State Leadership in Clean Energy: Award-Winning Programs in Connecticut and Oregon

Hosted by
Val Stori, Project Director, CESA
July 19, 2016
Housekeeping

All participants are in “Listen-Only” mode. Select “Use Mic & Speakers” to avoid toll charges and use your computer’s VOIP capabilities. Or select “Use Telephone” and enter your PIN onto your phone key pad.

Submit your questions at any time by typing in the Question Box and hitting Send.

This webinar is being recorded.

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The 2016 State Leadership in Clean Energy Awards

More information, including case studies about the winning programs and information about upcoming webinars, is available at: http://cesa.org/projects/state-leadership-in-clean-energy/2016/.
Today’s Guest Speakers

- **Jed Jorgensen**, Program Manager, Energy Trust of Oregon
- **Stacy Lowery**, Program Director, Farmers Conservation Alliance
- **Fiona Stewart**, Senior Associate, Clean Energy Finance, Connecticut Green Bank
- **Ben Healey**, Director, Clean Energy Finance, Connecticut Green Bank
Irrigation Modernization
July 19, 2016
We were able to maintain a daily average flow of 20 cfs in Whychus Creek while delivering 20-40% of expected water to farmers. This was in addition to generating clean, green renewable power and conserving energy.
Deschutes River Basin irrigation districts

Piping projects have been contentious over the past decade. Canals cross private property but have a federal right of way afforded to irrigation districts since the early 1900s.

Source: Deschutes Basin Board of Control

Pete Smith / The Bulletin
Join us at the intersection of irrigation and innovation

An expanding population, persistent droughts, declining fish numbers and aging irrigation infrastructure are stressing our water resources and agriculture industry. Modern irrigation districts and on-farm
Thanks!

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CT Solar Lease
Commercial Program

July 19, 2016
1. Introduction to the Green Bank
2. CT Solar Lease 2
3. Innovative Model for Nonprofits
4. Lessons Learned
5. Contact Info
A green bank is a **public financing authority** that **leverages private capital** with **limited public-purpose dollars** to **accelerate the growth** of clean energy markets.
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.
CT Solar Lease 1 – nation’s first residential PV financing program to combine ratepayer funds with private capital to leverage federal incentives

CT Solar Lease 2 (“SL2”)  
- Residential
- Commercial:  
  - Municipalities
  - Non-profit organizations*
  - “Mid-market” commercial entities*

*Combined with Commercial Property Assessed Clean Energy (“C-PACE”)
Main financial barriers for nonprofits:
• Lack of upfront capital
• Lack of tax equity appetite

Using the C-PACE Benefit Assessment lien as a credit enhancement tool to secure the long-term PPAs on the property opens the market to:
• Nonprofits, including religious organizations
• Non-investment grade commercial entities
Key Facts on PACE for Commercial Projects in CT

**High-level Security Interest:** Attached to the property, sitting above the primary mortgage (requires consent) and stays with the property following transfer of ownership

**Non-Accelerating Obligation:** Foreclosure limited to past due portion of contracted PPA/Lease payments

**Long-Term:** Up to 25 years

**Connecticut Green Bank Role:** Statewide administrator, data and pipeline aggregator, and lender (others may “bring their own capital”)}
Success of SL2: Resi + Commercial (w/C-PACE)

**Fund Summary:** ~$70 million FMV distributed solar fund supported by PPAs/Leases across Residential and Commercial projects

**Capital Stack:** Tax Equity, Debt, Green Bank Sub. Debt, & Equity

**Green Bank Participation:** Construction Financing & sponsor capital (Sub. Debt, Equity), underwriter (commercial projects), asset manager

**Commercial Deployment:** $25 million (~10 MW) across 50 distinct projects backed by rated municipalities, schools and corporates, as well as unrated commercial, industrial and nonprofit credits secured by PACE

- 40-50% of SL2 Commercial Portfolio backed by PACE
- ~60% of SL2 Commercial Portfolio >100 kW
- Max installation in SL2 Commercial Portfolio = ~1 MW

**Development Pipeline:** Local EPCs main source of origination, enhanced by relationship with CT Green Bank as investor and administrator
Case Study: JCC of Greater New Haven

Deeply embedded, longstanding community organization located in the Town of Woodbridge in south-central CT

Having recently celebrated its 100th anniversary, including over 20 years in its current location, the JCC runs a full suite of cultural, academic, and athletic activities out of its 135,000 square foot Woodbridge facility, while simultaneously supporting both Jewish and broader charitable causes locally, regionally, and around the globe

Electricity use totals approximately 1,800,000 kWh annually

~600,000 kWh is supplied by a 75 kW CHP generator, which also helps meet the JCC’s thermal load
Case Study: JCC of Greater New Haven

- The JCC’s older roof structure did not lend itself well to solar PV. However, by utilizing the four parking lots surrounding the building, the Connecticut Green Bank and its designated EPC contractor/integrator for this project – Deutsche Eco USA – proposed a carport solution to install a 750 kW solar PV project to offset most of the JCC’s remaining electrical demand.

- The carports were designed by Solaire Generation, one of the premier solar canopy system designers in the solar industry.
## Case Study: JCC of Greater New Haven – Project Details

<table>
<thead>
<tr>
<th><strong>System Size:</strong></th>
<th>~750 kW</th>
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<tbody>
<tr>
<td><strong>Estimated Production:</strong></td>
<td>880,00 kWh/yr</td>
</tr>
<tr>
<td><strong>Installed Cost:</strong></td>
<td>$2,370,000</td>
</tr>
<tr>
<td><strong>PV Modules:</strong></td>
<td>2,498 ZN-Shine 300w</td>
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<tr>
<td><strong>Inverters:</strong></td>
<td>SMA</td>
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<tr>
<td><strong>Racking:</strong></td>
<td>Solaire Generation Canopy</td>
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<td><strong>1st Year Savings for JCC:</strong></td>
<td>~$25,000</td>
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<td><strong>Environmental Impact:</strong></td>
<td>Reduces 607 tons of CO2 annually, 12,140 tons over 20 years; equivalent to 128 passenger vehicles off the road annually</td>
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Lessons Learned

Both the JCC project and the SL2 program are replicable across the country, particularly in states with established or developing PACE programs.

Specific Achievements:
• Getting SL2 program investors comfortable with the C-PACE mechanism as a means to securing investments into traditionally non-investment grade credits
• Establishing the initial set of documentation to fully capture the entire financing structure
• Onboarding local solar developers to understand the program, deliver the offering to customer, and generate growth for the program
Thank you!

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Fiona Stewart
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Thank you for attending our webinar

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Find us online:
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Upcoming Webinar

State Leadership in Clean Energy: Award-Winning Programs in California and New York, Tuesday, July 26, 2-3:30pm ET (11am-12:30pm PT)

Details at www.cesa.org/webinars