

# Warwick Valley Central School District

## Solar Case Study

**Timothy Holmes**

Assistant Superintendent for Business

### Motivation & Objectives

*Renewable energy is very important to the future of our world. Greenhouse gases are having a major impact on all of us and reliance on fossil fuels is destroying our earth. As a public entity, we should be obligated to look at the possibilities. What can we do to make a difference in our communities? Solar was the best option for the Warwick Valley CSD.*

### Project Development Structure

- Offsets 75% - 100% of school district's electricity
- \$30,000 annual maintenance agreement
- Site: Largest district-owned solar field in NYS
- Size: 10 acres, 2.419 MW-DC
- Annual energy production: 2,919,000 kWh
- Cost:
  - \$5,733,030,
  - State Aid: 53.8%, ~\$3,000,000
  - NYSERDA incentive: \$101,105
  - Remote net metering, grandfather status: Monetary credits @ SC2 rate
- Energy Performance Contract
  - Budget-neutral from the outset
  - Simple payback = 12.82 years

### Development Process & Timeline

- 3 years from idea to completion
- Idea/Concept
- Feasibility Study
- RFP: Initial bid was for both PPA & EPC
- Data Gathering
- Approval
- Construction
- Activation



Photo credit: Timothy Holmes

### Challenges

- Long process: 3-years from beginning to end
- Orange and Rockland
  - Interconnection/CESIR study: \$275,000
  - Interconnection queue: Initially third, then moved up when others dropped off list
  - Involvement of Public Service Commission
  - Off-line: System down 20 days
  - Initially billed at incorrect rate
- Type I SEQRA
- Grandfather status for remote net metering
  - Deadline: Certificate of Substantial Completion was necessary by 12/31/18

### Background: Municipal Policy & Public Outreach

A school district is its own governmental agency and therefore is NOT required to follow local zoning laws. There have been some successful legal challenges to this however, and it is better to work with local zoning laws if possible

- SEQRA Type I: Negative declaration, 11/14/16
- Archeological Study, Visual Assessment Study, Solar Glare Study
- Public Hearing 11/14/16
- Complied with local zoning laws (Town of Warwick)
  - Visual barriers: Trees, slotted fence
- Balance of Public Interest test



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## Timeline

RFP issued	June 2015
CESIR Study (performed by O&R) <ul style="list-style-type: none"> <li>Coordinated Electrical System Interconnection Review</li> </ul>	\$275,000, paid by Warwick Valley CSD
SEORA Type I activity <ul style="list-style-type: none"> <li>School Board, Lead Agency</li> <li>Archeological Study</li> <li>Visual Impact Study</li> <li>Glare Study</li> </ul>	Negative declaration, 11/14/16 (per School Board resolution)
Balance of Public Interest Test: Government immunity from local zoning	Timothy Holmes, Assistant Superintendent
Final contract negotiations & size of system	\$5,783,030/2.4197 kWh
Public Meeting	November 14, 2016
State Approval	June 16, 2017
Construction Began	July 17, 2017
Construction Completed	December 31, 2017
Solar System Activated	February 6, 2018

## Other system specifications

Solar Panels	<ul style="list-style-type: none"> <li>Number of modules: 7,866</li> <li>Output rating: 310W</li> <li>Manufacturer: Trina Solar</li> <li>25-Year Power Limited Warranty</li> <li>10-Year Product Limited Warranty</li> </ul>
Inverters	<ul style="list-style-type: none"> <li>Number of inverters: 33</li> <li>Output: 57kW/60kVA</li> <li>Manufacturer: Chit Power Systems America Co.</li> <li>Warranty: 10-year workmanship</li> </ul>
Developer	<ul style="list-style-type: none"> <li>ConEdison Solutions</li> </ul>



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