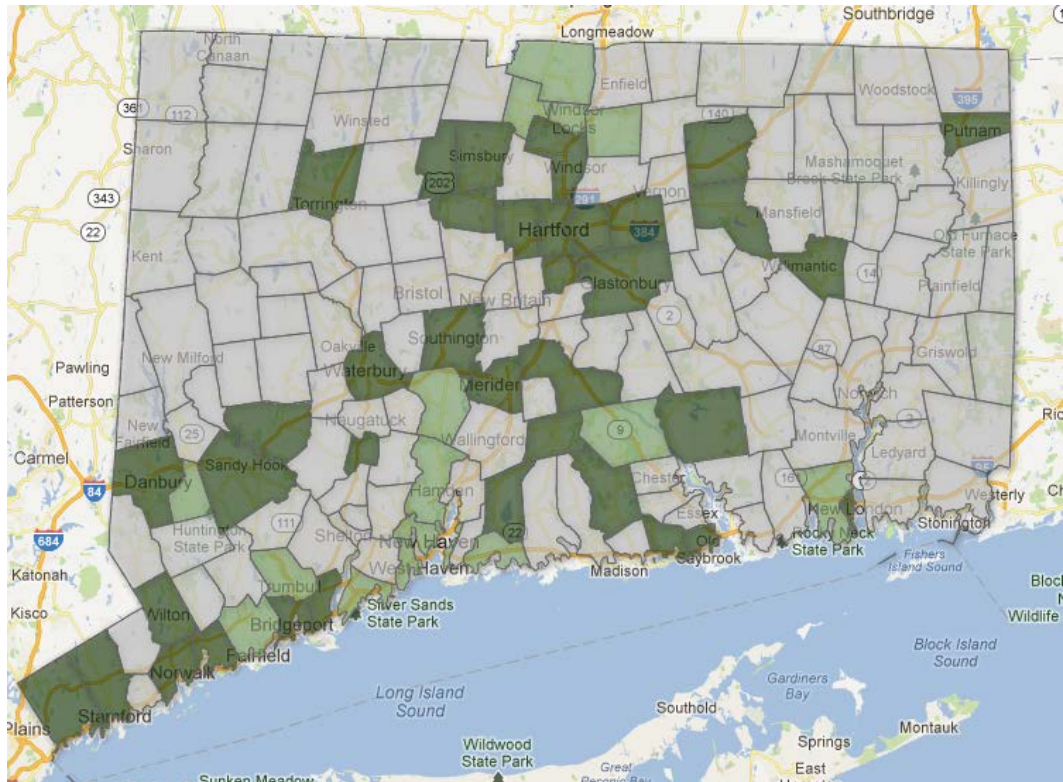
<sup>2</sup> Ratepayer capital at risk and administrative and program costs include all C-PACE projects, both efficiency and renewables. Therefore not all funds are at risk or spent to deploy kWh.



o **Municipal outreach**

The C-PACE legislation requires that municipalities pass a resolution through their legislative body in order to enter into a legal agreement with CEFA that requires that they collect the C-PACE assessment. As of May 28, 2013, 35 municipalities across the state, representing 50% of the eligible market, have signed legal agreements. The map below illustrates C-PACE enabled municipalities in dark green and municipalities joining soon in light green. The graph below demonstrates the steady progress the C-PACE program has made bringing new towns on board.





- **Capital Provider outreach**  
 At the end of 2012, the C-PACE program issued a Request for Qualifications (RFQ) to capital providers interested in financing C-PACE transactions in Connecticut. The program now has 10 qualified capital providers. The capital providers are both originating deals and preparing to buy C-PACE transactions from CEFA upon completion of the construction of the upgrade and the lien being placed on the property.





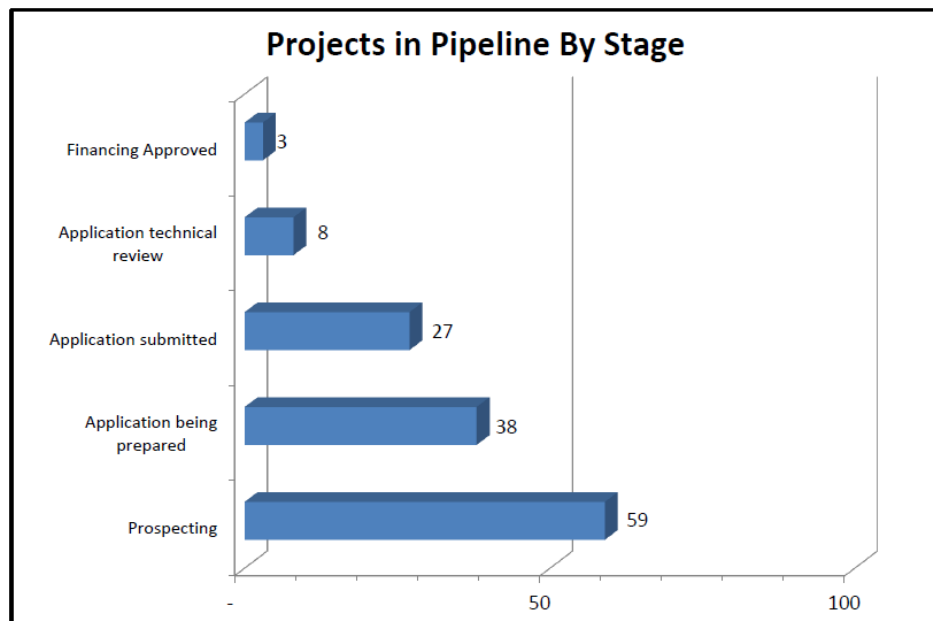
- **Contractor outreach**

In March 2013, the C-PACE program ran 3 separate day-long training sessions to register qualified contractors in the C-PACE program. Over 150 contractors attended. The contractors learned about the requirements for the C-PACE program, from project eligibility to Measurement and Verification. As a result, the program has a growing list of trained contractors bringing in quality projects.

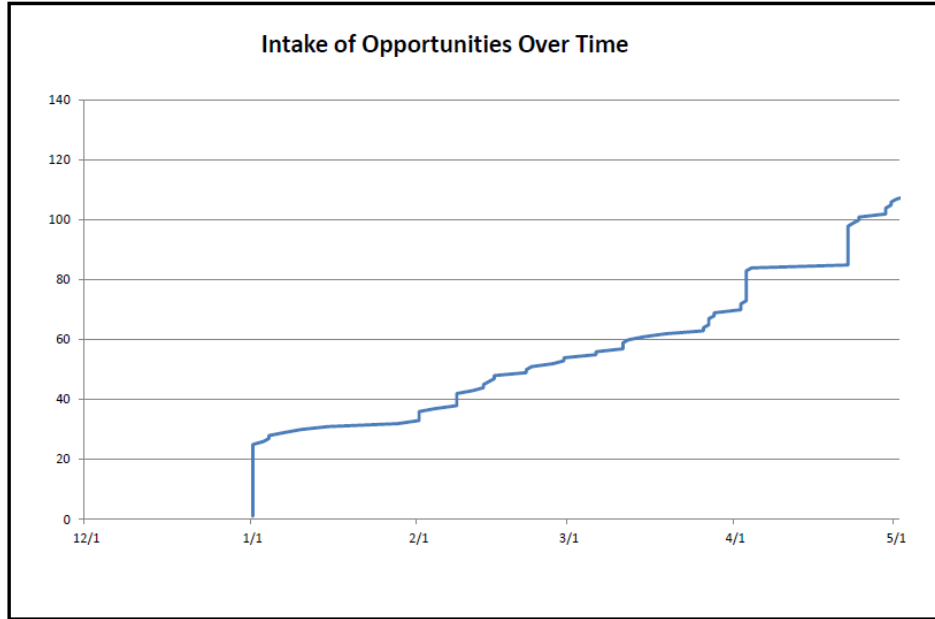
- **Deal flow update**

As of May 2013, the Deployment Committee of the CEFIA board has approved \$3.5M in C-PACE transactions. The C-PACE team plans to bring roughly \$6.5M in proposed transaction to the July Deployment Committee meeting. If approved, the C-PACE program will have committed \$11M within 5 months, on target with the \$20M loan program the Board authorized in February.

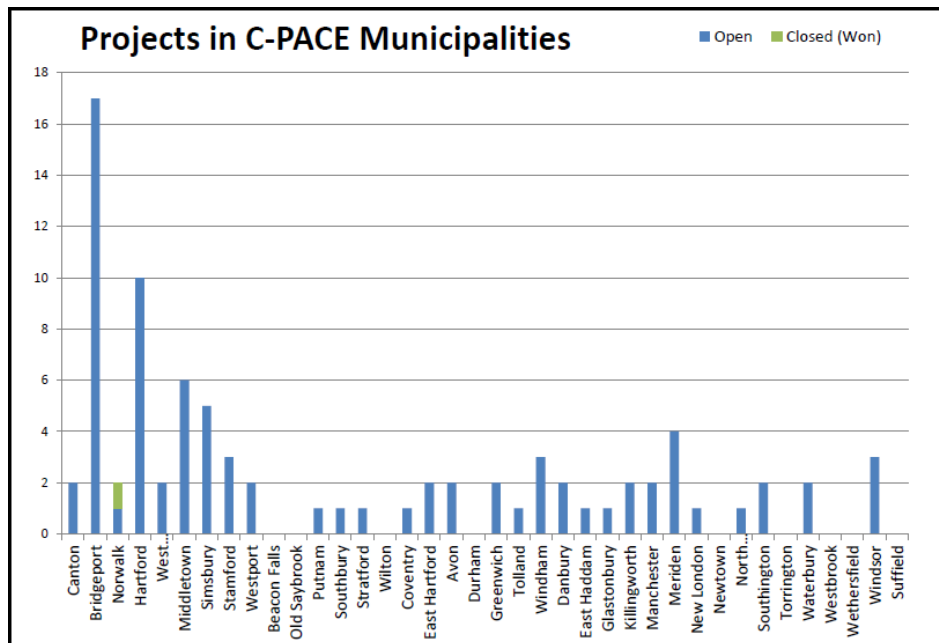
- There are 135 deals in the pipeline, totaling roughly \$51M in potential transactions. Of those, about 56%, or 76 transactions, are progressing towards financing. Others are in non-C-PACE towns, are located on buildings that will not meet underwriting criteria, or are being proposed by contractors who do not have the buy in from ownership.

