CDFA – Stern Brothers Renewable Energy Finance Webcast Series:
The Future of Renewable Energy Finance in the Northeast

The Broadcast will begin at 1:00pm (EDT).

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Erin Tehan

Manager, Legislative & Federal Affairs
Council of Development Finance Agencies
Columbus, OH

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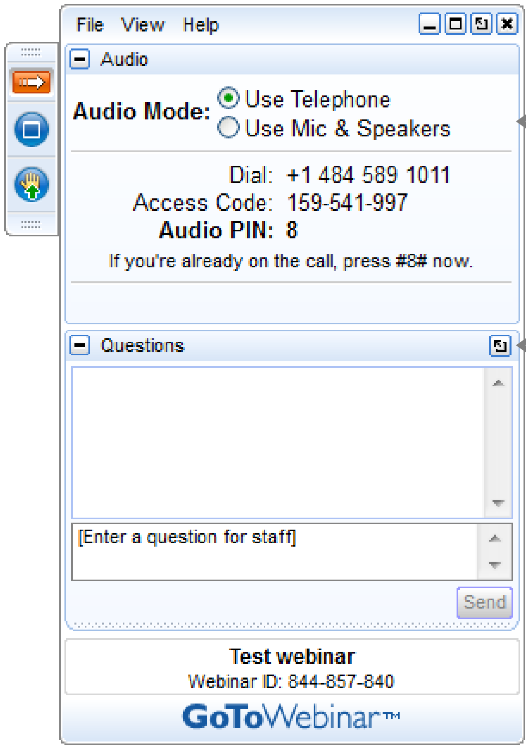
The Future of Renewable Energy Finance in the Northeast



Using your telephone will give you better audio quality.

Submit your questions to the panelists here.

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Speakers

Les Krone, *Moderator*
Stern Brothers & Co.

Jo Bradley
Vermont Economic Development Authority

Bryan Garcia
Connecticut Clean Energy and Investment Authority

Anita Molino
Bostonia Partners LLC

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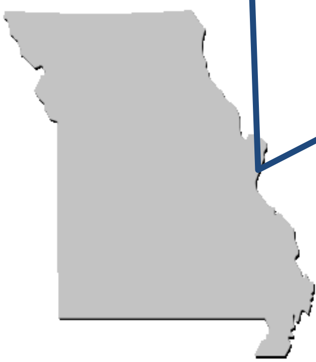
Les Krone

Managing Director
Stern Brothers & Co.
St. Louis, MO



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Alternative Energy Finance Group

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Managing Director & Co-Head
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•Use tax-exempt and taxable bonds to optimize the debt structure and equity returns of developers seeking non-recourse financing for renewable energy projects.

•Pioneered the use of tax-exempt bonds as an alternative to bank debt in biofuels and landfill gas projects.

•Expanding practice to include projects in biomass, 2nd generation biofuels, waste-to-energy and clean coal.

•Structure and place tax-exempt and taxable debt, and provide financial advisory services for renewable energy projects

•Our structuring and execution experience developed over the past 10 years will continue to place Stern Brothers at the forefront of renewable energy finance

#5 US Municipal Bookrunner, Minority Owned Firms for 2012, Number of Deals, (Thompson Reuters)
#10 Largest municipal VRDN (Variable Rate Demand Note) remarketing agent in the United States
Largest WBE municipal VRDN remarketing agent in the nation with over 400 transactions completed and a portfolio in excess of $4 billion par amount of securities

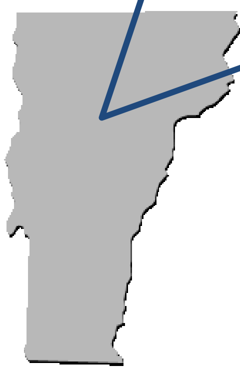
The Future of Renewable Energy Finance in the Northeast

Jo Bradley

CEO

Vermont Economic Development Authority

Montpelier, VT



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VERMONT CLEAN ENERGY FINANCING

Three Separate Energy Finance Entities

VERMONT Public Service Department

State of Vermont

VERMONT CLEAN ENGERY DEVELOPMENT FUND

VERMONT ENERGY INVESTMENT CORPORATION

Efficiency Vermont

your resource for energy savings

VERMONT ECONOMIC DEVELOPMENT AUTHORITY

VEDA

Funding Vermont's Future Since 1974

VERMONT

Public Service Department

State of Vermont

The **<u>Clean Energy Development Fund</u>**, housed in the State Department of Public Service has the goal to increase the development and deployment of cost-effective and environmentally sustainable electric power resources - primarily with respect to renewable energy resources, and the use of combined heat and power technologies - in Vermont.

