Connecticut Green Bank
About Us

- **1st State-Level Green Bank in the United States** (quasi-public organization) created to “use private sector disciplines to achieve public sector goals”

- **Focus** – finance clean energy (e.g. renewable energy, energy efficiency, and alternative fuel vehicles and infrastructure)

- **Support** – surcharge on electric ratepayer bills (~$28 MM per year), RGGI (~$5 MM per year), federal competitive solicitations (i.e. SunShot) and non-competitive resources (i.e. ARRA-SEP), private capital, and private foundations
## Connecticut Green Bank
### Mission and Goals

<table>
<thead>
<tr>
<th>MISSION</th>
<th>GOALS</th>
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</thead>
<tbody>
<tr>
<td><strong>Support the Governor’s and Legislature’s energy strategy</strong> to achieve <strong>cleaner, cheaper and more reliable</strong> sources of energy while <strong>creating jobs</strong> and <strong>supporting local economic development</strong></td>
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<tr>
<td>Attract and deploy private capital investment to finance the clean energy policy goals for Connecticut</td>
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<td>Leverage limited public funds to attract multiples of private capital investment while returning and reinvesting public funds in clean energy deployment over time</td>
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<td>Develop and implement strategies that bring down the cost of clean energy to make it more accessible and affordable to customers</td>
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<tr>
<td>Support affordable and healthy buildings in LMI and distressed communities by reducing the energy burden and addressing health and safety issues</td>
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</tbody>
</table>
## Public-Private Partnerships

### Investment Transactions

<table>
<thead>
<tr>
<th>Investment Type</th>
<th>Amount</th>
<th>Status</th>
<th>Leverage</th>
<th>Company Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Solar</td>
<td>$65 MM</td>
<td>CLOSED</td>
<td>10:1</td>
<td>FuelCell Energy, Dominion</td>
</tr>
<tr>
<td>Residential Solar</td>
<td>$6 MM</td>
<td>CLOSED</td>
<td>6:1</td>
<td>Sungate Financial</td>
</tr>
<tr>
<td>Residential Solar</td>
<td>$75 MM</td>
<td>CLOSED</td>
<td>7.5:1</td>
<td>KeyBank, Webster Bank</td>
</tr>
<tr>
<td>Commercial Energy</td>
<td>$30 MM</td>
<td>CLOSED</td>
<td>4:1</td>
<td>CLEANFUND, energize CT, EnhancedCapital</td>
</tr>
<tr>
<td>Commercial Energy</td>
<td>$50-100 MM</td>
<td>OPEN</td>
<td>9:1</td>
<td>Hannon Armstrong, Capital for Change</td>
</tr>
<tr>
<td>Multifamily Energy</td>
<td>$5 MM</td>
<td>OPEN</td>
<td>6:1³</td>
<td>MacArthur Foundation, CAPITAL FOR CHANGE</td>
</tr>
<tr>
<td>Commercial Solar</td>
<td>$60+ MM</td>
<td>OPEN</td>
<td>100%⁴</td>
<td>ONYX</td>
</tr>
<tr>
<td>Residential Storage</td>
<td>$3 MM</td>
<td>CLOSING</td>
<td>100%⁴</td>
<td>THE KRESGE FOUNDATION</td>
</tr>
<tr>
<td>Residential Energy</td>
<td>$10 MM</td>
<td>IN PROCESS</td>
<td>100%</td>
<td>COMING SOON</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>$75 MM</td>
<td>IN PROCESS</td>
<td>&gt;20:1</td>
<td>COMING SOON</td>
</tr>
</tbody>
</table>

### References

1. LLR yields high leverage – and it is 2nd loss and thus with no to low defaults, we haven’t used to date. IRB’s not considered in the leverage ratio.
2. Foundation PRI is to HDF, guaranteed by the CGB in the case of MacArthur Foundation.
3. Onyx Partnership has no upper limit and CGB currently has authorization to commit up to $15mm. The team expects to commit $5mm for the first $60-70mm.
4. Foundation PRI backed by CGB balance sheet for Kresge Foundation.
Reducing Energy Burdens in CT
For all types of building owners

Energy costs are a significant portion of household expenses

• CT residents spend $5.2 billion to heat, cool, light and provide hot water – more than the state’s budget for health care or education

