

2.4 MW Solar Installation for Owens Corning

Ohio's largest parking canopy solar installation supports renewable energy goals



DistributedEnergy



Challenge

Owens Corning, a leading producer of insulation, roofing, and fiberglass composites, has focused on manufacturing and delivering its products sustainably for many years. To this end, the company set aggressive goals to cut energy consumption and greenhouse gas emissions. Specifically, the plan entails reducing greenhouse gas intensity (GHG emitted per unit of product) 20 percent by 2020, as well as reducing primary energy intensity (energy used per unit of product) 20 percent by 2020. In addition, Owens Corning looked to increase the amount of renewable energy in its consumption mix.

The Solution

To help meet these energy goals, Owens Corning collaborated with Constellation to develop a solar generation project at its headquarters in Toledo, Ohio. Due to the configuration of the company's buildings and grounds, parking canopies were the most feasible type of solar arrays, since neither the grounds nor building roofs were ideally sized or oriented for solar. When the parking lot needed repair, Owens Corning Chief Sustainability Officer Frank O'Brien-Bernini saw an opportunity to renovate in a manner that would accommodate solar canopies.

As design considerations were an important factor, Constellation and Owens Corning worked together to fully customize the solar

canopies to meet the requirements of the Toledo campus. For example, snow guards were used to help prevent snow from sliding off the metal roof that provides sheltered parking. A gutter and downspout system directs water from the roof to the storm sewers. Owners of electric vehicles (EV) can charge their cars at EV charging stations. And an interactive kiosk and software system hosted by Also Energy provides real-time power generation data for employees and visitors.

Constellation constructed and owns the 2.4 MW solar array of parking canopies. Comprised of approximately 8,000 Yingli 305-watt solar photovoltaic modules installed over 935 parking spots, with 16 canopies, the system is expected to generate 3 million kilowatt-hours of energy in the first year – or approximately 30 percent of the electricity needed annually at the Owens Corning headquarters. The solar arrays are expected to have the effect of reducing greenhouse gas emissions by 2,069 metric tons of carbon dioxide yearly, equivalent to the annual emissions of 436 passenger vehicles. Owens Corning is purchasing the power generated from the solar arrays under a 20-year power purchase agreement. The firm will also retain the Class I SRECs, enabling it to count the solar generation credits towards its 2020 sustainability goals.

Highlights

Project

- Owned and operated by Constellation
- Provides approximately 30 percent of the electricity needed annually
- Expected to have the effect of reducing greenhouse gas emission by over 2,000 metric tons
- Owens Corning to retain the Class 1 SRECs
- 20-year power purchase agreement (PPA)

Technical

- 2.4 MW solar canopy installation covering 935 parking spaces
- 8,000 Yingli 305-watt solar photovoltaic panels
- Custom fabricated metal roof decking
- Snow guards, gutters and downspouts installed on the canopy
- Electric Vehicle (EV) charging stations for 4 electric vehicles simultaneously

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