

## California's Mandate for New Solar Power Homes

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California, the nation's liberal testing ground for new policy and ideas, is taking the lead once again.

This time, it's in the area of renewable energy, an area which California has invested a lot of money into. While not the nation's leader in overall green energy, California is the nation's leader in solar power, producing 16% of the states electrical energy in this way. This new initiative will expand that lead.

The new initiative will require virtually all new homes constructed in California to be built with solar panels, providing at least a hefty portion of the home's electrical needs. While being lauded by environmentalists and leftists as a major victory, the new requirement probably won't work out to be as big a benefit as people believe.

This new housing mandate, which is going to make the inclusion of solar power part of the building code, is part of Governor Jerry Brown's effort to slash carbon emissions in the state by 40% before 2030. Like many liberal initiatives, this wasn't a measure passed by the state legislature, but brought into existence by a vote of the California Energy Commission, bypassing normal legislative procedures.

Nevertheless, if people want to build homes in 2020 and beyond, they'll need to build them with solar panels, or they'll never be approved.

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While many of us in the prepping and survival community dream of going off-grid for our energy needs, we are doing it with a much different goal in mind. Typically, we see solar power as a means to energy security, providing us with power in a grid-down situation. In that regard, solar power is merely part of an overall energy system.

### Pricing Problems \$\$

California is already the third most expensive states to buy a home in, beaten out only by Hawaii and the District of Colombia. This is affecting California's economy, as it is driving middle class workers, who can't afford to buy a house, to move out of the state.

Estimates for how this new regulation will change the cost of housing range from \$9,000 to \$12,000, with \$10,000 being mentioned the most often. That cost will of course be passed on to the consumer, meaning that more people won't be able to afford home ownership, or will have to opt for smaller homes. Adding that much to the cost of a home is like adding another bedroom.

Advocates for the plan argue that homeowners will save more in their electric bill than the added cost of the solar panels. That's probably true. The average return on investment for solar panels is roughly seven years. With a 30 year life on the panels, adding them to the home is a good long-term investment.

But that doesn't help a family who is trying to buy a home. With the solar panels being part of the

home, they are considered part of the home's cost for the mortgage. This is different than what most people do today, adding solar a few years after buying their home and paying for it with a separate loan. Lending institutions are not going to raise the maximum permissible loan amount for families trying to buy a home, just because it comes with solar panels on it.

But I'm not sure where the \$10,000 figure is coming from. A couple of years ago, I had a solar company give me a bid on adding solar to my home. The figure I was quoted was roughly \$60,000. Granted, I live in a part of the country which is hotter than most of California, so my energy use is higher. But even if we were to assume that I lived farther north and used half the electricity, I would still need \$30,000 worth of solar panels to provide for my average electrical usage.

Based on this, I would have to say that the new plan only provides for a portion of the family's electrical needs. So, while they may pay somewhere from \$60 to \$100 less per month on their energy bill, that won't help them buy their home.

## But Is It Worth It?

Like many other left-wing initiatives, this move seems to be largely symbolic. It sends a strong message about California's commitment to renewable energy and lowering their carbon footprint. For those who believe in global warming or climate change, that's important. But how much it will actually reduce carbon output may very well be a different thing.

Solar power is a very inefficient system. While solar panels do produce electricity, each panel produces very little electricity. This problem is multiplied by the fact that most solar panels put out a low-voltage output, intended to charge 12 volt batteries. To boost that 12 volts to 120 volt house current, ten times the current input is required, to make it possible to boost the voltage ten times.

What this means is that an 80 watt solar panel is only providing 8 watts of power at 120 volts. So a 1,000 watt microwave oven would need over 100 solar panels providing it electricity, while it was working. Or a device that draws 2 amps of power would require 30 solar panels to provide it with power.

Those of us who use solar power for survival don't intend to power our entire home off of solar panels, but rather only power a limited number of devices, generally low-power devices. While it might be nice to be able to produce enough power off of solar to keep everything in our homes working, most of us realize that it's just not practical to do so.

But there's another big thing that we do in the survival community, which I don't see included in anything I've read about California's move to increase solar power production. That is, we attach our solar panels to a battery backup unit. That way, the power we are producing during the daylight hours, isn't being used directly, but rather to charge our battery bank. Then we pull power off as we need it.

Herein lies the true weakness of solar power; it is only available when the sun is shining. In most places, that means that solar panels are producing enough power to charge a battery backup system, eight to ten hours per day. The rest of the day or during inclement weather, the only power available during a grid-down situation is from the battery bank.

Assuming that I'm right and Californians aren't going to install battery backup systems to go with their required solar panels, they'll only be producing electric power during the daytime and only on days

where the weather is cooperative. What that means is that the state's power companies will have to provide power whenever the solar panels can't.

This is where some of the falsehood of green energy comes into play. Both solar power and wind power are unreliable energy sources, unlike the other big source of renewable energy, hydroelectric. Solar only works when the sun is shining and wind only works when the wind is blowing; but hydroelectric power works around the clock, rain or shine, just as long as there is water in the reservoir. But the electric grid requires that the same amount of electricity is being produced as is being consumed, all the time.

The way that electric companies solve this problem with the unreliability of solar and wind power is to run power plants on standby, so that they can pick up the slack when wind and solar fail. In other words, coal-fired power plants, the ones that leftists hate, are running around the clock, just so that they can provide power when wind and solar fail. That's not very green.

The real problem here, besides the unreliability of wind and solar power, is that there is no practical and efficient means of storing large amounts of electrical power. Even storing enough for a home is a major undertaking, costing several thousand dollars; storing enough for a city would run well into the millions. Until someone can come up with an efficient, dependable way to store large amounts of electricity, then it doesn't matter how much green energy we produce, we'll still need to have other power plants online, acting as a backup for them.

This basically negates a large part of the benefit of any green energy system and explains why I stated that this move by California is largely symbolic. Governor Brown's goal can't be reached without that, although I am sure that we will hear that is has been. They'll just forget to mention all those dirty coal-fired power plants that are running in the background, just to keep the whole system humming.

## Can It Be Fixed?

Until the power storage problem can be fixed, current technology just doesn't allow us to do what California's political leadership wants. While I'll have to say that their goal is admirable, it's not practical.

But that doesn't mean that putting solar on homes is a total waste of time. I'm working on building my own solar panels for my home, and I don't even live in California. So if someone is a prepper living in California, I'd say that they should take advantage of the situation, especially if the government offers any sort of tax incentives for installing solar on your home.

But I wouldn't stop with just the solar panels. Rather, I'd install a sizeable battery backup system to go with them. That way, any electrical power I generated could be stored, providing my family with emergency power in the case of an emergency. I'd also install a whole house switch, so I could disconnect my home from the grid, should the grid go down and I have to provide for my own power off of my solar panels. Without this switch, any power I would produce would just go into the grid and not provide me with any benefit.

So, while this initiative might not be a grand success on a statewide basis, I can see where it could be a great success for individual families. All it would take is modifying the system and making sure that you had the ability to use the solar panels the state is requiring, as something that can help your family survive.



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