CONNECTICUT GREEN BANK

Inter-American Development Bank

Public-Private Partnerships to Finance Climate Protection

January 28, 2016

Agenda

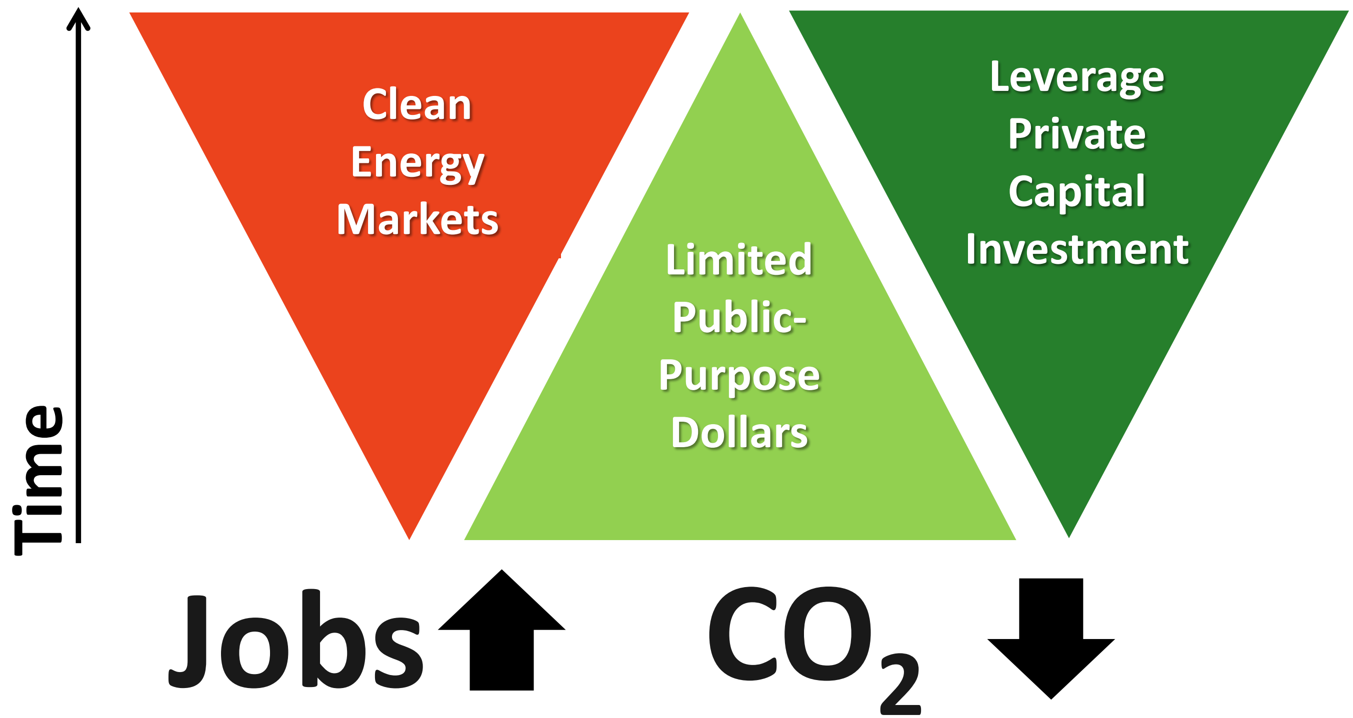
- **What is a Green Bank** – what are they conceptually and what is the Connecticut Green Bank
- **What are Green Bank Products and Programs** – how are products structured to attract private investment and what programs can support clean energy deployment
- **What are Green Bank Impacts** – what impact is the Connecticut Green Bank making and how is the green bank model growing
- **What are the "Next Big Things" for Green Banks** – how can green banks increase their impact to accelerate growth for clean energy markets

What is a Green Bank?

Green Bank Model

Public-Private Partnerships for Climate Protection

A green bank is a ***<u>public financing authority</u>*** *that* ***<u>leverages private capital</u>*** *with* ***<u>limited public-purpose dollars</u>*** *to* ***<u>accelerate the growth</u>*** *of clean energy markets*