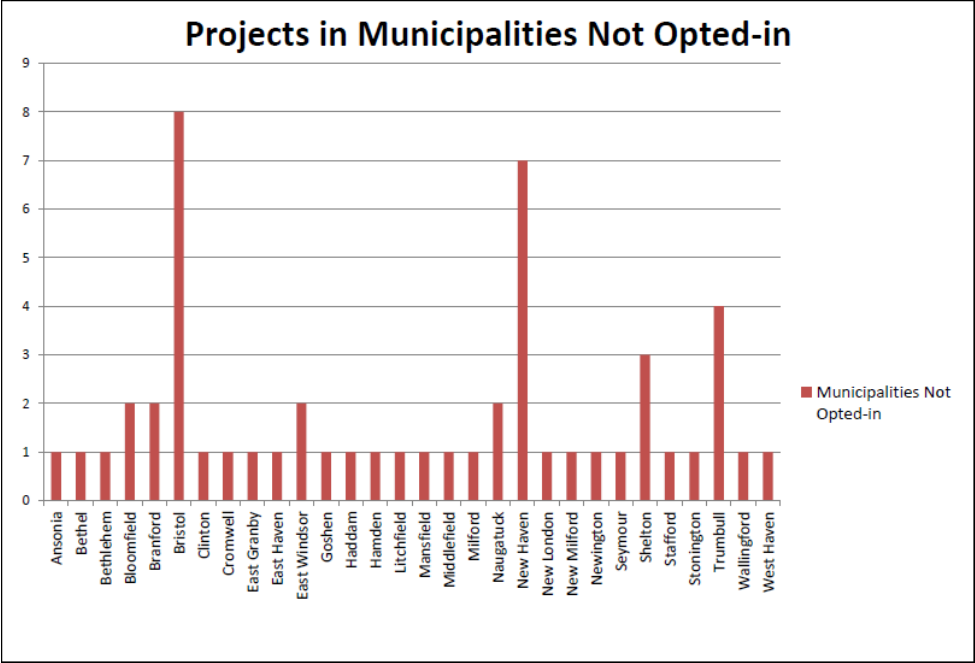


- The intake of applications has grown steadily over time, with the quality of applications sharply increasing over time.

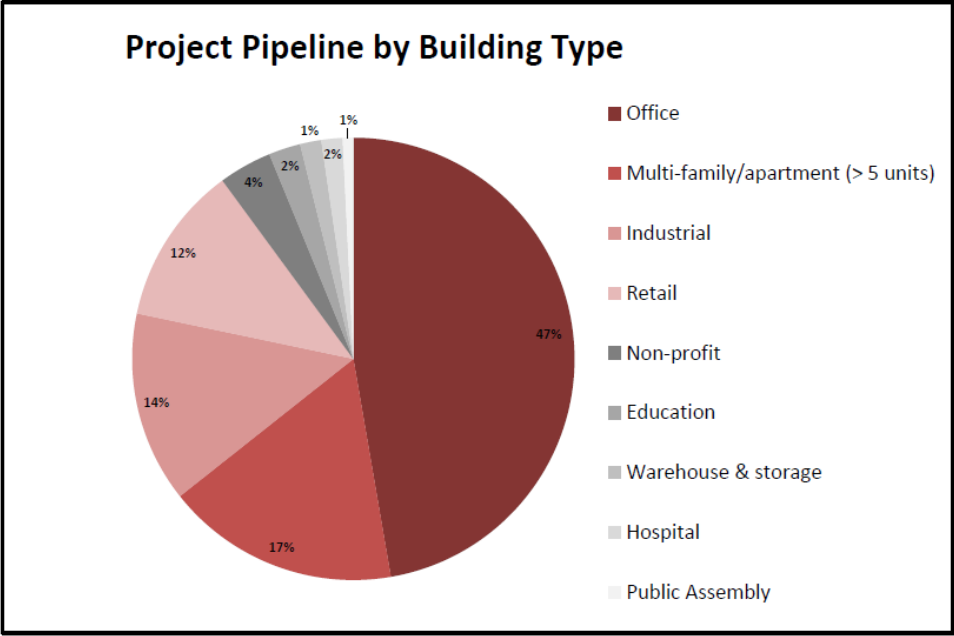


- The geographic diversity of the applications is spread throughout CT.





- About 50% of C-PACE applications are for energy efficiency upgrades; 36% for renewable energy systems (mostly solar); and 15% both.
- About 50% of C-PACE applications are from office buildings, with the balance split between industrial, multi-family, retails, and non-profit.



- Clean Energy Business Solutions – partnership with the Department of Economic and Community Development (DECD) to provide up to \$5m to support companies that are strategically important for job creation and economic development reasons by providing targeted investment to help these companies achieve clean, cheaper, and more reliable

energy. DECD identifies companies and funding levels and CEFIA works with the company to maximize energy savings or clean energy production.

Overall, the implementation of these 2 programs are progressing as projected.

Of these programs, the following is a breakdown of their contributions made thus far towards the performance target and the human resources required to implement them (see Table 3):

**Table 3. Program Progress Made as of May 30, 2013**

<b>Key Metrics</b>	<b>C-PACE</b>	<b>Clean Energy Business Solutions</b>	<b>Total Program Progress</b>
Date of Program Approval	Sep 2012	Sep 2012	
Date of Program Launch	Jan 2013		
Ratepayer Capital at Risk	\$3,443,106	\$250,000	\$3,693,106
Private Capital	-	-	-
Deployed (MW)	0.1	-	0.1
# of Loans/Installations	5	1 <sup>3</sup>	5
Lifetime Production (MWh)	2,376	-	2,376
Annual Saved (MMBtu)	9,008	-	9,008
Annual Saved (\$)	\$447,000	-	\$447,000
Full Time Equivalent Staff	7.2	0.2	7.4
Program Expenses	\$1,295,600	\$120,900	\$1,416,500

### **Lessons Learned**

Based on the implementation of the Commercial and Industrial Sector Programs thus far, the following are the key lessons learned:

1. **Lender Consent** – The C-PACE policy requires that the mortgage lender consent to a senior lien being placed on the property to secure the C-PACE financing. Experience to date suggests it takes quite a bit of education for the mortgage lender to feel comfortable subordinating their position to the C-PACE assessment. CEFIA staff has spent many hours educating this important constituency on this challenge.
2. **No Benchmarking/Disclosure Policy** – In many successful energy finance programs around the country, mandatory benchmarking or energy disclosure policies are helping to drive demand. CT does not have robust benchmarking policies that require building owners to disclose their energy consumption. The lack of these policies limits demand for C-PACE financing.
3. **Uncertain ZREC market** – The C-PACE and ZREC program were essentially launched at the same time. The uncertainty in the small ZREC, the lottery, and in the medium/large ZREC, the reverse auction, has led to uncertainty among contractors about how to apply into the C-PACE program and, if so, at what price.

<sup>3</sup> Note – this project is also counted as a C-PACE project that is receiving construction financing from CEFIA. The total doesn't count two projects, but instead one.

4. **Property Tax Exemption** – Until recent legislation passed by the CT State Legislature on May 20, 2013, there was significant uncertainty as to how municipalities assessed solar projects on commercial properties. C-PACE staff anticipates that the clarity offered by the legislation – which exempts commercial solar from property tax beginning in 2014 – will be a very helpful enabler in promoting deal flow for C-PACE.
5. **Fragmented Real Estate Market** – Based on commissioned market research from HR&A advisors, CT has one of the most fragmented real estate markets in the country. This lack of concentration in building ownership multiplies the amount of marketing and outreach efforts by C-PACE staff necessary to penetrate the market.
6. **Few full service companies** – Connecticut does not have many “full service” energy companies that are fluent in both energy upgrades and financing. While states like California have industries set up around the financing programs they offer to building owners to do energy improvements, the newness of Connecticut’s financing programs means that there are few full service companies fluent in upgrades and financing.
7. **New financial product** - Despite the security provided by the C-PACE lien structure, this is a new financial product in CT. As such, the CEFIA team is spending much of its time educating banks on the product. Many banks are trying to determine where in their institutions this product fits – small business lending or commercial real estate.
8. **DECD Education/Coordination** – CEFIA needs to work more closely with DECD to increase awareness of Clean Energy Business Solutions as an economic development tool and bring in more applications.

