

Town of Wallkill Landfill

Solar Case Study

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Commissioner

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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



Photo credit: GE

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 NYSEDA (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



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Town of Walkill Landfill

Timeline

Idea/Concept: Energy audits & feasibility study	2011-2014
RFP issued (for EPC)	March 2015
CESIR Study (performed by O&R) <ul style="list-style-type: none"> Coordinated Electrical System Interconnection Review 	November 2015 – paid by developer
SEORA Type I activity <ul style="list-style-type: none"> Town Board, Lead Agency Studies Required: <ul style="list-style-type: none"> Initial town-wide audit 	2011, revisited and informally updated 2014-2015
Construction Began	December 2015
Construction Completed	September 2016
State (NYSDEC) Approval	October 2016
Solar System Activated	October 2016

Other system specifications

Solar Panels	<ul style="list-style-type: none"> Number of modules: 7,344 modules Output rating: 2,424 kW DC Manufacturer: Neo Solar Power (NSP) Warranty: 25 year power output
Inverters	<ul style="list-style-type: none"> Number of inverters: 53 Inverters Output rating: 1884 kW AC Manufacturer: Chint Power Systems (CPS) Warranty: 10 Year
Developer	<ul style="list-style-type: none"> GE