Funding Opportunities:

- Small-Scale Renewable Energy Incentive Program
- Vermont Business Solar Energy Tax Credit Certification
- Grant Program (closed)
- Loan Program (closed)

VERMONT ENERGY
INVESTMENT CORPORATION

Efficiency Vermont
your resource for energy savings

The Vermont Energy Investment Corporation (VEIC) is a mission-driven nonprofit organization, founded in 1986, that is dedicated to reducing the economic and environmental costs of energy consumption through cost-effective energy efficiency and renewable technologies.

Efficiency Vermont helps all Vermonters to reduce energy costs, strengthen the local economy, and protect the environment by making homes and businesses energy efficient.

Funding Vermont's Future Since 1974

<u>**The Vermont Economic Development Authority (VEDA)**</u> is Vermont's statewide economic development finance lender. Created by the General Assembly in 1974, VEDA's mission is "to contribute to the creation and retention of quality jobs in Vermont by providing loans and other financial support to eligible and qualified Vermont industrial, commercial and agricultural enterprises."

NEW in 2013:
Vermont Clean Energy Loan Fund

<u>Vermont Clean Energy Loan Fund</u> bill is progressing through the Vermont legislature. It will enable VEDA to Continue to make loans and provide other forms of financing for projects that stimulate and encourage development and deployment of clean energy technologies in the State of Vermont.

The extension of credit to support these purposes is critical to sustain economic growth and the quality of life for Vermont residents in the future.

NEW: Vermont Clean Energy Loan Fund

The new legislation combines and creates the following programs:

(1) All existing loans made by the Authority, the Vermont Small Business Development Corporation, and the Vermont Agricultural Credit Corporation for energy conservation, energy generation, and agricultural energy efficiency;

(2) All existing loans of the Clean Energy Development Fund;

(3) NEW PROGRAMS:

- Vermont Business **Energy Conservation** Loan Program.
- **Renewable Energy** Loan Program.
- **Agricultural Energy** Loan Program.
- **Energy Conservation** Loan Guarantee Program.

Vermont Clean Energy Loan Fund

NEW PROGRAMS:

Energy Conservation Loan Program provides loans to Vermont businesses for projects that renovate refurbish, rehabilitate, or retrofit business facilities and equipment that conserve energy.

Renewable Energy Loan Program provides loans to businesses that generate energy for resale or for use within the business itself.

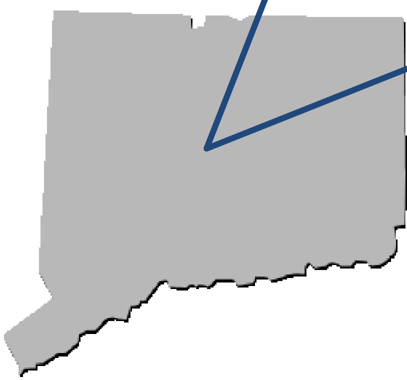
Agricultural Energy Loan Program provides loans to fund energy conservation or renewable/sustainable energy generation projects on Vermont farms.

Energy Conservation Loan Guarantee Program utilize VEDA loan guarantees of up to 75% of loans made by financial institutions for projects that renovate refurbish, rehabilitate, or retrofit business facilities and equipment that conserve energy.