<u>REFERENCE</u>
Definition provided by the Coalition for Green Capital

Connecticut Green Bank

1st Green Bank in the United States

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

…the Green Bank 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.***

Connecticut Green Bank

Mission and Goals

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

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

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

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

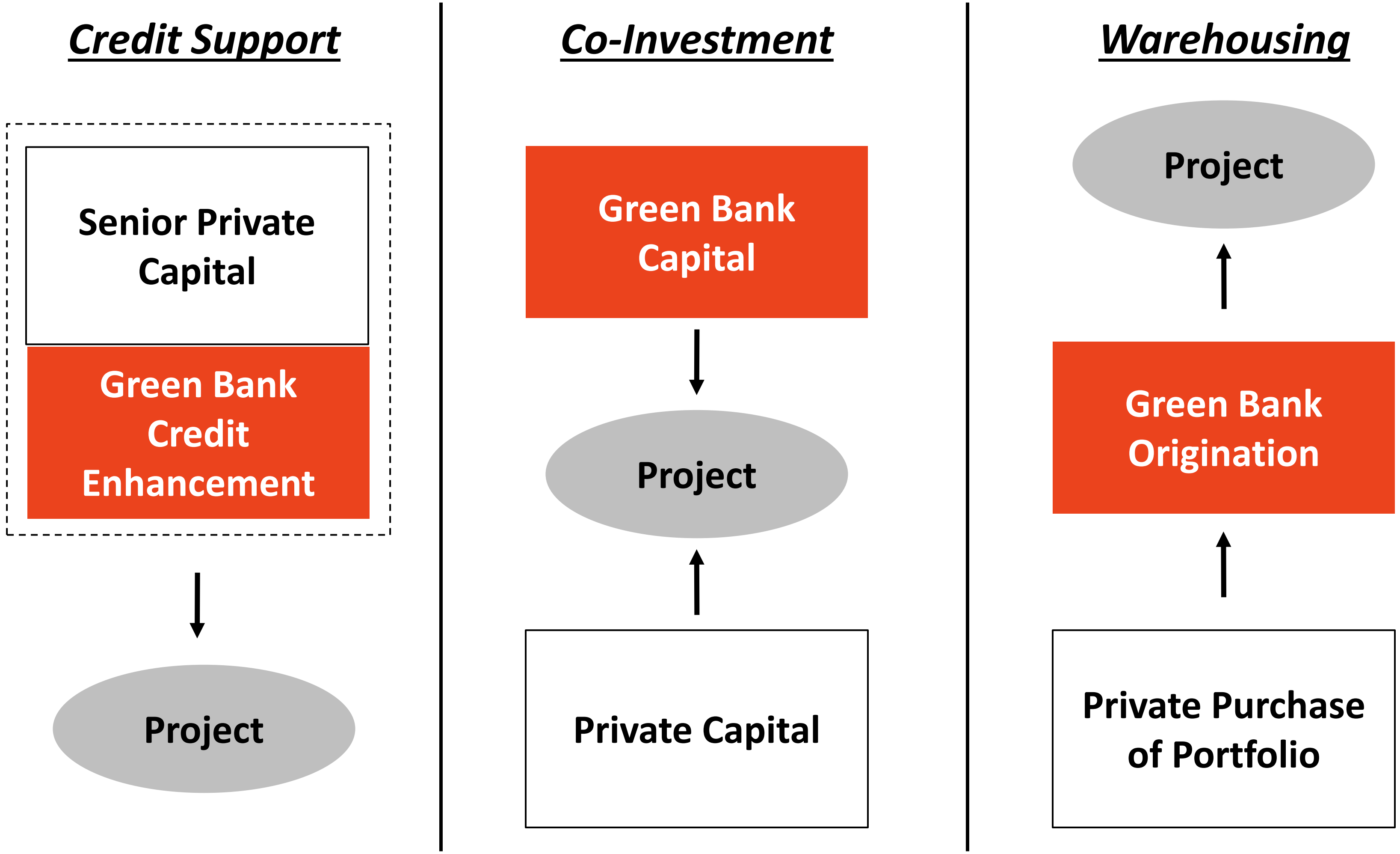
Connecticut Green Bank

About Us

- **Quasi-public organization** – created by PA 11-80 and successor to the Connecticut Clean Energy Fund
- **Focus** – finance clean energy (i.e. renewable energy, energy efficiency, and alternative fuel vehicles and infrastructure)
- **Balance Sheet** – currently about $110 million in assets
- **Support** – supported by a $0.001/kWh surcharge on electric ratepayer bills that provides approximately $27-30 MM a year for investments, RGGI about $5 MM a year, federal competitive solicitations (i.e. SunShot Initiative) and non-competitive resources (i.e. ARRA-SEP), private capital, etc.

What are Green Bank Products and Programs?

What are Green Bank Products and Programs



REFERENCE
Definition provided by the Coalition for Green Capital

CT Solar Loan (Credit Support)

$5 MM Crowdfund to $100 MM Private

Connecticut Green Bank

Digital Federal Credit Union

Solar Industry

Mosaic and Connecticut Team Up On Crowd Funding of Residential Solar

Mosaic has partnered with Connecticut Green Bank and Sungage Financial to package loans made to homeowners…

Michael Puttre (February 2014)

pv magazine
PHOTOVOLTAIC MARKETS & TECHNOLOGY

Sungage Financial Secures $100 Million for Solar Loan

Following its participating in the CT Green Bank solar loan program, the Boston startup is aiming to expand residential solar loans on the East Coast.

Edgar Meza (November 2014)

Monthly Loan Payment

Loan Agreement

Customer

CT Solar Lease (Co-Investment)

$60 Million Fund

Connecticut Green Bank

Sub Debt
Equity
Loan Loss Reserve
PBI (incentive)
Developer services

Debt Syndicate led by First Niagara

FIRST NIAGARA

WebsterBank

Debt

greentechmedia:

Connecticut's Green Bank: A Model for Public-Private Renewables Partnerships?

Fostering competition among installers and goodwill among taxpayers

Breaking Energy, Conway Irwin
July 8, 2013

Connecticut's Clean Energy Finance and Investment Authority (CEFIA) -- the state's Green Bank, and the first of its kind in the country -- has established a new solar financing system in a bid to expand capacity in the state. CT Solar Lease II seeks to avoid some of the most frequently cited criticisms of renewable energy finance, in that it uses less and recovers more taxpayers' funds, as well as fosters market competition.