### Commercial and Industrial Sector Programs FY 2014 Quarterly Targets

Of the 2 programs being implemented in the Commercial and Industrial Sector Programs, the following is a breakdown of the key quarterly targets for each program (see Tables 4):

**Table 4. Number of Projects**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
C-PACE	8	12	15	20
Clean Energy Business Solutions	1	1	1	1
<b>Total</b>	<b>9</b>	<b>13</b>	<b>16</b>	<b>21</b>

**Table 5. Amount of Subsidies, Credit Enhancements, and Loans and Leases**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
C-PACE	\$4,000,000	\$6,000,000	\$7,500,000	\$12,500,000
Clean Energy Business Solutions	\$750,000	\$750,000	\$750,000	\$750,000
<b>Total</b>	<b>\$4,750,000</b>	<b>\$6,750,000</b>	<b>\$8,250,000</b>	<b>\$20,250,000</b>

**Table 6. Amount of Renewable Energy Deployed (MW)**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
C-PACE	0.5	1.0	1.5	2.0
Clean Energy Business Solutions	-	-	-	-
<b>Total</b>	<b>0.5</b>	<b>1.0</b>	<b>1.5</b>	<b>2.0</b>

**Table 7. Amount of Energy Saved (Annual MMBtu)**

<b>Program</b>	<b>FY 2014 Q1 (Jul-Sep)</b>	<b>FY 2014 Q2 (Oct-Dec)</b>	<b>FY 2014 Q3 (Jan-Mar)</b>	<b>FY 2014 Q4 (Apr-Jun)</b>
C-PACE	10,000	12,000	28,000	50,000
Clean Energy Business Solutions	-	-	-	-
<b>Total</b>	<b>10,000</b>	<b>12,000</b>	<b>28,000</b>	<b>50,000</b>

To achieve these quarterly targets, the Commercial and Industrial Sector Programs will focus its programmatic expenses in the following areas:

- Marketing to increase deal flow, for example:
  - Sector-based strategies like targeting YMCAs, shopping centers, and private schools.
  - Consultant support for owners interested in moving forward with C-PACE financing.
  - Campaigns and municipal efforts to build demand in key municipalities
- Technical support to contractors and owners bringing applications into the program
- Legal support to design financial agreements with capital providers

In its first 5 months of operation, the C-PACE program has been off to a strong start. Demonstrated by owner and contractor interest, the C-PACE financing option is attractive to CT building owners. As application process becomes better known to contractors, the C-PACE team anticipates a continued increase in applications. As deals are closed and “proof of concept” of this financing model is established, the program will grow.

# The Connecticut General Assembly

## House Democrats

J. Brendan Sharkey

*Speaker of the House*



Joe Aresimowicz

*House Majority Leader*

May 13, 2013

Dear Friends:

We recognize that monthly energy bills represent a significant percent of operating expenses at YMCAs, YWCAs, and Boys and Girls Clubs of Connecticut. We invite you to learn about a new state-wide program that will allow you to reduce energy bills at your facility – with no upfront costs.

Connecticut's Clean Energy Finance and Investment Authority (CEFIA) will tell you how you can take advantage of the Commercial and Industrial Property Assessed Clean Energy (C-PACE) program, at a special presentation scheduled for:

**Tuesday, May 21**

**ROOM 2C of the Legislative Office Building**

**TIME: 9:30am**

Joining CEFIA to lead this discussion will be House Majority leader Joe Aresimowicz, Energy and Technology Committee House Chair Lonnie Reed, Finance, Revenue and Bonding Committee House Chair Pat Widlitz, and Bonding Subcommittee House Chair Betty Boukus. We believe you will be impressed with the details of C-PACE, which allows commercial property owners to access 100% upfront, long-term financing for energy improvements. By state law, the monthly financing costs must be less than the savings realized through reducing your energy use. This means that your building will start saving money – and energy – immediately.

This program allows non-profit entities to take advantage of the tremendous opportunity to engage in smart, cost cutting energy opportunities. In addition to low-cost financing, we will consider ways in which we can take advantage of economies of scale and drive down the cost of participation for YMCAs, YWCAs, and Boys & Girls Clubs.

**How C-PACE works** - C-PACE allows building owners to finance qualifying energy efficiency and clean energy improvements by placing a voluntary benefit assessment on their property tax

bill. Benefit assessments are a safe and familiar tool used by municipalities to finance projects including street paving, water and sewer systems, and street lighting. Property owners pay for the improvements over time through this additional charge on their property tax bill and the repayment obligation transfers automatically to the next owner if the property is sold. The private sector provides the low-interest capital to fund these C-PACE projects (which are secured by a lien on the property).

As a non-profit entity, your facility may participate in this program as long as the municipality is willing to issue you a special 'C-PACE' property tax bill.

**Municipal involvement** - In order to participate in this innovative program, you must be located in a community that has elected to authorize the C-PACE program. More than 20 municipalities have already adopted C-PACE and you can view this list on the C-PACE website at [www.c-pace.com](http://www.c-pace.com) under "Resources." If your municipality is not currently participating, we can engage them to adopt the C-PACE program. Please forward this invitation to the chief administrator and/or chief local elected official of your community and encourage them to attend this special forum.

We look forward to seeing you at the C-PACE presentation on May 21. Please RSVP to Aurora D'Angona at (860) 240-8466 or by email at [aurora.dangona@cga.ct.gov](mailto:aurora.dangona@cga.ct.gov) by May 20, 2013.

Joe Aresimowicz  
House Majority Leader

Pat Widlitz  
House Chair, Finance, Revenue & Bonding  
Committee

Lonnie Reed  
House Chair, Energy & Technology  
Committee

Betty Boukus  
House Chair, Bonding Subcommittee

cc: Connecticut House of Representatives  
Connecticut Senate  
Connecticut Conference of Municipalities  
Connecticut Council of Small Towns  
Connecticut Chambers of Commerce  
Connecticut Business and Industry Association





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

# Memo

**To:** Board of Directors of the Clean Energy Finance and Investment Authority

**From:** Mackey Dykes (Chief of Staff), Bryan Garcia (President and CEO), David Goldberg (Director of Government and External Relations), Kim Stevenson (Associate Director of Technology Innovation), Bob Wall (Associate Director of Outreach)

**Cc:** Jessica Bailey (Director of C-PACE), Andy Brydges (Director of Institutional Programs), Dale Hedman (Director of Statutory and Infrastructure Programs), Bert Hunter (EVP and CIO), and Kerry O'Neill (Director of Residential Programs)

**Date:** May 30, 2013

**Re:** Transition Programs and Marketing and Outreach Programs – Phase-Outs and Revisions

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## **Overview**

The Comprehensive Plan (“the Plan”) of the Clean Energy Finance and Investment Authority (“CEFIA”) refocuses the organization on its new “green bank” mission to attract and deploy capital to finance the clean energy goals of Connecticut. Prior to the approval of the Comprehensive Plan by the Board of Directors in March of 2012 and subsequently the budget to implement the Plan in September of 2012, the Connecticut Clean Energy Fund (“CCEF”) had been implementing thirty-seven (37) programs and initiatives. Upon approval of the Plan, CEFIA would revise and continue only four (4) of the CCEF outreach programs and focus all of its efforts on developing and implementing financing programs. This memo provides an overview of the programs that were transitioned away from CEFIA as well as revisions to the outreach programs to support CEFIA’s new focus on financing.

There were a number of programs in transition during FY 2013, including:

- On-Site Distributed Generation Program
- Alpha Program
- Operational Demonstration Program
- Clean Tech Fund
- Technology and Resource Assessment Program
- Workforce Development Program
- Formal Education Program

As a result of transitions made in FY 2013, CEFIA is no longer implementing any of these programs.

Within the Plan, there were also several marketing and outreach programs that have been revised and refocused to support the new mission of CEFIA, including:

- Clean Energy Communities Program
- Community Innovation Grants Program
- Neighbor to Neighbor Energy Challenge
- Sun Rise New England – Open for Business

Two of these programs were funded by \$4.7 million of federal grants competed for and won by CEFIA that have concluded or are in the process of concluding.<sup>1</sup> The remaining outreach programs have been revised to advance the new financing mission of CEFIA.

### Transition Programs

The following is a breakdown of the status of the seven (7) programs in transition through FY 2013:

- **On-Site Distributed Generation Program** – to support the market transition from subsidies offered by the CCEF to a competitive reverse auction led by the utilities and PURA through the ZREC and LREC programs, CEFIA released several RFPs with \$8 million in available funding in the summer of 2012 to support the deployment of solar PV and fuel cell technologies on commercial and industrial buildings. In 2012, the Deployment Committee approved \$4,168,589 of subsidies in 19 solar PV projects of 2.14 MW and \$1,506,645 of subsidies in 2 fuel cell projects of 1 MW.

*Status – Closed (of the \$8 million FY 2013 budget, \$2,324,766 was returned to the CEFIA budget by the Deployment Committee)*

- **Alpha Program** – to support technologies beyond the stage of research and development, which require further testing in a laboratory or simulated environment, \$1.2 million was made available through a competitive RFP process. The Technology Innovation Committee reviewed four (4) finalist projects in June of 2012. Two of the four finalists received funding approval from the CEFIA Technology Innovation Committee – Anchor Science and Apollo Solar. Both moved forward and received \$200,000 of support from CEFIA – \$50,000 grant and \$150,000 loan. The management of these projects is now under Connecticut Innovations (CI) in accordance with the agreement codified in *Supplement One to the MOU between CI and CEFIA* dated June 26, 2012.

