

Vineland Solar One

Vineland Municipal Electric Utility, Landis Sewerage Authority, & Conectiv Energy

PROJECT INFORMATION

Organizations

- Vineland Municipal Electric Utility, Landis Sewerage Authority, & Conectiv Energy

Location

- Vineland, NJ

Project Name

- Vineland Solar One

Project Contact

- M.Q. Riding, Director of Communications & Public Affairs, Conectiv Energy

Technology

- 25 degree, fixed-tilt, ground mounted solar photovoltaic system
- 13,456 mono-crystalline silicon panels

Project Size

- 4.1 MW-DC

NJCEP Program

- SREC Registration Program

PROJECT SAVINGS

Energy Production

- Approximately 5,500 MWh annually

Economic Savings

- \$300,000 in annual customer savings

Annual Emission Reductions

- 7.4 million pounds CO₂

Environmental Benefits

- Enough electricity generation to power 400–500 homes in Vineland
- Removing 720 passenger vehicles from the road

PROJECT WEB SITE

vinelandsolarone.com

Project information, savings, and environmental benefits were provided by Conectiv Energy.



“This project accelerates the reality of a greener future for the residents of the City of Vineland. The project not only provides clean, renewable energy for our citizens, it does so in a way that saves money for our Electric Utility and Sewerage Authority customers. Vineland Solar One is a win for all involved.”

Robert Romano, Vineland Mayor

Background

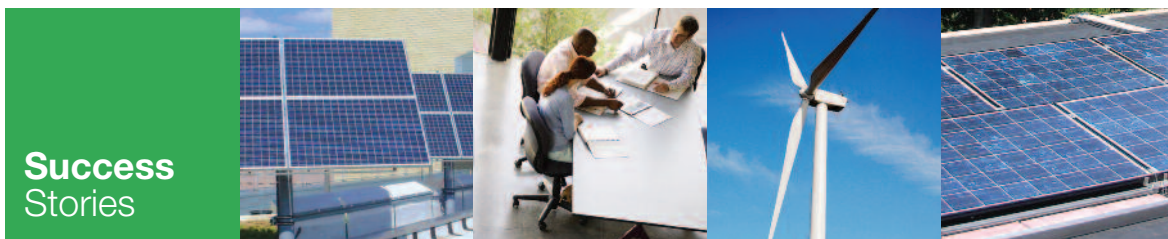
While the City of Vineland has a population of approximately 60,000, it is geographically the largest city in the State of New Jersey, with an area of 69 square miles. Vineland Municipal Electric Utility's (VMEU's) mission is to continue its legacy of reliable quality electric service to its customers, while looking for opportunities to improve operations, better serve the community, and lead the utility into the future through the use of renewable energy. VMEU's goal is to be in environmental compliance and to transition VMEU to a position of environmental stewardship.

Challenge

As VMEU looked to meet their aggressive goal of producing 25 percent of their energy consumed from renewable sources by 2020, all eyes were drawn to the abandoned sand infiltration beds at the Landis Sewerage Authority (LSA). One obstacle to overcome during negotiations was an existing Environmental Protection Agency (EPA) deed restriction, which limited the LSA property use to sewage treatment alone. Prior to LSA being able to lease the desired land for solar power generation, the EPA needed to lift this deed restriction. Through discussions, the EPA recognized the inherent benefits of the Vineland Solar One project and lifted the deed restriction.

Design and Construction

Conectiv Energy was responsible for managing the overall project, including site work, civil and underground work, contracting with VMEU for grid interconnection, and contracting with SunPower Corporation for the design, supply and installation of the solar equipment. Conectiv Energy now operates and maintains the completed facility.



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A side view of the Vineland Solar One 4.1 MW-DC solar system.

“We are pleased to be a part of a forward-looking and fiscally responsible partnership. The greening of America needs to start now, with viable projects like this one.”

M.Q. Riding, Director of Communications and Public Affairs, Conectiv Energy

Located on 14 acres at LSA, the 4.1 MW Vineland Solar One generation facility includes 13,456 mono-crystalline silicon panels. The panels are mounted on structural steel foundations and set at a 25 degree, fixed-tilt to the southern horizon to maximize solar energy collection. The low-voltage DC power produced from the solar panels is converted to AC power, then transformed to a higher voltage AC power onsite before being transmitted to the VMEU 13.2 kV grid. The facility can produce up to 5,500 MWh of energy annually.

Planning, development, engineering, procurement and construction of the facility were completed in under a year. Vineland Solar One, currently the largest solar electric power facility in the Northeastern United States, has been producing power since August 2009.

Developed through a public/private partnership, the facility is part of the SREC Registration Program of *New Jersey's Clean Energy Program* and was financed by a Power Purchase Agreement between VMEU and Conectiv Energy.

Through the agreement, Conectiv Energy agreed to construct the 4.1 MW facility on the site they leased from LSA. VMEU now purchases the electricity generated from the facility at a discounted rate, saving customers hundreds of thousands of dollars each year.

As part of the Power Purchase Agreement, Conectiv Energy retains the Solar Renewable Energy Credits (SRECs) produced by the facility to meet its obligation as a load-serving entity in New Jersey. The generation facility produces SRECs for the first 15 years of operation.

Benefits

Nearly 500 Vineland residents now get their power directly from the sun through the Vineland Solar One partnership. In the end, VMEU's customers will save \$300,000 in energy costs annually because of the facility. Over its lifetime of about 30 years, the facility will reduce New Jersey emissions by 7.4 million pounds of CO₂ per year. All of this was done without any upfront capital from VMEU or LSA.

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