Lease provides **local**
n important **sales tool**,
stomers benefit from
ble, no-money-down
g and **peace of mind**.

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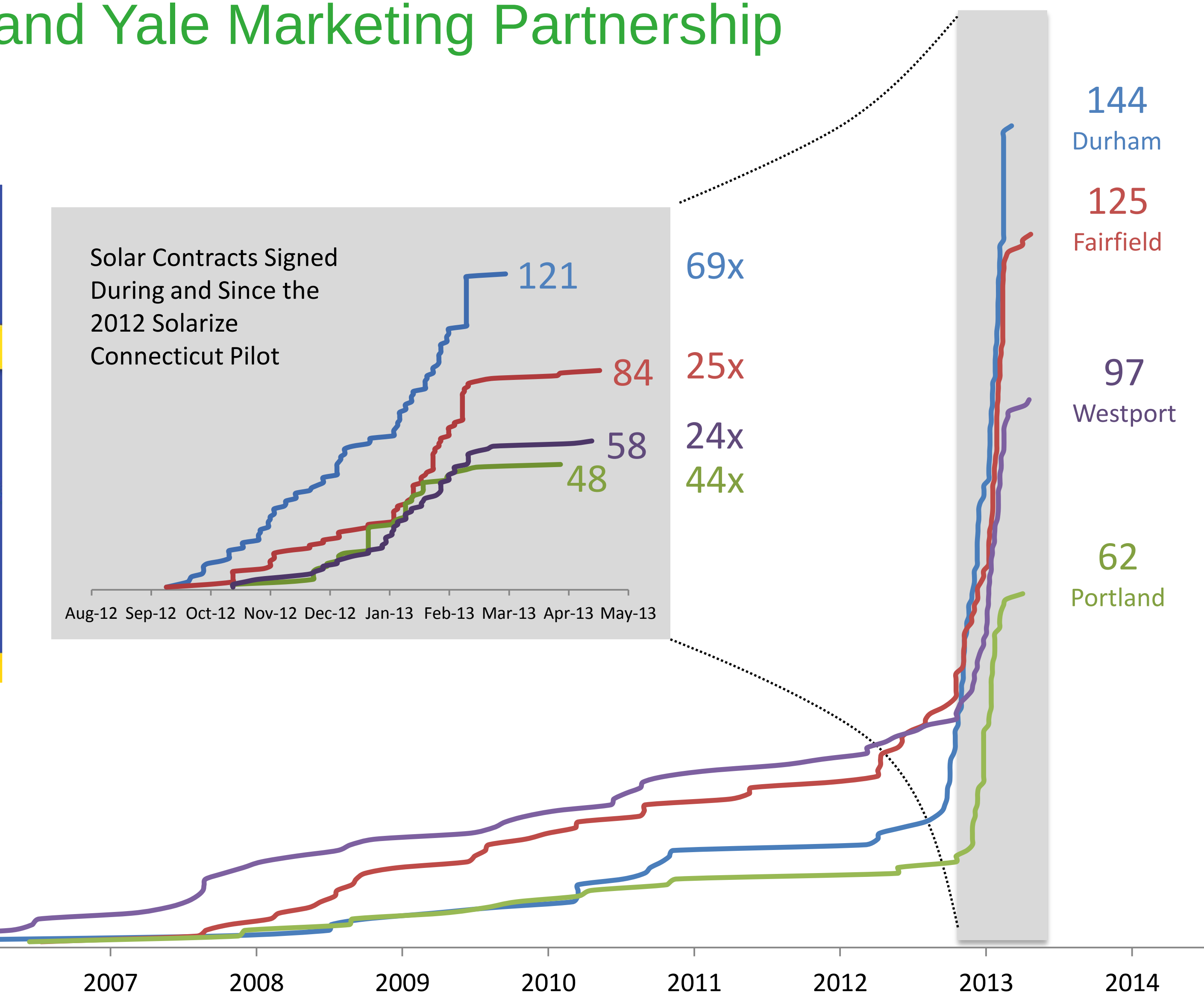
Contractor