*Status – Closed (of the \$1.2 million FY 2013 budget, \$800,000 was returned to the CEFIA budget by the Technology Innovation Committee)*

- **Operational Demonstration Program** – to support the demonstration, testing and validation of promising pre-commercial technologies, with the goals of building customer and investor confidence, \$1.5 million was made available through two separate competitive RFP releases. In January of 2013 the Technology Innovation Committee approved two (2) of four (4) Op Demo finalists for funding – New England Hydro Power and RPM Sustainable Technologies. Each project received a \$500,000 loan from CEFIA. The CCEF, over the years, also made several Op-Demo investments in the

<sup>1</sup> It should be noted that CEFIA has applied for two (2) additional U.S. Department of Energy SunShot Initiative grants in partnership with New England States as well as national non-profit organizations.

following companies or projects – Avalence (a hydrogen production technology), Fuel Cell Energy (a hydrogen production technology), Gen Cell (a fuel cell technology), Infinity-Schlumberger (a hydrogen production technology), Lite Trough (a solar thermal technology), MechSys (a small hydro technology), Optiwind (a wind technology), Proton Energy Systems (a hydrogen production technology), Rentricity (a waste pressure to electricity technology), Tallon Lumber (a biomass gasification technology), Z-tek (a fuel cell technology). Fuel Cell Energy, Infinity-Schlumberger, MechSys, Proton Energy Systems, and Tallon Lumber are currently open while the other projects have been closed out or are in the process of being closed out. The open legacy projects require annual reporting and monitoring, while the equipment and materials for the Tallon Lumber project are currently being auctioned off. Management of CEFIA's active and open Op Demo projects are now under CI management in accordance with the MOU between CI and CEFIA.

*Status – Closed (of the \$1.5 million FY 2013 budget, \$500,000 was returned to the CEFIA budget by the Technology Innovation Committee)*

- **Clean Tech Fund** – to provide equity capital for high growth potential technology companies in the clean energy industry in Connecticut. No funding was made available to the Clean Tech Fund. However, there are several companies that the CCEF made equity investments in that are on the books of CEFIA including Acumentrics (a fuel cell company) and Optiwind (a small wind company). The management of these investments is now under Connecticut Innovations (CI) in accordance with the MOU between CI and CEFIA..

*Status – Closed*

- **Technology and Resource Assessment Programs** – to monitor and assess the performance of fuel cell and small wind projects deployed in Connecticut, the CCEF supported a technology and resource assessment program.

*Status – Closed*

- **Workforce Development Program** – to support post-secondary green job training programs offered by Connecticut Community Colleges and Technical High School System, several renewable energy education and training programs were implemented. The old program supported the development of curriculum materials, professional development for teachers, and hands-on diagnostic equipment, while the program in transition supported by CEFIA included 16 E-Houses – one at each technical high school in the state. To date, three (3) E-Houses have been completed. The management of these projects is now under United Illuminating, our utility partner through the Connecticut Energy Efficiency Fund (CEEF), through an agreement between CEFIA and UI.

*Status – Closed (of the \$400,000 FY 2013 budget, \$5,000 was returned to the CEFIA budget by the Deployment Committee)*

- **Formal Education Program** – to support professional development opportunities for Connecticut teachers focused on renewable energy sources, the CCEF supported the Learning for Clean Energy Innovation Program in collaboration with the Department of

Education. The management of these projects is now under United Illuminating, our utility partner through CEEF, through an agreement between CEFIA and UI.

### *Status – Closed*

As of May 30, 2013, all of the programs in transition are closed or in the final stages of closing.

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## **Marketing and Outreach Programs**

With regard to marketing and outreach, CEFIA has several key initiatives it is supporting including Energize Connecticut<sup>SM</sup> and the Connecticut Clean Energy Communities (CEC) program.

### *Energize Connecticut*

Energize Connecticut<sup>2</sup> is an initiative dedicated to empowering Connecticut citizens to make smart energy choices, now and in the future. It provides Connecticut residents, businesses, nonprofits and communities the resources and information they need to make it easy to save energy and build a clean energy future for everyone in the state. It is an initiative of the Connecticut Energy Efficiency Fund (CEEF), the Clean Energy Finance and Investment Authority, the state, and the local electric and gas utilities. To support the initiative, the partners developed a new “one-stop shop” website that provides customers with information on all of the state’s energy programs that were formerly hosted on the CEFIA and CEEF websites. In addition, the partners created a new brand and collateral templates, among other items, to drive broader and deeper energy upgrades in support of the state’s Comprehensive Energy Strategy.

### *Connecticut Clean Energy Communities Program*

The Connecticut Clean Energy Communities is an award-winning program<sup>3</sup> now jointly administered with CEEF that engages Connecticut’s cities and towns to commit to clean energy targets (i.e., 20% reduction in energy consumption by 2018) while promoting the deployment of clean energy among its businesses, institutions and households. The program rewards cities and towns with iconic rewards (e.g., a solar PV system on a public library) for supporting clean energy deployment. Through the CEC program, municipalities have been “leading by example” in deploying clean energy, creating voluntary clean energy task forces to market clean energy, and generating significant local earned media in the press through their results. The CEC program has demonstrated strong results in terms of increasing customer participation in CEEF and CEFIA programs<sup>4</sup> while also better positioning Connecticut to compete and win federal grants including the Neighbor to Neighbor Energy Challenge (\$4.1 million DOE Energy Efficiency Conservation Block Grant), Rooftop Solar Challenge (\$480,000 DOE SunShot Initiative Grant) and Solar Energy Evolution and Diffusion Studies (\$1.8 million DOE SunShot Initiative Grant).

The CEC program has been modified by CEFIA in FY 2013 to align with its new mission of clean energy deployment and financing. The program now focuses on supporting the four (4) key sectors of CEFIA: residential, commercial and industrial, institutional, and statutory and infrastructure.

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<sup>2</sup> [www.energizect.com](http://www.energizect.com)

<sup>3</sup> Won the EPA and DOE Green Power Partnership Award in 2006 and the Clean Energy States Alliance Leadership Award in 2009.

<sup>4</sup> Climate Policy and Voluntary Initiatives: An Evaluation of the Connecticut Clean Energy Communities Program by Matthew Kotchen in the National Bureau of Economic Research (June 2010).

The program encourages the following actions by municipalities to ensure that they are “open for business” to support clean energy deployment:

- Opting into C-PACE
- Adopting stretch codes and renewable friendly ordinances
- Adopting solar PV permitting guides
- Waving or capping permit fees
- Allowing online permitting
- Entering into energy savings performance contracts
- Undertaking outreach campaigns (e.g., Solarize, C-PACE)

The program provides points for actions taken by businesses, institutions, and households, including:

- Deployment of clean energy systems (i.e. solar PV and hot water systems, ground source heat pumps, fuel conversions, EV recharging stations, etc.)
- Generation of loan applications for financing programs
- Origination of loans through the financing program

These points can be redeemed for performance-based incentives that acknowledge the municipality’s leadership in supporting clean energy.

The CEC program is now in alignment with the deployment and financing mission of CEFIA and will serve to improve the overall performance of programs within each sector of the organization.

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## **Conclusion**

In conclusion, the CEFIA staff has worked hard to transition several programs out of the organization including on-site distributed generation, technology innovation, workforce development, and formal and informal education programs, while also making the necessary modifications to continuing programs that will ensure that they are in alignment with the new direction of CEFIA.

With the support of CI, CEFIA is provided a resource from which to transfer the management of its early stage technology investments. With the support of United Illuminating and CEEF, CEFIA’s workforce development and formal and informal education programs are being served. Of the \$11.1 million budgeted in FY 2013 for programs in transition, over \$3.6 million of funds were returned back to the general budget of CEFIA from the Deployment and Technology Innovation Committees.

As a result of these transitions and modifications to programs, CEFIA is now completely focused on the deployment and financing of clean energy in Connecticut.

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**Clean Energy Finance and Investment Authority**  
**Financial Analysis**  
**Executive Summary**  
**For the ten months ended April 30, 2013**

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

Revenues for the period totaled \$28,228,800 compared to a budget of \$27,076,200. Utility customer assessments totaled \$23,533,900 and were \$316,100 (1.3%) under budget. As of the date of the preparation of the financial statements, April's actual results had not been reported to CEFIA so the budgeted April amounts are reflected in the actuals (see page 7 for a detailed analysis). Storm Sandy had a negative impact on assessments collected, however this negative impact was offset by greater than anticipated RGGI auction results. RGGI auction proceeds from the three auctions to date totaled \$2,803,800, and were \$1,303,800 over the budgeted amount. March auction proceeds of \$1,472,000 signal a significant uptick in activity. Other income of \$262,500 included \$112,000 in penalty payments from energy resellers as a result of not having met their RPS requirements for 2009 and \$100,000 pertaining to the close out of the PPL/Pepperidge Farms fuel cell project

Expenses associated with the general operations of CEFIA totaled \$2,258,700 as compared to a budget of \$2,492,300 for the period. Generally expenses for operations were in line with budget. Year to date there are no significant variances between actuals and budget. Operating expenses by line item were within \$5,000 of the budgeted amount or under budget.

Expenses associated with supporting CEFIA's programs totaled \$3,031,700 as compared to a budget of \$3,472,500. The favorable variance to budget can be found primarily within compensation and the associated benefits for CEFIA employees supporting these programs. The refinement of new CEFIA programs being developed resulted in positions being filled later than anticipated in the budget. All vacancies have now been filled.