The Future of Renewable Energy Finance in the Northeast

Bryan Garcia

President and CEO
Clean Energy Finance and Investment Authority
Rocky Hill, CT



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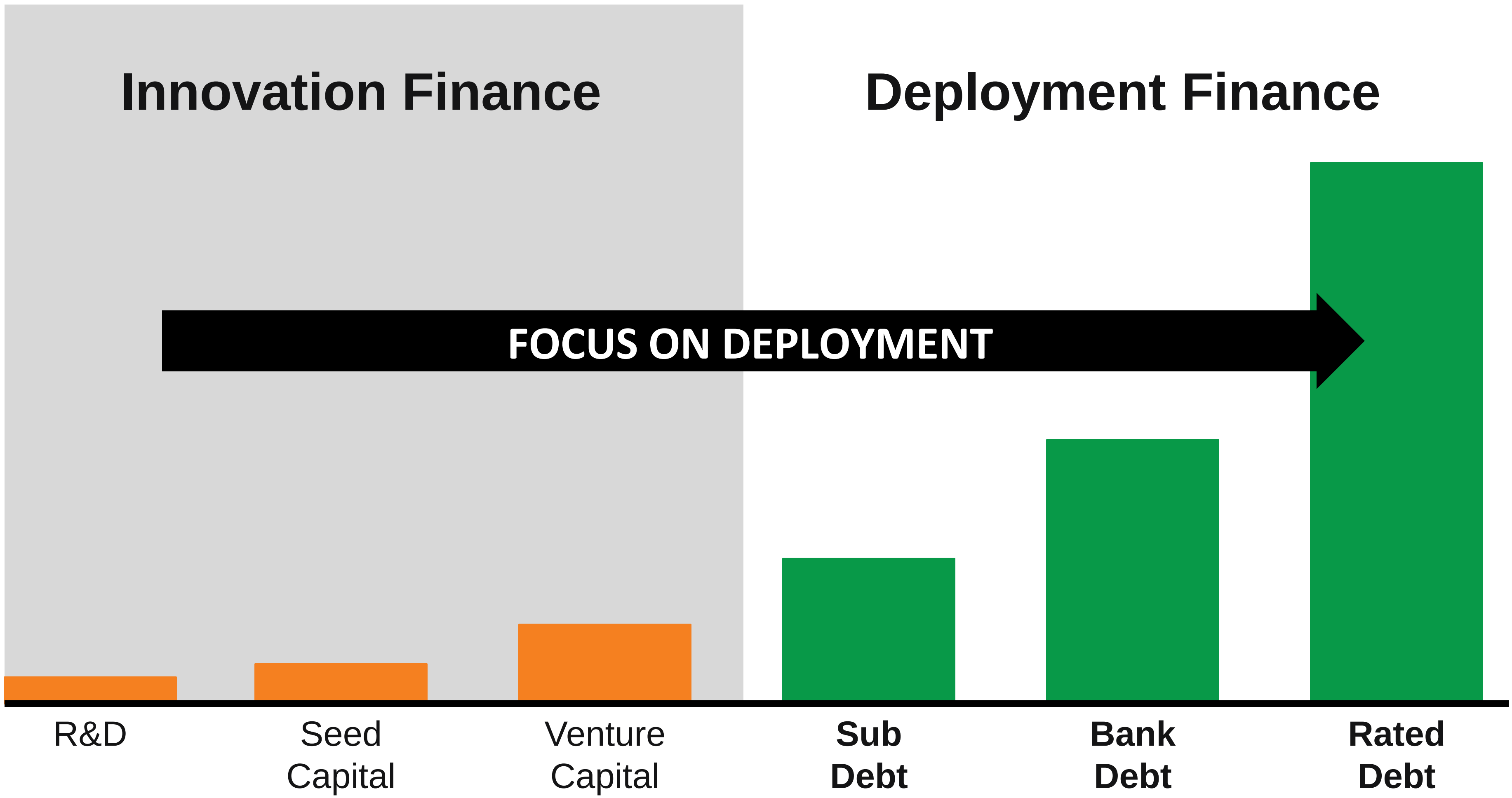
Commercially Available Technology



REFERENCES
CDFA Innovation Finance Reference Guide

Connecticut's "Green Bank"

…***transitioning programs away from government-funded grants, rebates, and other subsidies, and towards deploying private capital***

…CEFIA was established in 2011 to develop programs that will ***leverage private sector capital to create long-term, sustainable financing for energy efficiency and clean energy to support residential, commercial, and industrial sector implementation of energy efficiency and clean energy measures.***