Install

Solar PV Customer

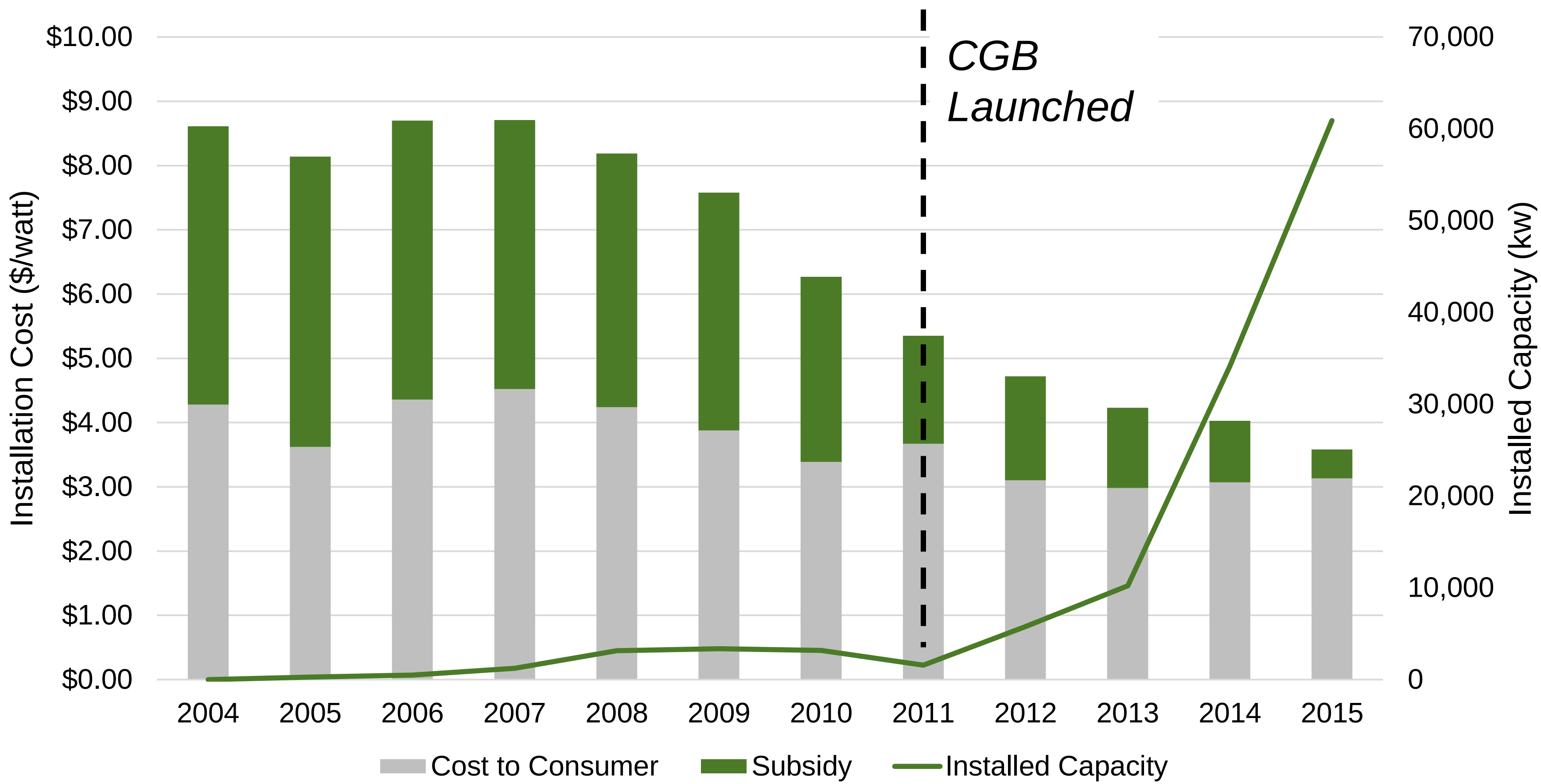
Solarize Connecticut

SmartPower and Yale Marketing Partnership



Residential Solar PV Market

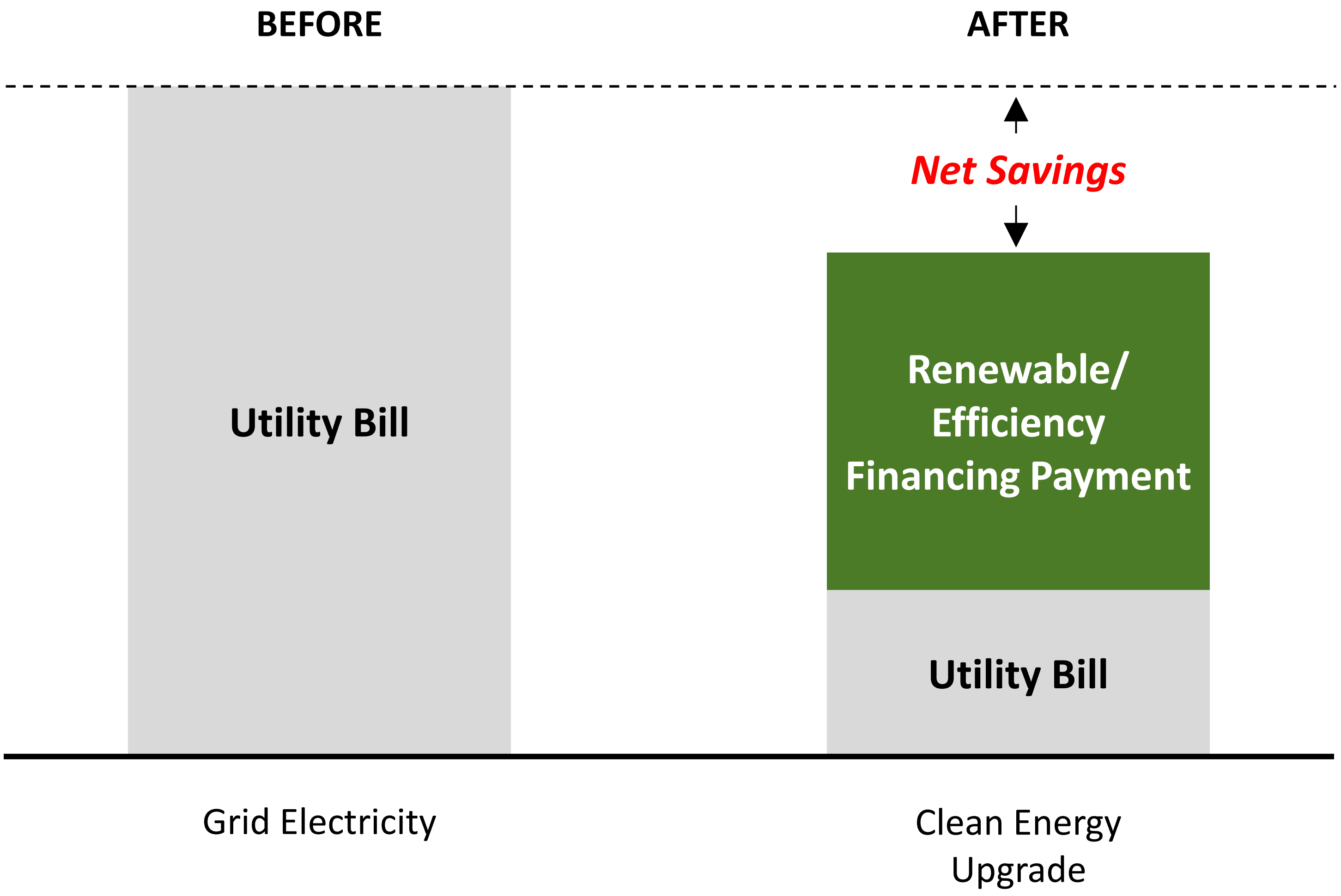
Connecticut



REFERENCES

Residential Solar Investment Program (RSIP) Market Watch Report of January 22, 2016

Green Bank Model
Cleaner and Cheaper



REFERENCE
Definition provided by the Coalition for Green Capital

Commercial PACE (C-PACE)
Public-Public-Private Partnership

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- An innovative and affordable way for businesses, manufacturers and non-profits to **pay for green energy upgrades**. C-PACE covers **100% of project costs** with **no money down** and is repaid as a **long-term assessment on the property**. C-PACE allows owners to **immediately increase cash flow**.

Private capital may provide 100% upfront, low-cost, long-term funding, cash flow positive

Repayment of benefit assessment through property taxes

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