**Statement of Assets and CashFlows**

Net assets as of April 30, 2013 were \$90,459,200, an increase of \$9,271,000 from June 30, 2012. Cash balances of \$79,107,800 increased \$5,894,300 since the beginning of the year. These cash balances are offset by \$20,506,800 in program commitments as of April 30th (see page 6 for a detailed analysis of commitments by program), \$5,634,000 in Alpha, Op Demo, Campus Efficiency NOW, CPACE and Energy Efficiency financing commitments and restricted asset balances of \$8,768,500 for various programs. Both pages 3 and page 4, Statements of Net Assets and Cash Flows, respectively, include current and projected balances through 6/30/2013.

**Clean Energy Finance and Investment Authority**  
**Financial Analysis**  
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**For the ten months ended April 30, 2013**

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5	Statement of Program Investments (2 pages)
6	Statement of Incentives, Grants and Rebates
7	Utility Customer Assessment Analysis
8	Loan Loss Reserve Analysis

Clean Energy Finance and Investment Authority  
 Comparison of FY 2013 Budget to Actual  
 Statement of Income and General Operations and Program Expenses  
 For the nine months ended April 30, 2013

	(000's)			Budget FY2013	Budget FY2013	Budget FY2013	(Under) Over Budget	%
	Actual FY2013	Actual FY2013	Actual FY2013					
	Gen. Ops	Programs	Total	Gen. Ops	Programs	Total		
<b>Income</b>								
Utility customer assessments	\$ 23,533.9	\$ -	\$ 23,533.9	\$ 23,850.0	\$ -	\$ 23,850.0	\$ (316.1)	(1%)
RGGI auction proceeds	\$ 2,803.8	\$ -	\$ 2,803.8	\$ 1,500.0	\$ -	\$ 1,500.0	\$ 1,303.8	87%
Interest on bank deposits	\$ 100.4	\$ -	\$ 100.4	\$ 100.0	\$ -	\$ 100.0	\$ 0.4	0%
Interest income-Solar Lease Notes,net of fees	\$ 89.4	\$ -	\$ 89.4	\$ 125.0	\$ -	\$ 125.0	\$ (35.6)	(29%)
Grant income (LBE,N2N,Sunrise)	\$ 1,438.7	\$ -	\$ 1,438.7	\$ 1,438.7	\$ -	\$ 1,438.7	\$ 0.0	0%
Other income	\$ 262.6	\$ -	\$ 262.6	\$ 62.5	\$ -	\$ 62.5	\$ 200.1	320%
<b>Total revenues:</b>	<b>\$ 28,228.8</b>	<b>\$ -</b>	<b>\$ 28,228.8</b>	<b>\$ 27,076.2</b>	<b>\$ -</b>	<b>\$ 27,076.2</b>	<b>\$ 1,152.6</b>	<b>4%</b>
<b>Expenses</b>								
<b>Compensation &amp; Benefits:</b>								
-Salaries & Wages-CEFIA employees	\$ 880.2	\$ 1,113.9	\$ 1,994.1	\$ 880.2	\$ 1,406.7	\$ 2,286.9	\$ (292.8)	(13%)
-Salaries & Wages-CI shared services	\$ 235.5	\$ 1.8	\$ 237.3	\$ 291.9	\$ 12.4	\$ 304.3	\$ (67.0)	(22%)
-Employee Benefits-CEFIA employees	\$ 547.0	\$ 767.8	\$ 1,314.8	\$ 545.7	\$ 872.1	\$ 1,417.9	\$ (103.1)	(7%)
-Employee Benefits-CI shared services	\$ 162.9	\$ 1.1	\$ 164.0	\$ 181.0	\$ 7.7	\$ 188.7	\$ (24.7)	(13%)
<b>Consulting and professional fees</b>								
- Legal	\$ 11.5	\$ 153.1	\$ 164.6	\$ 29.0	\$ 153.1	\$ 182.1	\$ (17.5)	(10%)
- Consulting fees	\$ 55.4	\$ 385.1	\$ 440.5	\$ 70.0	\$ 385.1	\$ 455.1	\$ (14.6)	(3%)
- Project inspection fees	\$ -	\$ 170.7	\$ 170.7	\$ -	\$ 170.7	\$ 170.7	\$ 0.0	0%
<b>Marketing/External relations</b>	<b>\$ 94.1</b>	<b>\$ 146.3</b>	<b>\$ 240.4</b>	<b>\$ 180.0</b>	<b>\$ 146.3</b>	<b>\$ 326.3</b>	<b>\$ (85.9)</b>	<b>(26%)</b>
<b>EM&amp;V</b>	<b>\$ -</b>	<b>\$ 55.1</b>	<b>\$ 55.1</b>	<b>\$ -</b>	<b>\$ 55.1</b>	<b>\$ 55.1</b>	<b>\$ 0.0</b>	<b>0%</b>
<b>Rent and location related expenses</b>								
-Rent/Utilities/Maintenance	\$ 77.3	\$ 93.6	\$ 170.9	\$ 79.6	\$ 96.4	\$ 176.0	\$ (5.1)	(3%)
-Telephone/Communications	\$ 15.9	\$ 19.2	\$ 35.1	\$ 16.3	\$ 19.7	\$ 36.0	\$ (0.9)	(3%)
-Equipment & storage rentals	\$ 1.7	\$ 2.1	\$ 3.9	\$ 4.5	\$ 5.5	\$ 10.0	\$ (6.1)	(61%)
-Depreciation FF&E	\$ 24.2	\$ 29.3	\$ 53.4	\$ 31.7	\$ 38.3	\$ 70.0	\$ (16.6)	(24%)
<b>Office, computer &amp; other expenses</b>								
-Office expense	\$ 19.6	\$ 29.4	\$ 49.0	\$ 23.1	\$ 28.0	\$ 51.1	\$ (2.1)	(4%)
-Computer operations	\$ 16.0	\$ 19.4	\$ 35.4	\$ 22.6	\$ 27.4	\$ 50.0	\$ (14.6)	(29%)
-Subscriptions	\$ 5.4	\$ -	\$ 5.4	\$ 15.0	\$ -	\$ 15.0	\$ (9.6)	(64%)
-Training and education	\$ 19.6	\$ -	\$ 19.6	\$ 24.0	\$ -	\$ 24.0	\$ (4.4)	(18%)
-Temporary employees	\$ 24.2	\$ 15.6	\$ 39.8	\$ 24.0	\$ 15.6	\$ 39.6	\$ 0.2	0%
-Travel,meetings & related expenses	\$ 49.7	\$ 6.0	\$ 55.7	\$ 52.0	\$ 6.0	\$ 58.0	\$ (2.3)	(4%)
-Insurance	\$ 18.5	\$ 22.4	\$ 40.9	\$ 21.7	\$ 26.3	\$ 48.0	\$ (7.1)	(15%)
<b>Subtotal:</b>	<b>\$ 2,258.7</b>	<b>\$ 3,031.7</b>	<b>\$ 5,290.4</b>	<b>\$ 2,492.3</b>	<b>\$ 3,472.5</b>	<b>\$ 5,964.8</b>	<b>\$ (674.4)</b>	<b>(11%)</b>
<b>Grant expenses(LBE/N2N/Sunrise)</b>	<b>\$ -</b>	<b>\$ 1,146.8</b>	<b>\$ 1,146.8</b>	<b>\$ -</b>	<b>\$ 1,146.8</b>	<b>\$ 1,146.8</b>	<b>\$ -</b>	<b>0%</b>
<b>Financial Incentives-Grants &amp; Rebates</b>	<b>\$ -</b>	<b>\$ 4,038.9</b>	<b>\$ 4,038.9</b>	<b>\$ -</b>	<b>\$ 4,038.9</b>	<b>\$ 4,038.9</b>	<b>\$ 0.0</b>	<b>0%</b>
<b>Interest rate buydown-HDF/CHIF</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan loss -Grid Tied Loan Program</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan loss - Op Demo Loans</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan loss - Alpha Loans</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan Loss - GreenerU</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan Loss - WINN LISC</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan Loss -CPACE Loans</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan Loss - Lease Programs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan Loss -Res. Solar Loans</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision for Loan Loss - Res. Smart E Loans</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Provision of Loan Loss - Clean Energy Bus Sol Loans</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>
<b>Total expenses:</b>	<b>\$ 2,258.7</b>	<b>\$ 8,217.4</b>	<b>\$ 10,476.1</b>	<b>\$ 2,492.3</b>	<b>\$ 8,658.2</b>	<b>\$ 11,150.5</b>	<b>\$ (674.4)</b>	<b>(6%)</b>
FY13 revenues over FY13 expenses:			\$ 17,752.7			\$ 15,925.7	\$ 1,827.0	
Financial Incen.:Grants/Rebates Paid - FY12 Commitments:			\$ (8,326.2)					
Revenues over expenses:			\$ 9,426.5					



**Clean Energy Finance and Investment Authority**  
**Statement of Revenues, Expenses**  
**and Changes in Net Assets**  
**For the ten months ended April 30, 2013**  
**(000's)**

