Town of Wallkill Landfill

Solar Case Study

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Commissioner
Town of Wallkill Department of Public Works
Co-Director
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Motivation & Objectives
To offset municipal electricity costs and develop and re-utilize a capped landfill that cannot be used for other purposes. The Town partnered with GE Solar and SSA Solar via a Power Purchase Agreement in order to take advantage of the tax benefits that the Town otherwise would not have been able to receive.

Background
- No public opposition to this project
- Town Solar Zoning Law (May 26, 2016): Inundated with ground mount proposals before law enacted

Development Process & Timeline
- Idea/Concept: Town-wide energy audits (NYSERDA FlexTech; Arcadis) examined energy efficiency opportunities & also identified landfill as potential solar site in 2011, however incentives were not in place until 2014
- RFP (for EPC)
- Construction
- Activation
- Correction of system & billing errors

Challenges
- Working with O&R, the team initially constructed the project as a primary system. Town staff realized the solar credits were significantly less than the solar revenue being paid to SSA Solar via PPA, and GE Solar is now working to modify the system to be a secondary service, so full financial benefits can be realized
- O&R: CESIR study costs borne by GE Solar

Project Development Structure
Site: Town of Wallkill Landfill
- ~65 acres (purchased and opened in 1965)
- 50-year-old landfill with 2-3 foot cap (capped in 1995)

Size: ~19 acres of panels, 2.424 MW-DC
Annual energy production: 2,844,825 kWh

Project Cost
- ~$10,000,000
- $146,000 energy audit: 50% Town/50% cost NYSERDA (via FlexTech program) – audit was Town-wide and focused on energy efficiency, but also provided a look at distributed renewable generation
- $15,000 Town engineering oversight paid by Town

Power Purchase Agreement
- 13.5 cents/kWh
- Offsets Town electricity usage: Goal is 33%
- General Fund Account, Town Hall, Community Center, Police and Court Buildings A & B

Land lease
- 15,000/yr. lease payment to Town
- 20-year lease agreement = $300,000 to the Town (de-risked)

Maintenance
- Annual mowing by town employees
- Developer maintains panels/equipment

Hudson Valley Regional Council
Navigating Large-Scale Solar in Your Community — Municipal Solar Tour 2018
## Town of Wallkill Landfill

### Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Details</th>
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<tbody>
<tr>
<td>Idea/Concept: Energy audits &amp; feasibility study</td>
<td>2011-2014</td>
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<tr>
<td>RFP issued (for EPC)</td>
<td>March 2015</td>
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<tr>
<td>CESIR Study (performed by O&amp;R)</td>
<td>November 2015 – paid by developer</td>
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<tr>
<td>• Coordinated Electrical System Interconnection Review</td>
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<tr>
<td>SEQRA Type I activity</td>
<td>2011, revisited and informally updated 2014-2015</td>
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<td>• Town Board, Lead Agency</td>
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<td>• Studies Required:</td>
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<tr>
<td>• Initial town-wide audit</td>
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<tr>
<td>Construction Began</td>
<td>December 2015</td>
</tr>
<tr>
<td>Construction Completed</td>
<td>September 2016</td>
</tr>
<tr>
<td>State (NYSDEC) Approval</td>
<td>October 2016</td>
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<tr>
<td>Solar System Activated</td>
<td>October 2016</td>
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### Other system specifications

<table>
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<tr>
<th>Component</th>
<th>Specifications</th>
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| Solar Panels | • Number of modules: 7,344 modules  
• Output rating: 2,424 kW DC  
• Manufacturer: Neo Solar Power (NSP)  
• Warranty: 25 year power output |
| Inverters    | • Number of inverters: 53 Inverters  
• Output rating: 1884 kW AC  
• Manufacturer: Chint Power Systems (CPS)  
• Warranty: 10 Year |
| Developer    | • GE                                                                            |