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Adopt a Solar Homes policy for new construction

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NEW ROOFS SHOULD BE BUILT FOR SOLAR

When it comes to reducing pollution and global warming emissions, any rooftop without solar panels is a missed opportunity. Cities can seize that opportunity by requiring that new buildings include solar energy systems. After all, the most cost-effective time to add solar to a home is when the home is being built and the workers are already on the roof. Some state and local governments have adopted policies that require new homes or commercial buildings have solar power, and the idea is spreading rapidly due to its [positive impacts](#):

- Requiring solar panels on new homes could lower solar energy costs by leading to technological developments, market maturation and increased partnerships between home builders and solar companies. A 2018 National Renewable Energy Laboratory (NREL) study found that these advancements could collectively reduce the price of solar systems by 59 percent.
- A solar homes requirement can work with other energy policies, such as strong efficiency standards, electric vehicle incentives, and policies to encourage home energy storage, to build a clean energy system.
- Adding solar on all new homes would greatly reduce the need for fossil fuel energy sources and reduce global warming emissions.
- A solar homes policy would also make solar energy the default as your community grows and evolves, ensuring that future progress keeps pace with growth.

CHOOSING THE RIGHT POLICY FOR YOUR COMMUNITY

Requiring solar panels on [all new homes](#) will create a surge of distributed solar energy deployment. Cities can also consider variations of this policy, such as requiring solar on buildings of a certain size or on all new construction rather than just homes. Communities that are not ready to require solar panels can instead ensure that every new home and building be “solar ready,” meaning a solar energy system could be easily installed in the future, as a first step.

Pairing a solar homes policy with strong energy efficiency standards for homes can amplify its positive impact. Single-family homes in some U.S. states would need [up to 15 kW](#) of solar energy capacity on average to meet current electricity consumption needs. Many roofs cannot host solar systems of that size, so meeting home energy needs with clean energy will require reductions in energy consumption. Strong energy efficiency requirements for buildings and appliances can help achieve that goal.

CASE STUDIES

Requiring solar on new homes

Several cities have adopted policies that all new homes be built with solar panels, including the city of South Miami, Florida. Citing climate threats to the Miami area, from sea level rise and tidal flooding to extreme temperatures, the [local ordinance](#) requires that all new homes be built with solar as a part of the city's goal of eliminating net greenhouse gases emissions by 2030. Specifically, the policy calls for the installation of [2.75 kilowatts](#) of solar per 1000 square feet on new homes, and on existing homes that increase their square footage by 75 percent or more.

After several California cities adopted solar homes policies, California became the [first in the country](#) to do so statewide. The policy, which takes effect in 2020, is part of an overhaul of the state's building code that aims to cut energy use in [new buildings by 50 percent](#).

Requiring solar on new construction

Brooklyn, NY, passed [two new laws](#) requiring developers to install either solar panels, greenery or a combination of the two on all new roofs that went into effect November 15th, 2019. While building owners will assume the cost of the panels in construction, they will also receive significant tax incentives, getting back 20% of the equipment costs in the form of a property tax abatement and receiving a \$5,000 tax credit.

From a solar homes policy to a net zero policy

In 2014, the City of Lancaster, California, [was the first city](#) to mandate solar on all new buildings. Lancaster, which has a population of about 160,000, later adapted the ordinance to require that all new homes be zero net energy, or able to fully meet their own energy needs with on-site renewable sources. Rooftop arrays must provide [two watts of solar energy for every square foot](#) of the building.



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The most efficient and cost-effective time to install solar is during construction.

RESOURCES

- Learn more about the standards adopted by the State of [California](#) and at the local level in [South Miami](#), [Brooklyn](#), [Tucson](#) and [Lancaster](#).
- Environment America Research and Policy Center's report, [Solar Homes: The Next Step for Clean Energy](#), discusses the potential benefits of solar homes policies if deployed nationwide, and includes policy recommendations for state and local governments.
- Learn more about the [International Energy Conservation Code](#) for buildings and how updating your efficiency codes could amplify a solar homes policy in your state or city.