	<b>Total Net Assets</b>	<b>6/30/2012</b>	<b>\$ 81,188.2</b>
<b>FY 2013 expenses over income:</b>			<b>17,754.3</b>
Utility customer assessments	23,533.9		
Interest income	189.8		
RGGI auction proceeds	2,803.8		
Grant income	1,438.7		
Other income	262.6		
		<b>28,228.8</b>	
Compensation	(3,710.2)		
Consulting and professional fees	(605.1)		
Marketing/External relations	(240.4)		
Project Inspection fees	(170.7)		
EM&V	(55.1)		
Rent and location related expenses	(263.2)		
Office, computer & other expenses	(245.6)		
		<b>(5,290.3)</b>	
Provision for Loan Loss - New Programs	-		
Interest Rate Buydowns - New Programs	-		
Residential Solar PV rebates	(3,881.4)		
Anaerobic Digester Pilot	-		
CHP Pilot	-		
Condo Renewable Energy grants	-		
Maintained Programs	(156.0)		
		<b>(4,037.4)</b>	
<b>NOTE: Subtotal, Recurring Programs</b>			<b>18,901.1</b>
Clean Energy Business Solutions	-		
Transition & Other	-		
Federal Grants	(1,146.8)		
Loan Loss Reserve - Grid Tied, Op Demo & Alpha Loans	-		
		<b>(1,146.8)</b>	
<b>NOTE: Subtotal, Non-Recurring/Special Programs</b>			<b>(1,146.8)</b>
<b>Expenditures grants and rebates approved prior to FY13</b>			<b>\$ (8,327.0)</b>
PROGRAM GOAL 1 PROJECT 150 & PRE DEVELOPMENT PROGRAM	\$ (50.00)		
CI&I ON SITE GENERATION PROGRAM - Strategic Investments	-		
CI&I ON SITE GENERATION PROGRAM - COMM. SOLAR	(597.0)		
Residential Solar PV -Pre Sec 106, PA 11-80	(77.0)		
RESIDENTIAL SOLAR PV INVESTMENT PROGRAM (Section 106,PA 11-80)	(1,729.0)		
CI&I On Site Generation - Solar NFP/Govt	(1,012.0)		
CI&I On Site Generation -Fuel Cell	(3,438.0)		
GEO THERMAL,SOLAR THERMAL AND HOT WATER PROJECTS	(838.0)		
CI&I ON SITE GENERATION PROGRAM - FEASIBILITY STUDIES	(55.0)		
Operational Demonstration Program	(123.0)		
TECHNOLOGY AND DEVELOPMENT STUDIES	-		
Education & Outreach Programs	(387.0)		
Other	(21.0)		
		<b>(8,327.0)</b>	
<b>Other ( change in other balance sheet components)</b>			<b>\$ (156.3)</b>
<b>Total Net Assets</b>			<b>\$ 90,459.2</b>
			<b>4/30/2013</b>

Clean Energy Finance and Investment Authority  
Financial Analysis  
For the ten months ended April 30, 2013  
Statement of Net Assets  
(000's)

	Actual 6/30/2012	YTD 4/30/2013	Projected 6/30/2013	Budgeted 6/30/2013
<b>Assets</b>				
<b>Current assets</b>				
Cash and cash equivalents (Unrestricted)	\$ 64,672.9	\$ 70,749.8	\$ 55,139.2	\$ 33,227.4
Utility receivables	\$ 2,580.0	\$ 2,682.1	\$ 2,200.0	\$ 2,200.0
Accounts receivable	\$ 725.3	\$ 69.7	\$ 575.0	\$ 750.0
Other current assets	\$ 350.3	\$ 56.5	\$ 200.0	\$ 250.0
<b>Total current assets</b>	<b>\$ 68,328.5</b>	<b>\$ 73,558.2</b>	<b>\$ 58,114.2</b>	<b>\$ 36,427.4</b>
<b>Noncurrent assets</b>				
<b>Investments</b>				
Promissory notes - solar lease program V1	\$ 12,036.6	\$ 11,523.0	\$ 11,431.0	\$ 11,366.4
Loan loss reserve - solar lease program V1	\$ (300.9)	\$ (285.2)	\$ (285.8)	\$ (267.4)
Promissory notes - solar lease program V2	\$ -	\$ -	\$ 2,300.0	\$ 529.5
Loan loss reserve - solar lease program V2	\$ -	\$ -	\$ (115.0)	\$ (24.1)
Promissory notes - solar loan program	\$ -	\$ -	\$ 288.1	\$ 545.2
Loan loss reserve - solar loan program	\$ -	\$ -	\$ (14.4)	\$ (27.5)
Promissory notes - WIN LISC program	\$ -	\$ -	\$ 125.0	\$ 123.8
Loan loss reserve - WIN LISC program	\$ -	\$ -	\$ (12.5)	\$ (12.5)
Promissory notes - Campus Efficiency NOW program	\$ -	\$ -	\$ 125.0	\$ 976.0
Loan loss reserve - Campus Efficiency NOW program	\$ -	\$ -	\$ (12.5)	\$ (100.0)
Promissory notes - Energy Efficiency Loan programs	\$ -	\$ -	\$ -	\$ 230.3
Loan loss reserve - Energy Efficiency Loan programs	\$ -	\$ -	\$ -	\$ (11.6)
Promissory notes - CPACE program	\$ -	\$ 86.0	\$ 575.0	\$ 1,000.0
Loan loss reserve - CPACE program	\$ -	\$ -	\$ (28.8)	\$ (100.0)
Promissory notes - Alpha/Op Demo programs	\$ -	\$ -	\$ -	\$ 2,450.0
Loan loss reserve - Alpha/Op Demo programs	\$ -	\$ -	\$ -	\$ (1,225.0)
Promissory notes - Grid tied program program	\$ -	\$ 2,625.0	\$ 3,800.0	\$ 8,000.0
Loan loss reserve - Grid tied program	\$ -	\$ -	\$ (380.0)	\$ (800.0)
Promissory notes - Clean Energy Bus Solutions program	\$ -	\$ -	\$ -	\$ 2,000.0
Loan loss reserve - Clean Energy Bus Solutions program	\$ -	\$ -	\$ -	\$ (200.0)
Equity Investment/Solar Lease program	\$ -	\$ -	\$ 2,700.0	\$ -
Equity/Debt investments (pre FY13)	\$ 2,155.5	\$ 2,000.0	\$ 2,000.0	\$ 2,155.5
Investments-REC's	\$ 1,324.6	\$ 1,324.6	\$ 1,450.0	\$ 1,450.0
Furniture, Equipment & L/H Improvements	\$ 91.3	\$ 172.5	\$ 200.0	\$ 181.4
<b>Cash and cash equivalents (Restricted)</b>	<b>\$ 8,540.6</b>	<b>\$ 8,358.5</b>	<b>\$ 7,998.0</b>	<b>\$ 9,395.7</b>
<b>Other Assets (LLR and IRB Advances)(Restricted)</b>	<b>\$ -</b>	<b>\$ 410.0</b>	<b>\$ 410.0</b>	<b>\$ -</b>
<b>Total non current assets</b>	<b>\$ 23,847.7</b>	<b>\$ 26,214.4</b>	<b>\$ 32,553.1</b>	<b>\$ 37,635.7</b>
<b>Total assets</b>	<b>\$ 92,176.2</b>	<b>\$ 99,772.6</b>	<b>\$ 90,667.3</b>	<b>\$ 74,063.1</b>

Clean Energy Finance and Investment Authority  
 Financial Analysis  
 For the ten months ended April 30, 2013  
 Statement of Net Assets

(000's)

	Actual 6/30/2012	YTD 4/30/2013	Projected 6/30/2013	Budgeted 6/30/2013
<b><u>Liabilities and Net Assets</u></b>				
<b>Liabilities:</b>				
Accounts&Grants payable and accrued expenses	\$ 2,624.9	\$ 544.8	\$ 2,500.0	\$ 2,500.0
Custodial Acct - DEEP-WB Furnance Prg	\$ -	\$ 360.0	\$ 360.0	\$ -
Custodial Acct - Tremaine Foundation	\$ -	\$ 33.0	\$ 33.00	\$ -
Custodial Acct - CE Financing Prg.-ARRA-SEP	\$ 8,363.1	\$ 7,828.8	\$ 7,828.8	\$ 8,113.7
Custodial Acct. LLR -ARRA-SEP-EE Loans	\$ -	\$ 136.8	\$ 136.8	\$ -
Custodial Acct. LLR -ARRA-SEP-HDF Cozy Loans	\$ -	\$ 360.0	\$ 360.0	\$ -
Custodial Acct. IRB -ARRA-SEP-HDF Cozy Loans	\$ -	\$ 50.0	\$ 50.0	\$ -
<b>Total liabilities</b>	<b>\$ 10,988.0</b>	<b>\$ 9,313.4</b>	<b>\$ 11,268.6</b>	<b>\$ 10,613.7</b>
<b>Net Assets:</b>				
Investment in capital assets	\$ 91.3	\$ 172.5	\$ 200.0	\$ 181.4
Restricted net assets	\$ 8,540.7	\$ 8,768.5	\$ 8,408.0	\$ 9,395.7
Unrestricted net assets	\$ 72,556.2	\$ 81,518.2	\$ 70,790.7	\$ 53,872.3
<b>Total Net Assets</b>	<b>\$ 81,188.2</b>	<b>\$ 90,459.2</b>	<b>\$ 79,398.7</b>	<b>\$ 63,449.4</b>
<b>Total Liabilities and Net Assets</b>	<b>\$ 92,176.1</b>	<b>\$ 99,772.6</b>	<b>\$ 90,667.3</b>	<b>\$ 74,063.1</b>