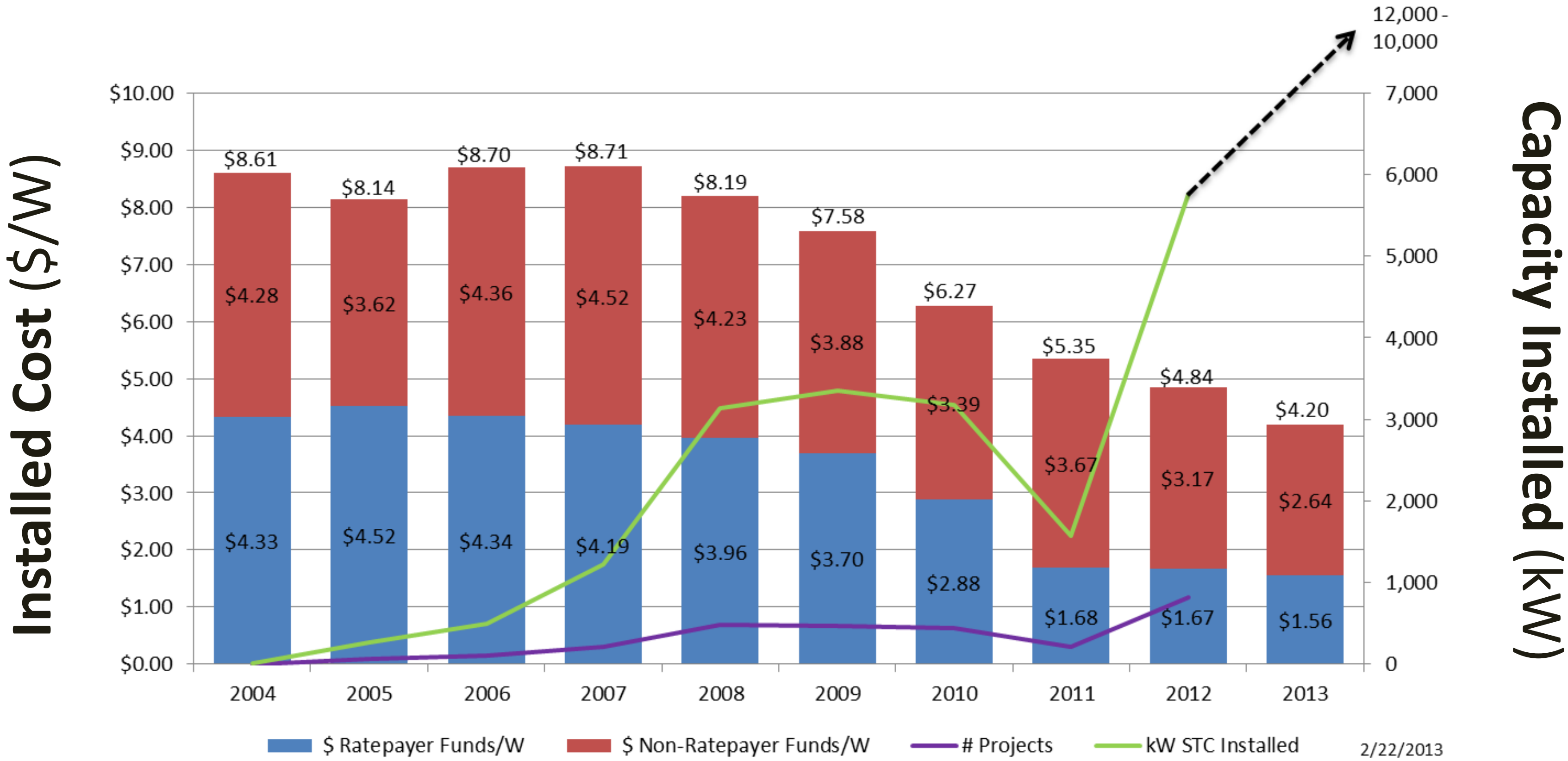
What is a Green Bank's Function

Increase the amount of clean electricity produced at competitive prices per dollar of ratepayer funds at risk

AND

Increase efficiency of consumption to maximize benefits to consumers per dollar of ratepayer funds at risk

Subsidy Example of a Green Bank



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Finance Example of a Green Bank Residential Products

	Launch Date	ARRA-SEP LLR/IRB* (M)	CEFIA Senior or Sub Loan (M)	Private Capital (M)	Interest Rate	CEFIA Leverage	Estimated Energy Produced and Saved
Total Planned Programs		**$6.7**	**$11.0**	**$84.8**	**4.49%-6.99%**	**4.8 (12.7)**	**12.7MW 240,000MMBtus**
PROGRAM SPECIFICS							
Cozy Home Loans (Pilot)	Apr-2013	$0.41	$0.00	$2.5	TBD 10-year	6.1	25,000 MMBtu
Smart-E Loan (Pilot)	Apr-2013	$2.50	$0.00	$27.8	4.49%-6.99% 5-12 year	11.1	210,000 MMBtu
Solar Loan (Pilot)**	Mar-2013	$0.30	$1.5	$4.5	6.49% 15-year	2.5 (15.0)	1.7 MW
Solar Lease	Apr-2013	$3.50	$9.50	$50.0	Energy Price 20-year	3.8 (14.3)	11.0 MW (solar PV) 5,000 MMBtu (SHWS)