• More than half our low income residents suffer a high energy cost burden (>10% of income)

• “Energy Affordability Gap” ranges from $1,250 to $2,500 per year for households up to 200% of the Federal Poverty Level

• Aging homes and buildings are often energy inefficient and have significant health and safety issues
Reducing Energy Burdens
Low-to-Moderate Income Communities

Market Analysis
- Housing stock
- Income data
- Energy burden modeling
- Customer segmentation

Financing Innovation
- PosiGen
- LIME
- MacArthur Foundation
- Kresge Foundation
- Health & Safety Fund (RGGI)

Multiplier Effects
- Housing agencies
- Financing & grants and incentives
- Efficiency & solar
- Outreach partnerships

Housing stock: 2800% increase in lower income census tracts – 3,400 homes
835 projects in 17 mos., 5.8MW of PV – 70% LMI, 2/3rds deeper EE, 62 jobs created
CHFA: 10 HA’s/1,300 units, solar LIME Loan: 18 projects/1,292 units, solar and efficiency
Multifamily Approach
Spurred by MacArthur Investment

1. New, clearly defined process to incorporate utility incentives into state funded multifamily projects
   - Created and streamlined utility incentive application forms

2. Utility incentives now required with all DOH/CHFA funding applications
   - Ensures utility incentives are included in initial project capital stack

3. Changes to LIHTC Qualified Allocation Plan

4. Loans for pre-development, technical assistance, gap financing and health & safety

5. New process to incorporate utility incentives into mid-cycle naturally occurring affordable multifamily projects
Green Bank Pre-Dev Loans
Two Paths

Pre-Development Financing

Navigator Loan
- Owner managed contractor(s)
- Customized technical services
- Affordable properties 0%
- Market-rate properties 2.99%
- Owner pays 25%; program loans 75%
- Existing properties & new construction

Sherpa Loan
- Designated service provider, New Ecology
- Standardized process & fee schedule
- Affordable properties 0%
- Market-rate properties 2.99%
- Owner pays 25%; program loans 75%
- Existing properties
Case Studies

**Seabury Coop, New Haven**
- 88 units, adj. to Yale campus
- **Potential Energy Upgrades:**
  - electric boiler replacement, lighting, windows, roof insulation
- **H&S:** Electrical hazards/exposed wires and other various

**Success Village Coop, Bridgeport**
- 964 units, former Army reserve campus
- Annual heating costs: $1.8M (2015)
- **Potential Energy Upgrades:**
  - failing central steam boiler system, degraded steam pipe network, unit insulation
- **H&S:** Asbestos contamination
Energy Meets Housing
The Ultimate Multiplier

CATALYST:
- Governor’s $300M 10-yr capital plan for state housing

PARTNERSHIP DEVELOPMENT:
- CGB/DEEP/CHFA/utilities begin to meet regularly
- CHFA-CGB announce 5 property pilot

PROGRAM DEVELOPMENT:
- Inter-agency working group
- LEAN process – to capitalize on $300M opportunity

PROGRAM LAUNCHES:
- Integrated utility application process
- BenchmarkCT with WegoWise
- Pre-development loan, health & safety term loans

2018 and Beyond

CONTINUED PROGRAM DEV:
- Integrated process for mid-cycle naturally occurring MF
- Kresge PRI for Solar + Storage
- Solarize State Sponsored Housing v2.0
- GRID Alternatives enters CT

- Underwriting based on energy savings?
- Revisiting handling of utility allowances?
- C-PACE for CHFA?
Our Partners

- U.S. Department of Energy
- Connecticut Department of Energy & Environmental Protection
- Eversource
- Connecticut Green Bank
- Connecticut Housing Finance Authority
- Connecticut Housing Coalition
- hdf
- Operation Fuel, Inc.
- UHAB
- New Ecology Inc.
- F.R.E.E.D.O.M.
- MacArthur Foundation
- Grid Alternatives
- Wegowise
- Kresge Community Finance
PRI and grant funding from Kresge will support deployment of resilient solar + storage systems in multifamily housing and other community buildings serving low-income communities in coastal and urban Connecticut. Kresge PRI to complement existing Green Bank products and federal and state funding sources. Technical assistance partnerships and funding critical for success during this stage of solar + storage deployment.
Thank You!

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