**Reconciliation of Restricted Assets to Custodial Accounts:**

Cash and cash equivalents (Restricted)	\$ 8,358.5
Other Assets (LLR and IRB Advances)(Restricted)	\$ 410.0
	<u>\$ 8,768.5</u>
Custodial Acct - DEEP-WB Furnance Prg	\$ 360.0
Custodial Acct - Tremaine Foundation	\$ 33.0
Custodial Acct - CE Financing Prg.-ARRA-SEP	\$ 7,828.8
Custodial Acct. LLR -ARRA-SEP-EE Loans	\$ 136.8
Custodial Acct. LLR -ARRA-SEP-HDF Cozy Loans	\$ 360.0
Custodial Acct. IRB -ARRA-SEP-HDF Cozy Loans	\$ 50.0
	<u>\$ 8,768.5</u>

Clean Energy Finance and Investment Authority  
Statement of Cash Flows  
As of April 30, 2013  
(000's)

	Actual as of 4/30/2013	(Projected) (2 Months) Q4	(Projected) Fiscal Year 6/30/2013	(Budgeted) Fiscal Year 6/30/2013
<b>Cash flows from operating activities</b>				
<b>CASH IN:</b>				
Proceeds from utility customer assessments	23,432.7	4,655.4	\$ 28,088.1	\$ 28,000.0
Proceeds from RGGI auctions	3,529.1	-	\$ 3,529.1	\$ 2,000.0
Proceeds from grants	1,876.7	131.4	\$ 2,008.1	\$ 2,156.5
Proceeds from RECs/other income	272.4	20.0	\$ 292.4	\$ 125.0
Proceeds from Interest on deposits, investments, solar lease notes	199.6	50.5	\$ 250.1	\$ 270.0
<b>CASH OUT:</b>				
Expenditures General and Program Administration	(5,338.0)	(2,000.0)	\$ (7,338.0)	\$ (9,625.2)
Expenditures third party grants (LBE,N2N,Sunrise)	(1,298.5)	(326.4)	\$ (1,624.9)	\$ (1,707.0)
Expenditures grants and rebates approved prior to FY13	(8,234.1)	(5,414.9)	\$ (13,649.0)	\$ (17,912.1)
Expenditures grants and rebates -other programs	(5,870.1)	(4,790.5)	\$ (10,660.6)	\$ (15,151.5)
Expenditures residential solar lease PV program- rebates	-	(732.4)	\$ (732.4)	\$ (2,197.1)
Expenditures residential solar loan program-rebates	-	(189.0)	\$ (189.0)	\$ (932.4)
Expenditures-Credit Enhancement LLR	(360.0)	-	\$ (360.0)	\$ -
Expenditures-Credit Enhancement IRB	(50.0)	-	\$ (50.0)	\$ (250.0)
<b>Net cash used by operating activities</b>	<b>\$ 8,159.8</b>	<b>\$ (8,595.9)</b>	<b>\$ (436.1)</b>	<b>\$ (15,223.8)</b>
<b>Cash flows from investing activities</b>				
<b>LOAN RECOVERY</b>				
Return of principal on solar lease V1 promissory notes	550.9	110.0	\$ 660.9	\$ 670.0
Proceeds from residential solar loan program	-	-	\$ -	\$ 5.5
Proceeds from WINN LISC program	-	-	\$ -	\$ 1.2
Proceeds from GreenerU program	-	-	\$ -	\$ 24.0
Proceeds from EEloan program	-	-	\$ -	\$ 2.3
	<u>550.9</u>	<u>110.0</u>	<u>660.9</u>	<u>703.0</u>
<b>LOAN DISBURSEMENTS</b>				
Residential solar lease PV program	-	(1,700.0)	\$ (1,700.0)	\$ (395.5)
Residential solar lease SHW program	-	(250.0)	\$ (250.0)	\$ (29.0)
Commercial solar lease (MUSH) program	-	(350.0)	\$ (350.0)	\$ (105.0)
Residential solar loan program	-	(288.1)	\$ (288.1)	\$ (550.6)
WINN LISC program	-	(125.0)	\$ (125.0)	\$ (125.0)
Campus Efficiency NOW program	-	(125.0)	\$ (125.0)	\$ (1,000.0)
Energy Efficiency Loan programs	-	(232.6)	\$ (232.6)	\$ (232.6)
CPACE program	(86.0)	(489.0)	\$ (575.0)	\$ (1,000.0)
Grid tied program	(2,625.0)	(1,175.0)	\$ (3,800.0)	\$ (8,000.0)
Op Demo program	-	-	\$ -	\$ (2,000.0)
Alpha program	-	-	\$ -	\$ (450.0)
Clean Energy Business Solutions	-	-	\$ -	\$ (2,000.0)
	<u>(2,711.0)</u>	<u>(4,734.7)</u>	<u>(7,445.7)</u>	<u>(15,887.7)</u>
<b>EQUITY INVESTMENTS</b>				
Commercial solar lease (MUSH) program	-	(400.0)	(400.0)	-
Residential solar lease SHW program	-	-	-	-
Residential solar lease PV program	-	(2,300.0)	(2,300.0)	-
	<u>-</u>	<u>(2,700.0)</u>	<u>(2,700.0)</u>	<u>-</u>
<b>Net cash used by investing activities</b>	<b>\$ (2,160.1)</b>	<b>\$ (7,324.7)</b>	<b>\$ (9,484.8)</b>	<b>\$ (15,184.7)</b>
<b>Cash flows from capital activities</b>				
Purchase of furniture, equipment & software	(105.4)	(50.0)	\$ (155.4)	\$ (182.0)
<b>Net cash used in operating, investing and capital activities</b>	<b>5,894.3</b>	<b>(15,970.6)</b>	<b>\$ (10,076.3)</b>	<b>\$ (30,590.5)</b>
<b>Cash and cash equiv., Beginning of Period</b>	<b>73,213.5</b>	<b>79,107.8</b>	<b>\$ 73,213.5</b>	<b>\$ 73,213.5</b>
<b>Cash and cash equiv., End of Period</b>	<b>\$ 79,107.8</b>	<b>\$ 63,137.2</b>	<b>\$ 63,137.2</b>	<b>\$ 42,623.0</b>

Clean Energy Finance and Investment Authority  
Statement of Program Investments  
As of April 30, 2013  
(000's)

Loan/Investment Date	Loan No.	Issuer	Project	Approved Commitment	Investment/Advances to date	Reserve	Current Valuation	Interest Rate	Termination/Maturity Date	Notes
<b>Alpha Program</b>										
8/28/2012	13-50100-2	Anchor Science, LLC	Development of nanomaterial for thermal energy management in electronics.	\$ 150	\$ -	\$ -	\$ -	6% or Prime +1%	8/28/2022	Non Recourse Loan. Repayment based on commercial success of technology or liquidation event. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement. (5 yr amortization or lump sum payment)
8/9/2012	13-50100-1	Apollo Solar, Inc.	Development of solar smart grid inverter.	\$ 150	\$ -	\$ -	\$ -	6% or Prime +1%	8/9/2022	Non Recourse Loan. Repayment based on commercial success of technology or liquidation event. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement. (5 yr amortization or lump sum payment)
<b>CPACE Construction Loan Program</b>										
TBD	CPACE-001	542 Westport Ave.,Norwalk	Construction Loan to implement a variety of energy efficient lighting measures.	\$ 172	\$ 86	\$ -	\$ 86.00	5%	TDB	Upon project completion, CEFIA will either retain a 100% ownership of the construction loan via conversion to a term loan (envisioned to be 13 years at a 5% interest rate or sell the loan off partially or in total to a private capital provider. C-PACE assessment through the City of Norwalk will provide security.
<b>Secured Term Loans</b>										
3/5/2013	FCE-001	Fuel Cell Energy, Inc.	Development of Bridgeport Fuel Cell Park	\$ 5,873	\$ 2,625	\$ -	\$ 2,625.00	5%	The earlier of 144 months after Provisional Acceptance Date or 3/31/2026	
<b>Energy Efficiency Financing</b>										
9/13/2012	GU-001	Greener U/Campus Efficiency Now	Energy efficiency financing to Colleges and Universities in the CT Conference of Independent Colleges	\$ 1,000	\$ -	\$ -	\$ -	IRR of 7%	TBD Project by Project	College/University will enter into a service agreement with Campus Efficiency, LLC to provide energy efficiency improvements. CEFIA will assist the colleges/university with its financial obligation under the agreement. CEFIA will earn an IRR of 7% on its advances.
<b>Pre Development Program (1)</b>										
4/30/2009	PD-002	Chestnut Hill BioEnergy CT, LLC	Biomass generation project, Waterbury,CT	\$ 500	\$ 237	\$ (237)	\$ -	4.25%	See Notes	LOC. Note matures upon the earlier of: closing of permanent financing, 12 months after commercial operation of project, sale, acquisition or merger of interest. Terminates upon event of default.
02/19/09	PD-003	BNE Energy Inc.	Colebrook Wind - Phase I	\$ 120	\$ 120	\$ (120)	\$ -	4.25%	See Notes	LOC. Note matures upon the earlier of: closing of permanent financing, 12 months after commercial operation of project, sale, acquisition or merger of interest. Terminates upon event of default.
02/19/09	PD-004	BNE Energy Inc.	Prospect Wind - Phase I	\$ 102	\$ 102	\$ (102)	\$ -	4.25%	See Notes	LOC. Note matures upon the earlier of: closing of permanent financing, 12 months after commercial operation of project, sale, acquisition or merger of interest. Terminates upon event of default.
06/24/10	PD-005	BNE Energy Inc.	Colebrook Wind - Phase II	\$ 380	\$ 380	\$ (380)	\$ -	4.25%	See Notes	LOC. Note matures upon the earlier of: closing of permanent financing, 12 months after commercial operation of project, sale, acquisition or merger of interest. Terminates upon event of default.
06/24/10	PD-006	BNE Energy Inc.	Prospect Wind - Phase II	\$ 398	\$ 398	\$ (398)	\$ -	4.25%	See Notes	LOC. Note matures upon the earlier of: closing of permanent financing, 12 months after commercial operation of project, sale, acquisition or merger of interest. Terminates upon event of default.

