Green Banks
Tools of the Trade

Green Bank Congress
Shanghai
29 Nov 2018
Connecticut
Microcosm of the United States

- **Region** – New England
- **Population** – 3.6 million
- **Gross State Product** – ~$225 Bn
- **Buildings** – some of the oldest, most energy inefficient, and “health & safety” issues
- **Energy Costs** – one of the highest electricity costs in USA (“Top 5”)
- **Grid Reliability** – Several major storms in recent years with unacceptable outages (Superstorm Sandy & more)
Connecticut – A Comprehensive Approach to Climate Policy

• “Bi-Partisan” support for Energy Policy
  • Energy Efficiency Fund (Jan 2000)*
    • Clean Energy Fund (Jan 2000)*
  • Global Warming Solutions Act (2008)
  • Regional Greenhouse Gas Initiative (7 states – first “cap-and-trade” program for CO2 emissions (2008))

Connecticut Green Bank (July 2011)

• Comprehensive Energy Strategy (July 2011)
  • Governor’s Council on Climate Change
    • ZEV MOU – 8 states

* Both passed in 1998
Connecticut Green Bank
Organization Overview

- CEO
- Program Division
- Residential
- Commercial, Industrial & Institutional
- Infrastructure
- Corporate Division
- Operations
- Legal
- Accounting
- Marketing

Supply of Capital
Demand of Capital
Investment Division (CIO)
Connecticut Green Bank
Organization Overview (FYE17)
Sources & Uses for CT Energy Efficiency & RE Programs

Energy Efficiency Incentives

Energy Efficiency Fund

System Benefit Charges (utility bills)

CT Green Bank (Clean Energy Fund)

RGGI Proceeds (carbon tax)

Residential Solar Incentives

RECs

Banks/Credit Unions

Private Equity

Other Investors

Foundations

Grants

“Market” Financing Programs

Subsidized Financing Programs

Private Equity

Other Investors

Foundations

Grants

RECs
How Green Banks Leverage Public Capital with More Private Capital

**Co-Investment**
- Green Bank Capital
  - Project(s)
  - Private Capital

**Credit Support**
- Senior Private Capital
  - Green Bank Credit Enhancement
  - Project(s)

**Warehousing**
- Projects
  - Green Bank Origination
  - Sale of Portfolio or Funding Facility
How Green Banks Leverage Public Capital with More Private Capital

**Co-Investment**

- **CT Solar Lease™**
  - (Commercial Only)

**Multifamily Finance**

- **Sherpa Loan**
  - Designated service provider
  - Standardized process & fee schedule
- **Navigator Loan**
  - Client managed contractor(s)
  - Customized technical services
- **LIME**
  - Low Income Multifamily Energy
  - Affordable
  - Unsecured

**Project Finance**

**Credit Support**

**Warehousing**

- **CT Solar Loan**
  - (graduated)

**C-PACE**

- Putting building owners in control with green energy
Co-Investment
Project Finance Structures for Larger Projects

**Fuel Cells, Small Hydro, Wind, District Heating Loops, Microgrids**

<table>
<thead>
<tr>
<th><strong>Summary</strong></th>
<th>Chunky, economically valuable projects where we take a risk position at a cheaper price.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credit Type</strong></td>
<td>Senior / Subordinate Debt or Equity Stake in single asset entity.</td>
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<tr>
<td><strong>Channel to Market</strong></td>
<td>Project-specific developers operating in target markets with technology solutions / business model innovations that demonstrate growth opportunity across specific or multiple geographies and have yet to reach capital markets scale.</td>
</tr>
<tr>
<td><strong>Opportunity</strong></td>
<td>Good spread &amp; deal fees. Risk tolerance at same price potentially greater than other capital markets players. Projects below utility scale have a high burn rate because of capital availability and timeline that we are able to uniquely address.</td>
</tr>
<tr>
<td><strong>Challenges</strong></td>
<td>Where longer-term debt is required, may require long-term investment capital that is not easily available. Requires greater risk positions in some cases.</td>
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Electric Vehicle Charging Carbon Coalition (EVCCC)

Partner organizations seeking to open access to carbon capital markets for EV charging systems, to strengthen their business case fundamentals and accelerate deployment

- Methodology in approval process, with potential for new revenue stream for EV charging site hosts

- Measures kWh dispensed during charging sessions

- Credits based on GHG emissions savings from fuel-switching, factoring in the electricity supply mix feeding the EV charger
Connecticut Green Bank
Balance Sheet Evolution

2012
$92,176,000

2017
$191,253,000

Loans & Investments
60%

Other Current Assets
7%

Other Non-Current Assets
13%

Cash
20%

Other Non-Current Assets
11%

Loans & Investments
14%

Other Current Assets
5%

2012
$13,200,000

2017
$115,200,000

$8,113 Solar Lease 1

$57,010 Solar Lease 2

$6,722 Solar Loan 1

$6,000 Fuel Cell

$3,000 Wind

$4,500 Hydro

$700 AD

$29,112 C-PACE
Connecticut Green Bank  
Delivering Results for Connecticut

- **Investment** – mobilized over **$1.3 billion** of investment into Connecticut’s clean energy economy while raising nearly $50 million in state and local tax revenues
- **Jobs** – created nearly **16,000** total job-years – 6,200 direct and 9,700 indirect and induced
- **Energy Burden** – reducing the energy burden on over 30,000 households and businesses
- **Clean Energy** – deployed more than **285 MW** of clean renewable energy helping to reduce over **4.6 million tons** of greenhouse gas emissions that cause climate change

**Private investment drives economic growth**
Creates jobs, lowers energy costs, and generates tax revenues

**REFERENCES**
CT Green Bank data warehouse report from July 1, 2011 through June 30, 2018
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.
Q&A

Thank You!

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Appendix
• **Solar for All Campaign Progress** – 835 installations in 17 months, 5.8 MW of solar PV
  
  ✓ 71% of contracts are LMI

• **Energy Efficiency Progress**
  
  ✓ 99.9 % of households get Direct Install EE measures
  ✓ 66% of households also undertake “deeper” energy efficiency projects through $10 ESA payment/month for 20 years

• **Community Campaigns** – in Bridgeport, Hartford, New Haven, New London

• **Jobs** – 62 current CT based Employees
Connecticut Green Bank

Credit Support

- Senior Private Capital
- Green Bank Credit Enhancement

→ Project(s)

Loan Loss Reserve
T/A + Marketing

New Customers & Depositors

More Loan Volume

Lower Interest Rates

Longer Repayment Periods (5 – 12 Y)

Finance Your Next Smart Energy Project with a Smart-E Loan
Connecticut Solar Fund (Residential & SMEs)

CT Solar Lease provides local installers an important sales tool, while customers benefit from affordable, no-money-down financing and peace of mind.

* = CT Green Bank Entity