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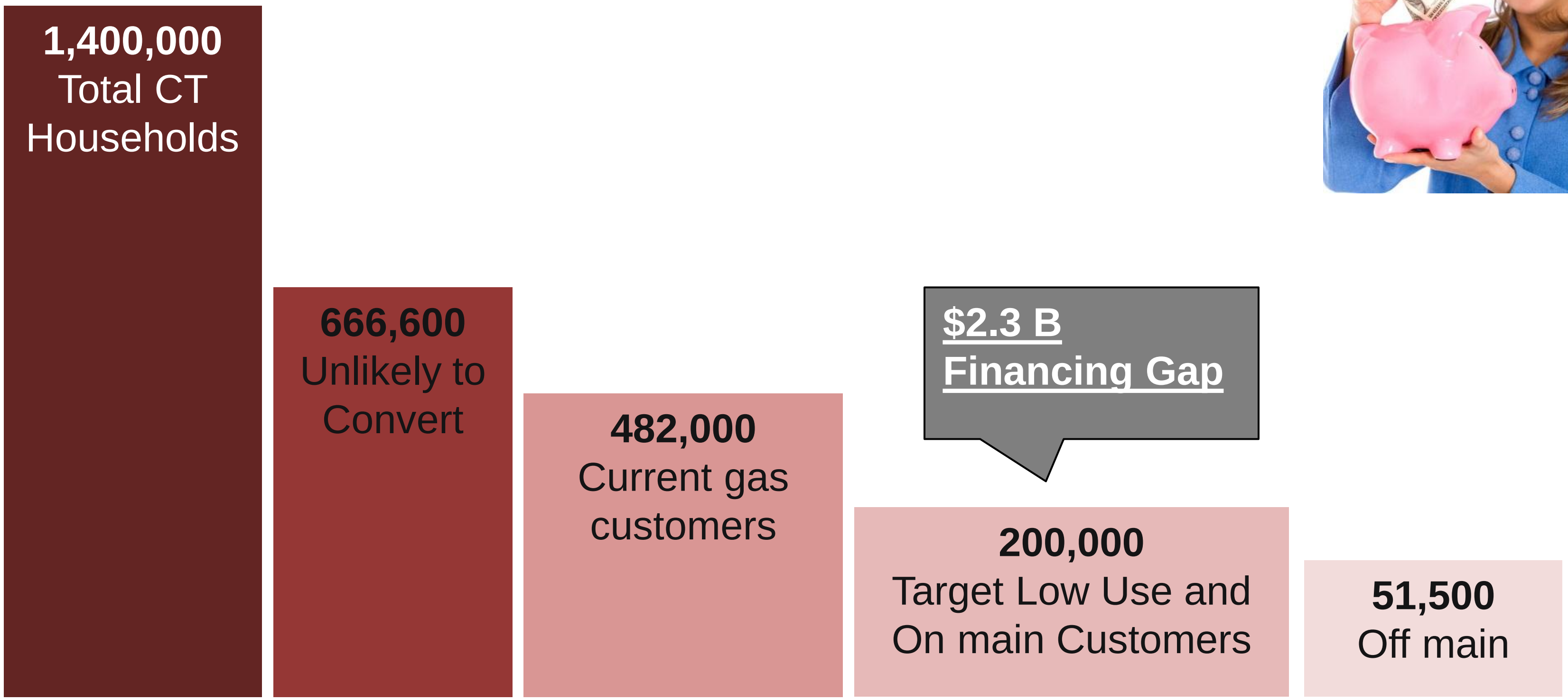
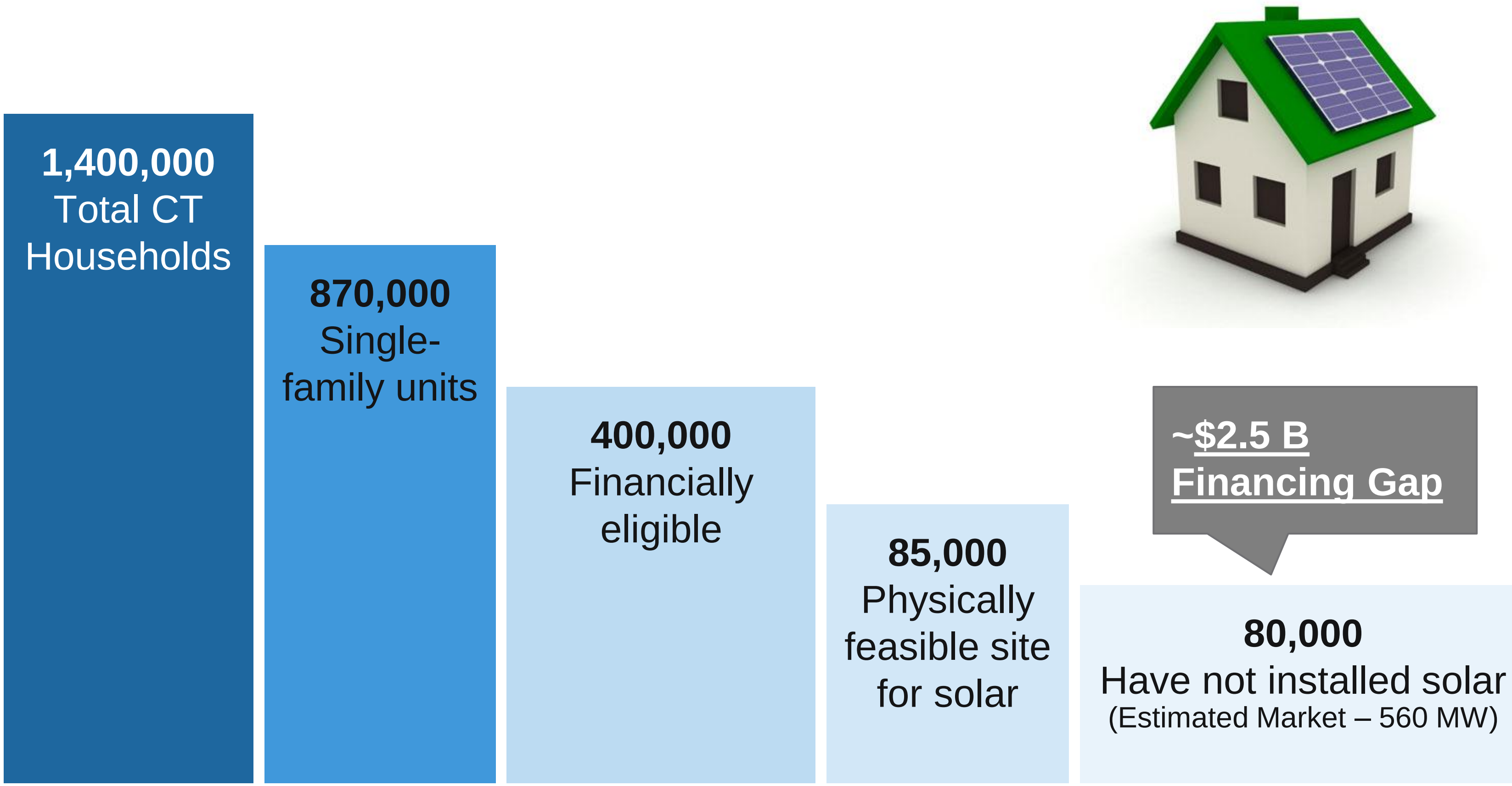
* ARRA SEP funds are not ratepayer capital. LLR – Loan Loss Reserve; IRB – interest rate buy down