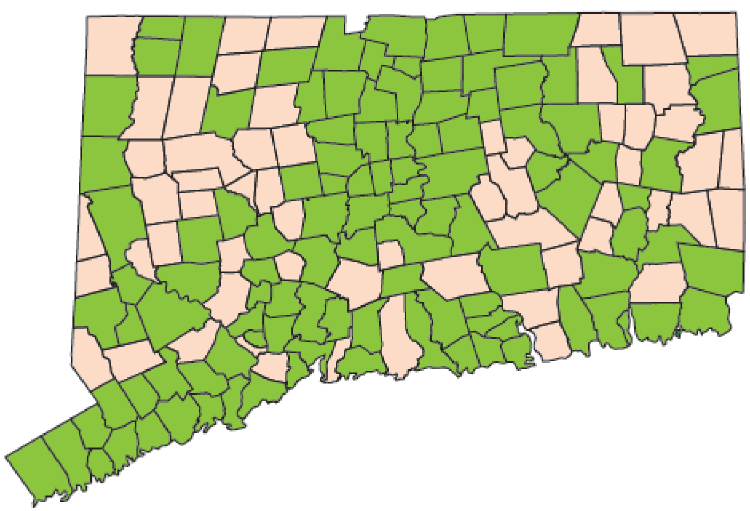
In C-PACE, commercial property owners pay back their loans using the savings created by the energy projects. As a requirement of the program, the energy savings must exceed the cost of the loan payments, creating positive cash flow.

"That is what drives repayment of loans. How can that not be good?" - Tom Mongellow of the Connecticut Bankers Association

CT Banks Move into Green Financing
Hartford Business Journal
November 25, 2013

C-PACE
Over 90% of Market Open for Business

More Green Communities
112 participating cities and towns can use C-PACE to fuel economic development, make their community cleaner and help their citizens thrive.



Making Green Work
With financing available for hard and soft costs, C-PACE contractors can design comprehensive projects and gain access to new customers.

50 contractors have completed at least one C-PACE project

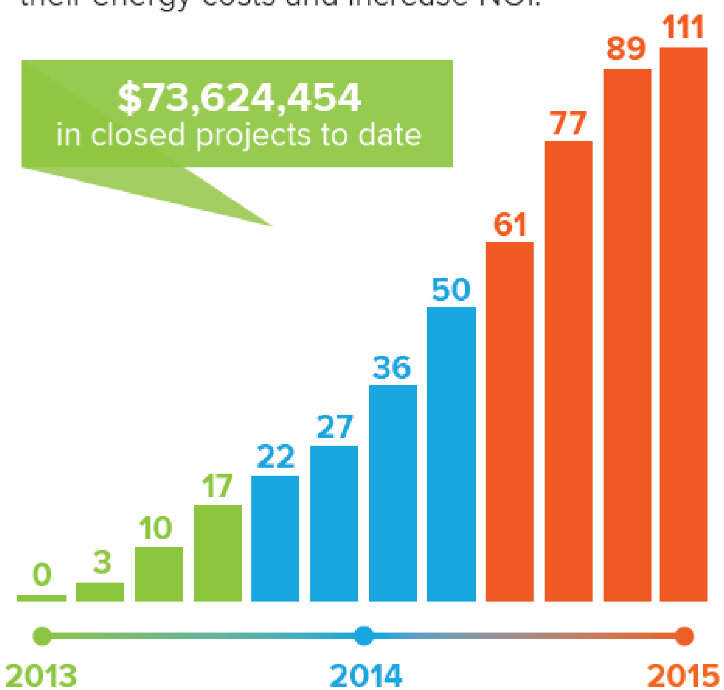
REFERENCES
Pace SETTERS News for Q4 of 2015