Clean Energy Finance and Investment Authority  
Statement of Program Investments  
As of April 30, 2013  
(000's)

<u>Loan/Investment Date</u>	<u>Loan No.</u>	<u>Issuer</u>	<u>Project</u>	<u>Approved Commitment</u>	<u>Investment/ Advances to date</u>	<u>Reserve</u>	<u>Current Valuation</u>	<u>Interest Rate</u>	<u>Termination/ Maturity Date</u>	<u>Notes</u>
<b>Op Demo Program (1)</b>										
8/8/2007	ODP-001	Mechatronic Energy Systems, LLC	Low Head Run-of-the-River Hydro Turbine Technology Project, Mansfield,CT	\$ 557	\$ 501	\$ (501)	\$ -	TBD	8/7/2017	Non Recourse Loan. Repayment based on commercial success (\$541,000/m) of technology. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement. ( 10 yr amortization)
4/5/2010	ODP-003	LiteTrough, LLC	Concentrated Solar Water Heater Technology, Milford, CT	\$ 81	\$ 31	\$ (31)	\$ -	4.25%	4/4/2020	Non Recourse Loan. Repayment based on commercial success (\$500,000/m) of technology. No repayment of loan is required if commercial success is not achieved after ten years from the execution date of the agreement.(5 yr amortization)
6/28/2010	ODP-004	Avalence, LLC	High pressure multipurpose electrolyer technology, Hamden,CT	\$ 500	\$ 350	\$ (350)	\$ -	TBD	6/27/2020	Non Recourse Loan. Repayment based on commercial success (\$1,000,000/m) of technology. If no commercial success company repays amount advanced. If commercial success company pays 2 times amount advanced or amortizes over 5 yr period at applicable interest rate.
TBD	ODP-005	New England Hydropower Co.,LLC	Demonstration of commercial viability of company's small hydropower technology.	\$ 500	\$ -	\$ -	\$ -	TBD	TBD	Project approved by CEPIA Technology Innovations Committee on January 8, 2013. Loan documents are being drafted.
TBD	ODP-006	RPM Sustainable Technologies, Inc.	Innovative processing equipment for biofuels production.	\$ 500	\$ -	\$ -	\$ -	TBD	TBD	Project approved by CEPIA Technology Innovations Committee on January 8, 2013. Loan documents are being drafted.
<b>Other Investments</b>										
		<u>Company</u>	<u>Security</u>							
3/27/2002		Acumentrics Corporation	Series B Preferred Stock		\$ 4,000	\$ (2,000)	\$ 2,000			Fuel Cell Technology
					<u>\$ 6,120</u>	<u>\$ (4,120)</u>	<u>\$ 4,711</u>			

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

Clean Energy Finance and Investment Authority  
Statement of Incentives, Grants and Rebates  
As of April 30, 2013  
(000's)

Program	FY12 Programs			
	Commitments	Fundings	Withdrawn	Commitments
	Outstanding 6/30/2012	YTD FY13		Outstanding 04/30/2013
Project 150	\$ 7,224	\$ (50)	\$ (5,674)	\$ 1,500
Pre Development Loans	\$ 263	\$ -	\$ (263)	\$ -
Strategic Investments	\$ 35	\$ -	\$ (35)	\$ -
Commercial Solar (for profit)	\$ 2,255	\$ (597)	\$ -	\$ 1,658
Commercial Solar (not for profit/government)	\$ 3,997	\$ (1,012)	\$ -	\$ 2,986
Fuel Cell program	\$ 5,870	\$ (3,438)	\$ -	\$ 2,432
CI&I On Site Generation -Feasibility Studies	\$ 211	\$ (55)	\$ (28)	\$ 129
Residential Solar PV Program (pre Solar PV Investment Program)	\$ 99	\$ (77)	\$ -	\$ 22
Residential Solar PV Investment Program	\$ 2,127	\$ (1,728)	\$ (252)	\$ 148
Solar Thermal & Geothermal Programs	\$ 1,132	\$ (596)	\$ (34)	\$ 501
Solar Hot Water Programs	\$ 2,253	\$ (242)	\$ -	\$ 2,011
Operational Demonstration & Alpha Programs	\$ 948	\$ (123)	\$ (446)	\$ 380
Education & Outreach Programs	\$ 694	\$ (387)	\$ -	\$ 307
FY11-FY12 CP Goal 4: advocacy & public policy support	\$ 102	\$ (21)	\$ -	\$ 80
	\$ 27,211	\$ (8,326.2)	\$ (6,732)	\$ 12,153

Program	FY 13 Programs				
	FY13 Budget	FY13 Commitments	Fundings	Withdrawn	Commitments
			YTD FY13		Outstanding 04/30/2013
<b>Transition</b>					
Education & Training Programs	\$ 400.0	\$ 395.0	\$ (26.8)	\$ -	\$ 368.2
<b>Maintain</b>					
Clean Energy Communities	\$ 650.0	\$ 72.2	\$ (37.3)	\$ -	\$ 34.9
Community Innovation Grants	\$ 200.0	\$ 7.0	\$ (7.0)	\$ -	\$ -
Project Opportunities Fund	\$ 500.0	\$ -	\$ -	\$ -	\$ -
Strategic Investment Fund	\$ 100.0	\$ -	\$ -	\$ -	\$ -
Alpha Program	\$ 100.0	\$ 100.0	\$ (45.0)	\$ -	\$ 55.0
<b>Statutory</b>					
Residential Solar PV Investment Program (Non PBI)	\$ 9,333.0	\$ 7,253.1	\$ (3,881.0)	\$ -	\$ 3,372.1
Residential Solar PV Investment Program (FY13 PBI - to be paid out in current & future years)	\$ -	\$ 3,702.8	\$ (0.4)	\$ -	\$ 3,702.4
Residential Solar PV Investment Program (FY12 PBI - to be paid out in current & future years)	\$ -	\$ 817.8	\$ (1.5)	\$ -	\$ 816.3
Anaerobic Digester Pilot	\$ 2,000.0	\$ -	\$ -	\$ -	\$ -
CHP Pilot	\$ 2,000.0	\$ 4.5	\$ -	\$ -	\$ 4.5
Condo Renewable Energy Grants	\$ 50.0	\$ -	\$ -	\$ -	\$ -
<b>Commercial &amp; Industrial</b>					
Clean Energy Business Solutions	\$ 2,500.0	\$ -	\$ -	\$ -	\$ -
<b>Federal Grants - InKind payments</b>					
Sun Rise New England	\$ 48.0	\$ 40.0	\$ (40.0)	\$ -	\$ -
	\$ 17,881.0	\$ 12,392.3	\$ (4,038.9)	\$ -	\$ 8,353.4
			\$ (12,365.1)		\$ 20,506.8

**Clean Energy Finance and Investment Authority  
Financial Analysis  
Utility Customer Assessment Analysis  
For the ten months ended April 30, 2013  
(000's)**

	<u>FY 13 Actual</u>	<u>FY13 Budget</u>	<u>FY 12</u> (Under) Over
July	\$ 2,709.4	\$ 2,700.0	\$ 9.4
August	\$ 2,815.0	\$ 2,825.0	\$ (10.0)
September	\$ 2,457.0	\$ 2,500.0	\$ (43.0)
October	\$ 1,994.0	\$ 2,200.0	\$ (206.0)
November	\$ 2,028.4	\$ 2,100.0	\$ (71.6)
December	\$ 2,240.2	\$ 2,375.0	\$ (134.8)
January	\$ 2,419.7	\$ 2,400.0	\$ 19.7
February	\$ 2,421.0	\$ 2,300.0	\$ 121.0
March	\$ 2,199.2	\$ 2,200.0	\$ (0.8)
April	\$ 2,250.0	\$ 2,250.0	\$ - A
May	\$ -	\$ -	\$ -
June	\$ -	\$ -	\$ -
Total assessments:	<u>\$ 23,533.9</u>	<u>\$ 23,850.0</u>	<u>\$ (316.1)</u> <u>-1.3%</u>

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



**Clean Energy Finance and Investment Authority**  
**Financial Analysis**  
**Loan Loss Reserve Analysis**  
**For the ten months ended April 30, 2013**  
**(000's)**

<u>Institution</u>	<u>Loan Portfolio Balance</u>	<u>Loan Loss Reserve</u>	<u>LLR Funding Source</u>
<b><u>Energy Efficiency Loan Programs</u></b>			
Core Plus FCU	\$ -	\$ 22.5	ARRA Funds
Eastern Savings Bank	\$ -	\$ 22.5	ARRA Funds
Patriot National Bank	\$ -	\$ 68.8	ARRA Funds
Nutmeg State FCU	\$ -	\$ 22.5	ARRA Funds
<i>Sub total Energy Efficiency Loan Program:</i>	<u>\$ -</u>	<u>\$ 136.3</u>	
<b><u>Cozy loan Program</u></b>			
The Housing development Fund	\$ -	\$ 360.0	ARRA Funds
<i>Sub total Cozy Loan Program:</i>	<u>\$ -</u>	<u>\$ 360.0</u>	
<i>Total - All Programs:</i>	<u>\$ -</u>	<u>\$ 496.3</u>	