**Amount of CEIA debt in Solar Loan will range from $500K-$2.5M, depending on deal specifics

Residential Heating Equipment Replacement Market with Weatherization

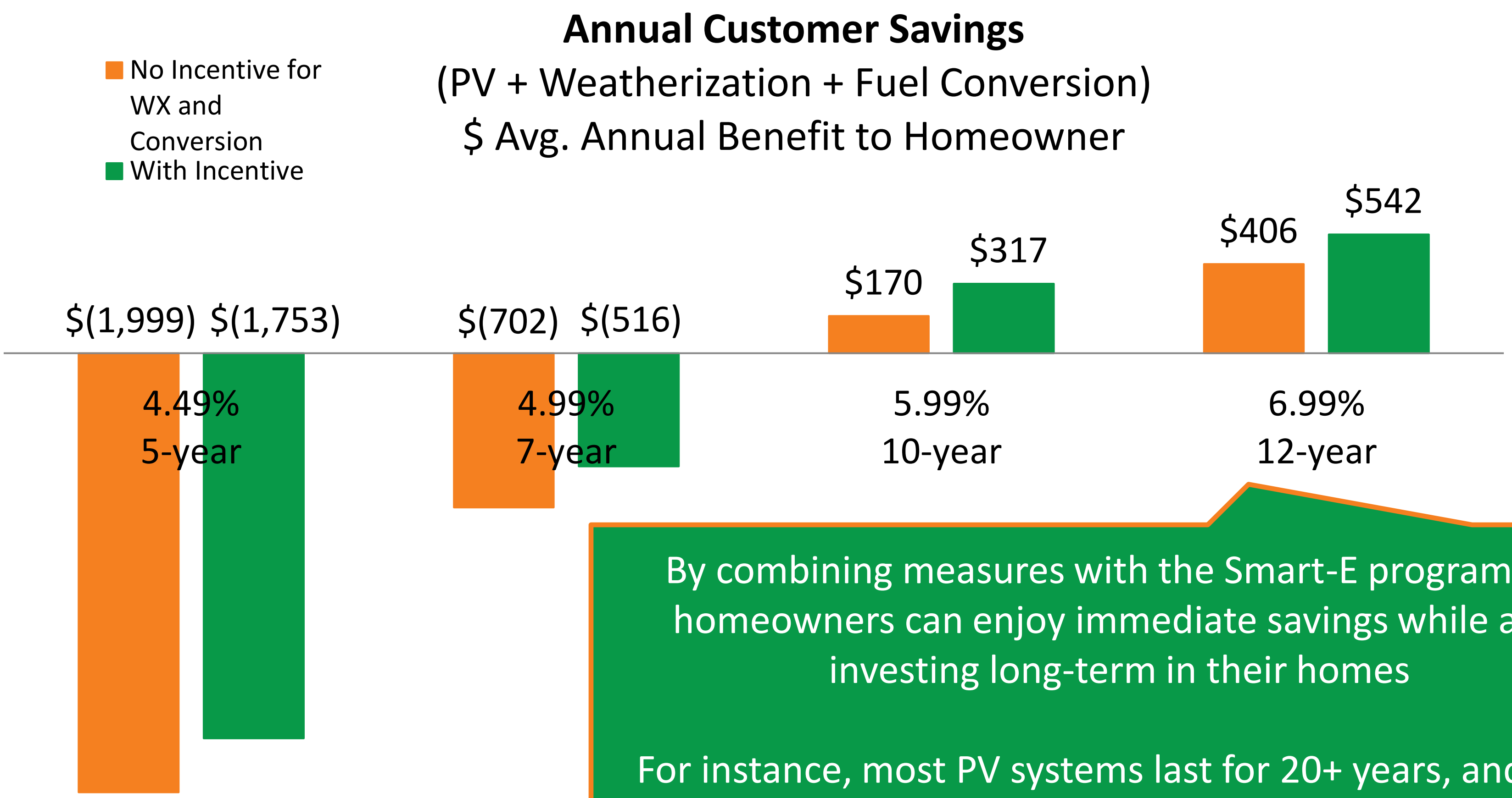


Residential Rooftop Solar PV Market



Smart-E Loan

Equipment Replacement + Weatherization + Solar PV



By combining measures with the Smart-E program, CT homeowners can enjoy immediate savings while also investing long-term in their homes