C-PACE

Closed Projects and Capital Invested

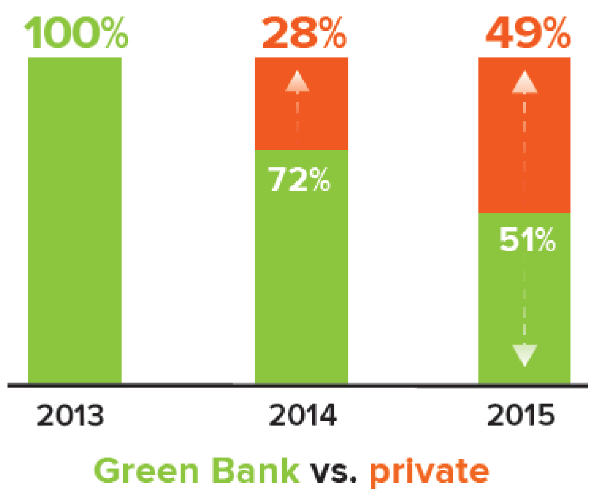
Closed Projects

Funded projects are increasing every quarter as more building owners take action to reduce their energy costs and increase NOI.



Total Capital Invested

Since program inception, the Green Bank is using fewer of its dollars to attract a growing amount of private capital.



REFERENCES

Pace SETTERS News for Q4 of 2015

C-PACE
Project Sizes and Shapes

All Sizes of Projects
C-PACE can bring virtually any green energy project, small or large, from a vision to a reality.

$8,337,732
Largest Size

$680,608
Average Size

$30,880
Smallest Size

All Shapes of Properties
From manufacturing facilities to YMCAs all commercial properties are eligible to use C-PACE for an energy saving project.

