

New county solar installations set to go to work

Contributed by Elizabeth Larson
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LAKE COUNTY – Some important Lake County facilities are preparing to harness the power of the sun in a big way.

A group of solar arrays now getting their finishing touches will save the county tens of thousands of dollars each year in power bills and reduce carbon dioxide production by millions of pounds annually.

Special Districts Administrator Mark Dellinger said Lake County's group of arrays are believed to be the third-largest public entity solar installation in the western United States. The installation even has the distinction of pushing Internet search engine giant Google's solar installation into fourth place.

Lake County Sanitation District (LACOSAN) serves about 35,000 people countywide, outside of the jurisdictions of Clearlake, Lakeport and Hidden Valley Lake, according to Dellinger. Most of the arrays currently being installed will serve the district, along with one new array for the jail.

There will be a total of five arrays:

Two for the Northwest Treatment Plant outside of Lakeport, totaling 6.8 acres; megawatt capacity, 0.998; percentage of facility needs, 92 percent; pounds of carbon dioxide that it will avoid producing annually, 1,330,000;

One for the Lake County Jail on 3.8 acres, 0.746 installed megawatt capacity, 91 percent of the facility power needs will be met; production of 840,000 pounds of carbon dioxide will be avoided annually;

One for the Southeast Wastewater Plant outside of Clearlake, totaling 4.9 acres, with an installed megawatt capacity of 0.735, supplying 90 percent of facility needs and avoiding the annual production of 770,000 pounds of carbon dioxide;

And one for the Northern California Power Authority's Geysers pump station, covering seven acres, totaling one megawatt – which is enough power to supply 1,000 homes – supplying an average of 91 percent of the station's needs and preventing 2,940,000 pounds of carbon dioxide production annually.

In September 2007, the county entered into an agreement with SunPower Corp. of San Jose for a turnkey operation in which four of the arrays will be set up and run on the county's behalf, Dellinger explained.

The jail array is located on LACOSAN property outside of Lakeport and within view of the jail and the new animal shelter on Helbush.

SunPower, which also manufactures the panels for the arrays, did a full energy audit of the jail to assess its electrical needs, Dellinger said.

Pacific Gas & Electric installed a transformer at the jail to receive the power from the arrays, which is transferred through power lines from the solar panels.

There are transformers installed for each of the five array sites, where grading for the installations began in May. All of the arrays have tracking capabilities, said Dellinger, which allows 20- to 30-percent more power to be generated than a stationary array.

A monitoring system will be set up to track just how much power the arrays generate, he explained. A kiosk with a touchscreen computer presentation may eventually be set up at the courthouse so members of the public can see how the system works.

The monitoring system must be installed and monitored by a PG&E-approved third party entity, said Dellinger, while the kiosk will be installed by SunPower.

"We want the public to be able to see what's going on," said Dellinger.

The 30-year-old Northwest Treatment Plant, which was completely upgraded five years ago, is located a few hillsides over from the jail array. The plant's array will provide about 91 to 92 percent of the wastewater treatment plant's needs and 100 percent for the wastewater plant's pumping station.

The biggest challenge for the arrays is wind load, said Dellinger.

The process to get the arrays in place began two years ago, when the county went through a consultant selection process to look at the solar installation's feasibility, he said.

The financial returns will be significant, said Dellinger.

"It's not only less than we pay for PG&E today, it's likely going to be less than we would pay for PG&E in the future," said Dellinger.

He estimates the project will save the county a total of \$25,000 to \$30,000 annually between the two wastewater treatment plants and the jail, and \$1 million over its 20-year life.

"We help ourselves and our ratepayers by reducing those costs," Dellinger said.

These savings are just for the SunPower facilities. Dellinger said the savings to LACOSAN ratepayers in Clearlake and Lower Lake for the NCPA solar installation will be approximately \$10,000 to \$15,000 annually.

Once the project is over, the county can have the arrays removed, take advantage of a five-year renewal option or purchase them at a negotiated fair market value, said Dellinger.

The Southeast Geysers Effluent Pipeline pump station array is being overseen by the NCPA, a nonprofit joint powers agency that supports 17 member communities and districts in Northern and Central California. Lake County, however, isn't an agency member.

"I wish the county had joined NCPA 20 years ago," Dellinger said.

If it had, Dellinger said the county could have taken advantage of power generated at The Geysers, which is some of the least-expensive power around.

In April, neighbors of the Southeast Plant went to the Board of Supervisors to appeal the seven-acre solar installation there, saying it would have a serious impact on their quality of life and property value.

While the majority of the Board of Supervisors voted down that appeal, Supervisors Ed Robey and Jeff Smith voted for it, saying they were concerned that the plans for the installation weren't properly delineated in maps county planners provided to the public and the board.

NCPA and the neighbors eventually entered into a settlement that would provide the neighbors with solar power for their homes and also allow them to give input on landscaping of the area in order to hide the panels from view, according to court documents.

In the future, the county may install an array at the Middletown Wastewater Treatment Plant, said Dellinger. The remaining property at the Northwest and Southeast plants will be used for wastewater-related activities such as backup for irrigation and biosolids management.

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