For instance, most PV systems last for 20+ years, and can add resale value to a home.

- Assumes an oil-heated northeast home, 1,900 square foot home includes oil-to-gas conversion, insulation, bulb-switching, and solar PV installation
- PV assumes rebate and ITC for both cases

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Finance Example of a Green Bank Commercial Product (C-PACE)

- Commercial, industrial & multi-family property
- Requires the consent of the existing mortgage lender
- Requires SIR>1; permanently affixed
- Enables CEFIA to administer a statewide program
- Enables municipalities to opt-in

C-PACE
Commercial and Industrial Program

- An innovative financing structure that enables commercial, industrial, and multi-family property owners to access financing for qualified energy upgrades and repay through a benefit assessment on their property tax.

Private capital provides 100% upfront, low-cost, long-term funding

Repayment through property taxes

A senior PACE lien is put on the property and stays regardless of ownership

C-PACE Upgrades: What's Eligible

Anything that saves energy from baseline

- High efficiency lighting
- HVAC upgrades
- New automated building and HVAC controls
- Variable speed drives (VSDs) on motors fans and pumps
- High efficiency chillers, boilers, and furnaces
- High efficiency hot water heating systems

… ***as long as it isn't going anywhere***

- Combustion and burner upgrades
- Fuel switching
- Water conservation
- Heat recovery and steam traps
- Building enclosure/envelope improvements
- BMS
- Renewable energy systems

C-PACE Upgrades: What's Not

- Appliances, e.g., refrigerators, dishwashers, etc.
- Plug load devices
- Vending machine controls
- Any package of measures with a weighted average effective useful life (EUL) that does not meet or exceed the life of the loan
- Any package of measures that does not achieve an energy savings (over the life of the loan) to [total project] investment ratio > 1
- Any measure that is easily removed/not permanently installed
- Any measure that does not result in improved energy efficiency
- Extending natural gas lines to the property line to enable a PACE-eligible gas conversion project.

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Join Us!

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The Future of Renewable Energy Finance in the Northeast

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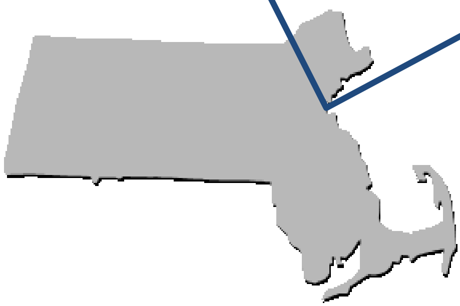

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April 11, 2013

New England Renewable Energy and Energy Efficiency

State of the Commercial Renewable Energy and Energy Efficiency Markets in the Northeast

State	State Programs
Maine	Seacoast Energy Initiative – Local Loan Program, PACE financing, efficiency rebates, Renewable Portfolio Standard, Interconnection Standard, Net Metering
Massachusetts	Renewable Portfolio Standard with Solar Carve Out, Net Metering, MA Clean Energy Center, Utility Rebates and Loans
New Hampshire	Renewable Energy and Energy Efficiency Utility Grants and Rebates, PACE financing, Renewable Portfolio Standard, Interconnection Standard, Net Metering
Vermont	PACE Financing, State & Utility Rebate and Loan Programs, Renewable Portfolio Standard, Expedited Permitting, Interconnection Standard
Connecticut	Commercial PACE Program, State Grants, Loans, and Rebates; Utility Loans and Rebates; Energy Efficiency Resource Standard, Net Metering, Interconnection, Renewable Portfolio Standard
Rhode Island	State Grants, Utility Rebates, Energy Efficiency Resource Standard, Net Metering, Renewable Portfolio Standard, Interconnection Guidelines

New England Markets

Challenges faced in Northeast U.S.

- State -by-State approach for renewable energy development
- Relatively small size projects, especially in solar
- Different incentives and programs for each State
- Evolving sets of rules and regulations ongoing with less than clear results or predictable outcomes
- Relatively immature markets needing time to develop and modify
- NIMBY is an increasingly larger issue

For success, any financing program or aggregation strategy must proceed on a state by state basis, finding the critical path within common boundaries.

