World's largest solar farm is up and running in California

November 29 2014, by Nancy Owano

The world's largest solar plant is up and running in California, with the completion of Topaz, a 550 megawatt plant; the Topaz solar project completed its final 40-megawatt (AC) phase, reported Greentech Media, making history not only as the first 500-megawatt plus solar farm to come on-line in the U.S. but also as the largest solar plant on-line in the world. Reports are talking about a plant with 9 million solar panels installed across 9.5 square miles.

This is a $2.5 billion project, said io9, with construction that began two years ago. The owner is MidAmerican Solar, a Pheonix, Arizona-based subsidiary of MidAmerican Renewables. Topaz is described by MidAmerican Solar as a 550-megawatt photovoltaic power plant. The developer for the project is listed as First Solar, discussing on its website the project that will produce sufficient electricity to power 160,000 average California homes. Topaz is located in San Luis Obispo County, California, on the northwestern corner of the Carrisa Plains.

First Solar said that site was chosen after considerations regarding available solar resource, proximity to existing electrical transmission lines, current land use, and environmental sensitivities. They said that Topaz is sited on largely "non-prime," actively tilled agricultural land that has "limited productivity." At the northwestern edge of the Carrisa Plains, added First Solar, Topaz is more than six miles from the more sensitive habitats in the Carrizo Plain National Monument. According to fact sheet notes from MidAmerican Solar, the Topaz project is being built on previously disturbed agricultural land with a minimally impervious surface that allows for natural drainage and low-impact development and has the best solar insolation in Pacific Gas and Electric's service territory. The Topaz project is designed to function as productive grassland habitat for native plants and animals while being used for passive farming of the sun's energy. Water used during construction is primarily for dust control. During operation, the panels do not require washing and vegetation is maintained to help with dust control.

"As of today," wrote Eric Wesoff on November 24 in Greentech Media, "the project has installed 9 million solar panels across 9.5 square miles in San Luis Obispo County on California's Carrizo Plain. Construction began in 2012 and was expected to be complete in early 2015—so call this an on-time delivery." Engadget said that "It's an impressive feat that should power 160,000 homes on Pacific Gas and Electric's grid."

The Greentech Media report said that Pacific Gas and Electric will purchase the electricity from the Topaz project under a power-purchase agreement. MidAmerican Solar said that the Pacific Gas and Electric Company will purchase the electricity from the project under a 25-year power purchase agreement.

What is more, the project is expected to displace 377,000 tons of CO2 annually, equivalent to taking 73,000 cars off the road, according to First Solar.

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