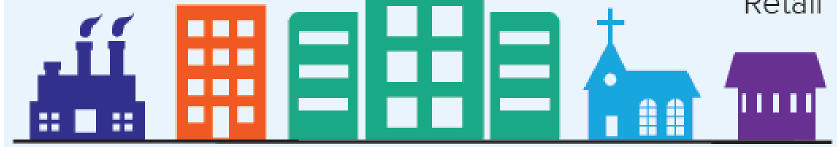
27% Industrial

12% Other

20% Office

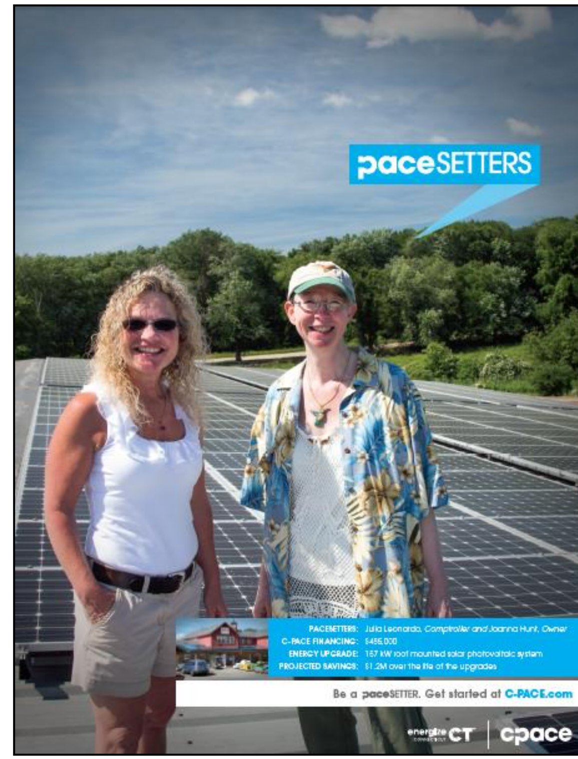
18% Nonprofit

23% Retail

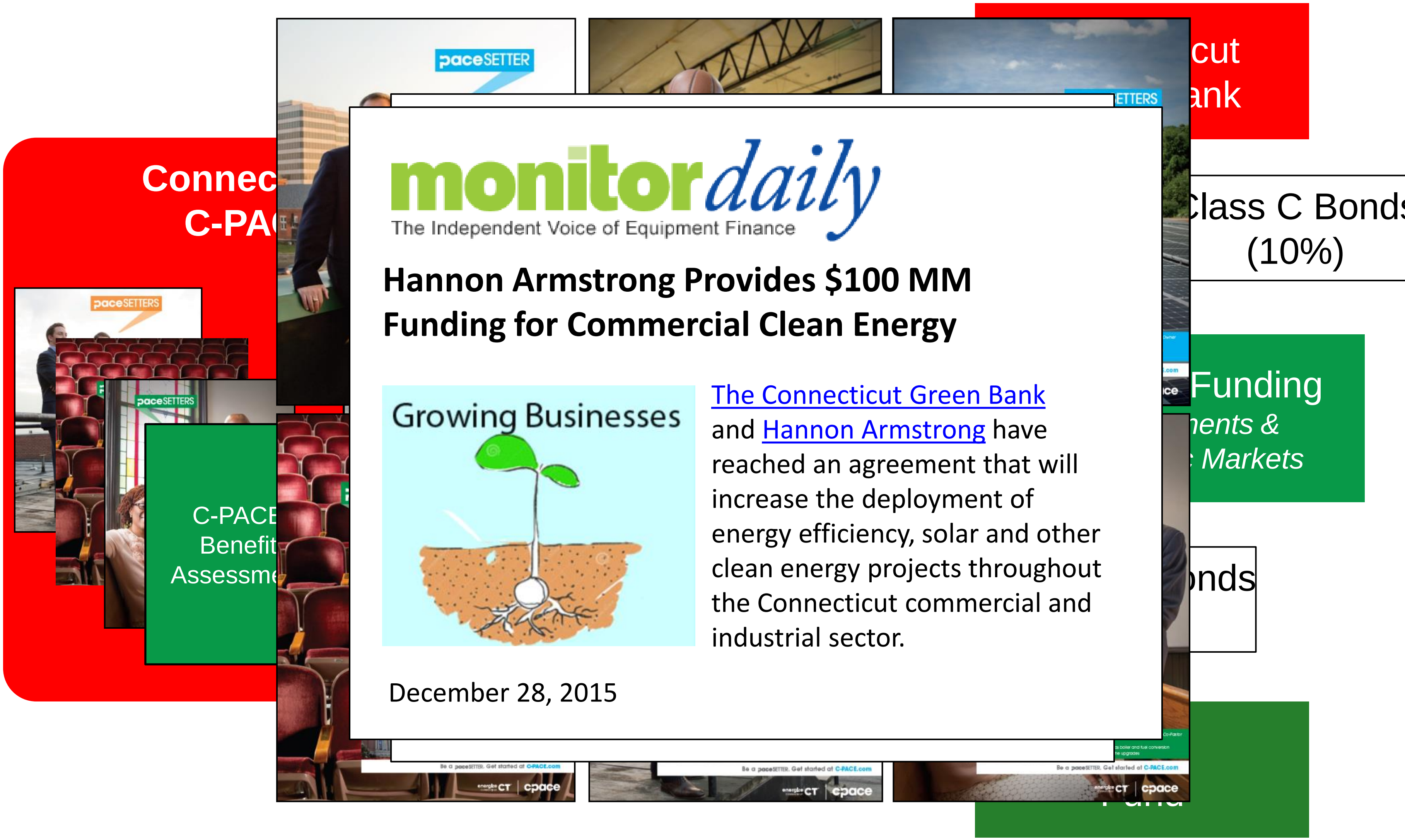


REFERENCES
Pace SETTERS News for Q4 of 2015

PACE Setters
Marketing Customers



Commercial PACE (C-PACE)
Catalyst for Private Investment



monitordaily
The Independent Voice of Equipment Finance

Hannon Armstrong Provides $100 MM Funding for Commercial Clean Energy

The Connecticut Green Bank and Hannon Armstrong have reached an agreement that will increase the deployment of energy efficiency, solar and other clean energy projects throughout the Connecticut commercial and industrial sector.

December 28, 2015

What are Green Bank Results?

Connecticut Green Bank

Accelerate Clean Energy Deployment

	FY 2000-FY 2011 (CCEF)	FY 2012-FY 2015 (CGB)[1]	FY 2016 Targets (CGB)[2]
Model	Subsidy	Financing	Financing
Years	11.00	4.00	1.00
Energy (MW)	43.1	134.5	110.0
Investment ($MM)	$349.2	$663.2	$670.0
Leverage Ratio	1:1	3:1	10:1
% of Funds as Loans	10	56	80

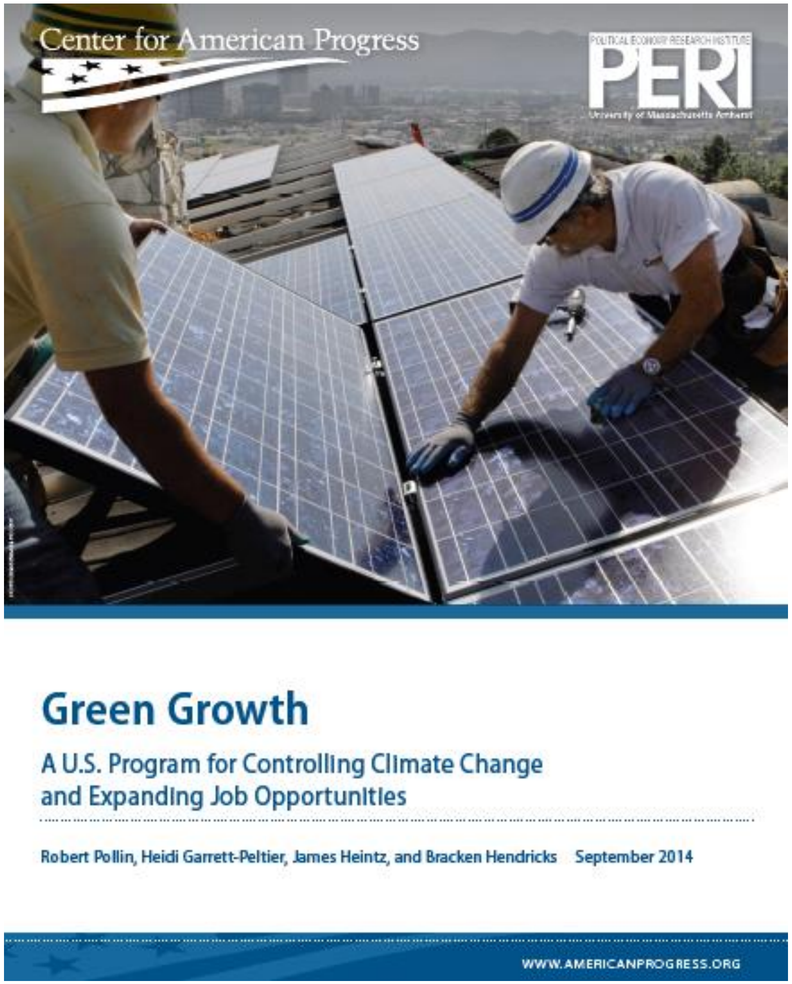
Deploying **more** clean energy at a **faster** pace while using ratepayer-taxpayer resources **responsibly**