Aggregation

Critical Issues associated with Aggregation

- Sufficient size of asset pool
  - Need to attract experienced capital providers who will overlook the complexities of multiple projects because of the attractive size of the financing
  - Need to drive economies of scale: difficult to achieve since each project is examined separately, but there are cost savings available
  - Sufficient scale so actual cash on cash returns justify the needed effort and investment horizon

- Needed diversity
  - Equipment providers
  - EPC Contractors
  - O&M providers

- Standardization
  - Credit quality of counterparties , particularly counter-parties providing revenue streams
  - Documentation: leases, assignments, PPA's, REC contracts, O&M
  - Basic contractual terms (tenor, pricing, etc.)

- Ability to simultaneously develop multiple projects in a timely fashion

Citizens Energy, Massachusetts Solar Portfolio

Project Overview

- In its for-profit division, Citizens Energy focuses on the development and ownership of renewable energy, high voltage transmission assets, and energy service activities.
- Recently began operating a portfolio of 5 separate solar facilities located in Central and Western Massachusetts with facility sizes ranging from 85 kW to 3.0 MW, totaling 9.2 MW.
- Each solar facility has either net metering or power purchase agreements with investment grade parties.
- Citizens was successful in aggregating such projects, driving attractive returns to them as owners, over a 20 year term.

Financing Overview

- Bostonia Partners acted as Financial Advisor and Placement Agent, raising $56,000,000 in construction loans, 1603 bridge financing, tax equity, and term financing for each project.
- Each project was funded separately, not cross collateralized, but viewed as a collective pool utilizing similar terms and structure.
- The financing structure fully utilized the term of each power off-take agreement and the 10 year term of the Mass SREC market.

Challenges / Lessons Learned

- Aggregating sufficient MWs with similar profiles to bring to market.
- Having sufficient owner/development capital to cover the unexpected
- Capping or minimizing third party expenses and project reserves
- Establishing standardization in document and procedures for next set of projects
- Transferring best practices to other asset classes and states.

Pennsylvania Keystone Home Energy Loan Program (HELP)

Program Overview

- Low interest rate consumer loan program for Energy Star and other energy savings home improvements; Pennsylvania Treasury Department owned the Keystone HELP loans as an investment.
- Keystone HELP has originated more than 10,000 loans totaling $75 million since Program inception in 1986 using a contractor driven model managed by AFC First Corp, one of three FNMA approved underwriters in the nation.
- Unsecured credit instruments with high FICO/low DTI borrowers has produced a low charge off rate (<5%).

Financing Overview

- Bostonia structured and executed a secondary market sale by Treasury of more than 4,600 consumer loans with anticipated cash flows of more than $35,500,000.
- Bostonia-Keystone HELP I LLC, a special purpose corporation owned and managed by Bostonia Partners, purchased the loan pool from Treasury.
- The loan pool supports a $20,000,000 senior secured seven-year term loan from three community bank lenders, with Treasury retaining a residual interest in the loan pool in addition to its cash sale proceeds received at closing.
- Attractive yield given senior-sub structure and short WAL.

Challenges / Lessons Learned

- Strengths: Treasury sponsorship and “equity” contribution; FNMA underwriting standards; and AFC First program management.
- Weaknesses: low dollar unsecured consumer credit instruments; relatively short program history; high initial transaction due diligence and transaction costs; and credit rating not practical.
- Expect lower funding costs for follow-on transactions; a modified approach to Keystone HELP can work for new money programs.

Conclusions

Development

- Each State needs to be approached as a distinct market
- Landscape may be increasingly difficult to navigate as programs continue to be refined, modified or expanded, coupled with NIMBY issues
- Component pricing declines offer significant incentive to developers
- Construction and engineering is very competitive and drawing interest from large EPC organizations at reduced cost

Financing

- Significant capital looking for the right projects
- Municipalities need to consider the strength and experience of the developers it chooses to work with in order to ensure that projects are financeable
- Creditworthy contracts and agreements are essential for successful financing
- Financing parties will require that developers have sufficient capital and equity at risk. Developers will need to protect investors and lenders in certain circumstances.

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Audience Questions

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Intro Revolving Loan Fund WebCourse
Daily: 12-5pm (EST)
May 8-9, 2013

Intro P3 Finance Course
Washington, DC
August 6-7, 2013

Intro EB-5 Finance WebCourse
Daily: 12-5pm (EST)
September 18-19, 2013

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Upcoming Webcasts

CDFA – BNY Mellon Development Finance Webcast Series
Tuesday, April 16, 2013 @ 1:00pm Eastern

CDFA – Stifel Nicolaus Innovative Deals Webcast Series
Thursday, May 16, 2013 @ 1:00pm Eastern

CDFA – BNY Mellon Development Finance Webcast Series
Tuesday, May 21, 2013 @ 1:00pm Eastern

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