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With Push Toward Renewable Energy, California Sets Pace for Solar Power

By [FELICITY BARRINGER](#)

SAN FRANCISCO — A decade ago, only 500 rooftops in California boasted solar panels that harvest the sun's energy. Today, there are nearly 50,000 solar-panel installations in the state, according to a report to be issued Thursday by the research and lobbying group Environment California.

As a result, California, the longtime national leader in [solar energy](#), has a capacity of more than 500 megawatts of solar power at peak periods in the early afternoon — the same as a major power plant.

The solar capacity in California grew by a third from 2007 to 2008. It now represents about two-thirds of the national total, according to a different report that is being prepared by the Interstate Renewable Energy Council, a nonprofit group promoting expansion of solar energy.

As the Obama administration pushes for a national shift to more renewable energy sources, California's example is therefore being closely watched. Nationally, the states in which solar installations are spreading fastest are those that provide the most generous subsidies for them, industry experts agree.

Two long-term statewide programs in California provide rebates and other financial incentives to encourage rooftop solar panels, and individual municipalities like Berkeley are also beginning to offer financing for the solar arrays.

"The thing about California is that they have a consistent program that has 10 years of funding," said Larry Sherwood, a consultant to the interstate council.

(The California budget cuts that were being brokered Wednesday will not directly affect the subsidies because the subsidies are underwritten by utility ratepayers, not taxpayers.)

New Jersey is a distant second to California in installed solar capacity with 70 megawatts, followed by Colorado and Nevada, the council's report said.

The Clean Energy program in New Jersey offers qualifying residential and commercial customers rebates for energy generated by solar arrays.

"Typically, New Jersey incentives have been higher, but its program has had many fits and starts," Mr. Sherwood said.

Within California, solar technology has spread beyond highly environmentally conscious areas like San Francisco and Sacramento over the last decade to gain a hold throughout the state, Environment California's

report indicates. As of the end of 2008, when the report's figures were compiled, San Diego had more than 19 megawatts in capacity from installations on 2,200 roofs, followed by San Jose with 15.4 megawatts from 1,330 roofs and Fresno with 14.5 megawatts from 1,028 roofs.

"The biggest thing here," said Bernadette Del Chiaro, the report's author, "is that from farms to firehouses, the face of solar power is changing. While California's biggest cities have led the way, the rest of the state and country are quickly picking up on it."

She added that the cities of the Central Valley, which is both heavily agricultural and baking hot in the summer, are natural places for the solar panels. High air-conditioning loads and high peak electricity rates tend to dovetail partly with the afternoon hours when solar panels are most effective, she noted, giving people an incentive to embrace the new technology.

Nationally, residential installations account for about a third of the energy supplied to the power grid by photovoltaic arrays on panels; the remainder come from installations on larger facilities, like government buildings, retail stores and military installations.

Each of the four top-ranked cities in California in terms of solar power capacity have more electricity available from these sources than all but six states.

Still, 10 states, led by Colorado and including Hawaii, Connecticut, Oregon, Arizona, North Carolina, Pennsylvania and Massachusetts more than doubled their rooftop solar capacity in 2008, Mr. Sherwood said.

While most installations are on rooftops, the number of larger-scale installations is increasing. Fresno's total output is augmented by a 2.4-megawatt facility at the Fresno Yosemite International airport, while the local Sierra Nevada brewery in Chico has a 1.9-megawatt solar array.

Outside the state, Nellis Air Force Base in Nevada has the largest photovoltaic generating plant, with 70,000 panels generating 14 megawatts of electricity, according to the federal Energy Information Administration.

But even with the increases of the last decade, solar power is a pipsqueak among energy sources; it represents about one-quarter of 1 percent of California's total energy capacity, according to the California Energy Commission. Nationally, according to the Energy Information Administration, it represents about 0.02 percent of total capacity, but those federal figures are incomplete: they reflect only centralized facilities, not distributed rooftop installations.

Cost is a major hurdle; installation of a rooftop system is likely to cost at least \$20,000.

In other countries, according to the Renewable Energy Policy Network for the 21st Century, a research and advocacy group, government subsidies have led to rapid growth in solar power. [The group's latest report](#) shows Germany as the world leader in solar power, with 5,400 megawatts, or about 1 percent of the country's total generating capacity.

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