REFERENCES

1. Comprehensive Annual Financial Report for FY 2015 for approved, closed, and completed transactions
2. Board approved targets for FY 2016

U.S. Investment Needed

Avoid Climate Disaster



- The Center for American Progress estimates that the **U.S. needs at least $200 billion** in renewable and efficiency investment **annually for 20 years** to reduce carbon emissions and **avert climate disaster**.

Connecticut Green Bank

An NRDC and CGC Observation

- **Based on Connecticut** and its market size, growth rate, and public-private leverage ratio, we estimate that **a Green Bank in every state in America** would **yield $200 billion in national annual investment within 5 years**, with 90% of the funds coming from private sources and all taxpayer contributions returned over 10 to 20 years.

Green Bank Movement

United States Trends

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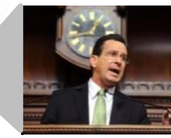
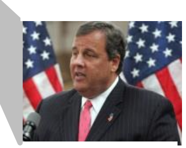
To lead the green bank movement by accelerating private investment in clean energy deployment for Connecticut to achieve economic prosperity, create jobs, promote energy security and address climate change.

2014

2015



2011



2014

coalition for green capital

REFERENCES

Map provided by the Coalition for Green Capital

Realizing the Future

Leading the Green Bank Movement

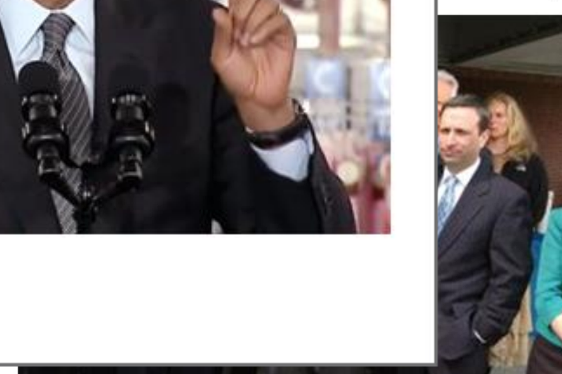
CONNECTICUT GREEN BANK

THE WALL STREET JOURNAL.

FRIDAY, MAY 9, 2014

Goldman's Cleantech Activities Receive a Presidential Shout Out

MOUNTAINVIEW, CA – Goldman Sachs Group Inc.'s work financing and investing in clean-technology companies drew a mention Friday from President Barack Obama. "We've got public banks like Connecticut's Green Bank and private banks like Goldman Sachs ready to invest billions in renewable energy," the president Friday said during a speech at a Wal-Mart in Mountain View, Calif.



Energy (C-PACE) program…

What are the “Next Big Things” for Green Banks?

Green Bonds

Increase Capital and Increase Impact

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- **“Green” Focus** – Connecticut Green Bank is **solely focused** on “green” investing – which is consistent with **Green Bond Principles** [Note – IADB should engage in Moody’s Investor Services Request for Comments on “Green Bonds Assessment (GBA) Proposed Approach and Methodology”]
- **Balance Sheet** – Connecticut Green Bank **built its balance sheet** from $73 MM in FY 2011 ($60 MM in Cash) to $110 MM in FY 2015 ($49 MM in Cash. We are preparing our financial position to be able to **issue bonds**.
- **Bonds** – Connecticut Green Bank can **issue revenue bonds** supported by a Special Capital Reserve Fund of $100 MM (i.e., achieve higher credit quality). Bond proceeds will be used to **scale-up our impact** by attracting **more private investment** in clean energy deployment.

REFERENCE
Green Bond Principles focus on eight categories for the use of bond proceeds, including renewable energy, energy efficiency, sustainable waste management, sustainable land use, biodiversity conservation, clean transportation, clean water, and climate change adaptation.

CONNECTICUT GREEN BANK

Green Bank Network

Join the Green Bank Network

Green Bank Network

Collaboration and Information Exchange

Promote and Support Green Bank Creation

NRDC

coalition for green capital

IDB
Inter-American Development Bank

CONNECTICUT GREEN BANK

NY GREEN BANK
A DIVISION OF NYSERDA

GreenTech Malaysia

Japanese Green Fund

REFERENCE
Information provided by the Coalition for Green Capital

Thank You

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