

California Is Set to Require Solar Power for New Homes

By Ivan Penn

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LOS ANGELES — Solar panels have become an increasingly familiar sight on California rooftops as the state moves toward a clean-energy future. For new homes, they are about to become a requirement.

The California Energy Commission is expected to approve changes to the building code on Wednesday to require solar panels on all new homes, putting the state even farther in the forefront in the use of solar power.

The mandate, to take effect in 2020, is expected to add \$8,000 to \$12,000 to the cost of a house — no small sum in a state where housing affordability is already a major issue.

The construction industry is prepared to live with the requirement, however, as the solar capability may become a selling point: It will help homeowners keep their electricity bills down under a new rate structure that favors renewable sources.

“Our druthers would have been to have this delayed another two or three years,” said Bob Raymer, senior engineer for the California Building Industry Association. But he was not surprised. “We’ve known this was coming,” he said. “The writing was on the wall.”

Several California cities have adopted ordinances mandating that some new buildings include solar power, or have made commitments to 100 percent clean energy through various sources. New Jersey, Massachusetts and Washington, D.C.,

have also considered legislation to require that new buildings be solar-ready, according to the National Conference of State Legislatures.

But California would be the first to require all new homes to include some form of solar power.

“The best way to see this code update is as a step, an important step that we defined over a decade ago, part of an overall suite of reforms to reduce greenhouse gases,” said Andrew McAllister, an Energy Commission member who led the panel’s review of the building code, undertaken every three years.

California law requires at least 50 percent of the state’s electricity to come from noncarbon-producing sources by 2030. Solar power has increasingly become a driver in the growth of the state’s alternative energy production.

And a new rate structure coming next year will charge California customers based on the time of day they use electricity. So those with solar power — and a battery in particular, allowing energy to be stored for when it is most efficiently used — will avoid higher costs.

“Any additional amount in the mortgage is more than offset,” Mr. McAllister said. “It’s good for the customer; it’s good for the homeowner.”

The commission’s move is seen as another big step in the transition from centralized power to one where consumers have more control over their electricity, with solar, energy storage and smart technology leading the way.

At the end of 2017, California was by far the nation’s leader in installed solar capacity. Solar power provides almost 16 percent of the state’s electricity, and the industry employs more than 86,000 workers.

Under the new requirements, builders must take one of two steps: make individual homes available with solar panels, or build a shared solar-power system serving a group of homes. In the case of rooftop panels, they can either be owned outright and rolled into the home price, or made available for lease on a monthly basis.



An array of solar panels in Oakland, Calif. Solar power provides almost 16 percent of the state's electricity. Lucy Nicholson/Reuters

For residential homeowners, based on a 30-year mortgage, the Energy Commission estimates that the standards will add about \$40 to an average monthly payment, but save consumers \$80 on monthly heating, cooling and lighting bills.

Separately, the revised code counts the installation of electricity-storage systems toward the overall energy-efficiency requirements for new homes, as it already does for solar hot-water heaters.

The solar mandate will also apply to new health-care facilities. But the biggest growth area is residential construction.

California averages about 80,000 new homes a year, with about 15,000 currently including solar installations. Over all, at the current rate of home building, the new requirement will increase the annual number of rooftop solar installations by 44 percent.

The approved requirement is expected to give a strong lift to California's already hot solar market.

"This is a very large market expansion for solar," said Lynn Jurich, co-founder and co-chief executive of Sunrun, a leading solar installation company. "It's very cost effective to do it this way, and customers want it."

"There's also this real American sense of freedom of producing electricity on my rooftop," Ms. Jurich said. "And it's another example of California leading the way."

A strategic plan drafted by the California Public Utilities Commission in 2008 called for all new construction by 2020 to have net-zero energy needs — that is, to produce enough electricity on their own to avoid having to buy it from the power grid.

The Energy Commission's plan is less ambitious. It requires new homes to have a solar-power system of a minimum 2 to 3 kilowatts, depending mostly on the size of the home. Residential solar arrays are typically two to three times that size, often enough to put power into the grid.

In fact, the state itself generates so much solar and wind power that it must sometimes halt production at some facilities or give the electricity away to other states to avoid overloading the electric grid.

The utility industry has been preparing for the proliferation of energy-producing homes by studying its impact on the electric grid with tests like a net-zero community developed in Fontana, east of Los Angeles. The utilities are trying to determine how to manage a system where homes are putting electricity onto the grid during the day and consuming it at night.

“We’ve been working towards it,” said Ram Narayanamurthy, technical executive at the Electric Power Research Institute, a nonprofit group that does research for the nation’s power companies. “What we think we will see is greater and greater efficiency.”

The Fontana research has shown that with a combination of energy-efficiency measures and solar power, the overall cost of owning a home is reduced, he said.

“In every single climate zone, from the mountains to the coast, solar is cost effective,” said Kelly Knutsen, director of technology advancement for the California Solar and Storage Association, which promotes solar use. “It will pay for itself.”