

# Home Solar and Batteries

## Energy and Economic Security for American Families

The potential benefit residential rooftop solar is vast. In 2024, over 560,000 residential rooftop systems were installed totaling 4.7 GW. There are now 5.26M US homeowners with solar on their roof totaling 40.9 GW of power; this is close to the cumulative capacity of all solar in Texas<sup>1</sup>. Each year we see hundreds of thousands of new rooftop systems installed across the US. Not only do these provide a much-needed boost in US energy production but they have the ability to provide savings to homeowners as well as resiliency to the country's energy grid.

## Meeting Surging Energy Demands

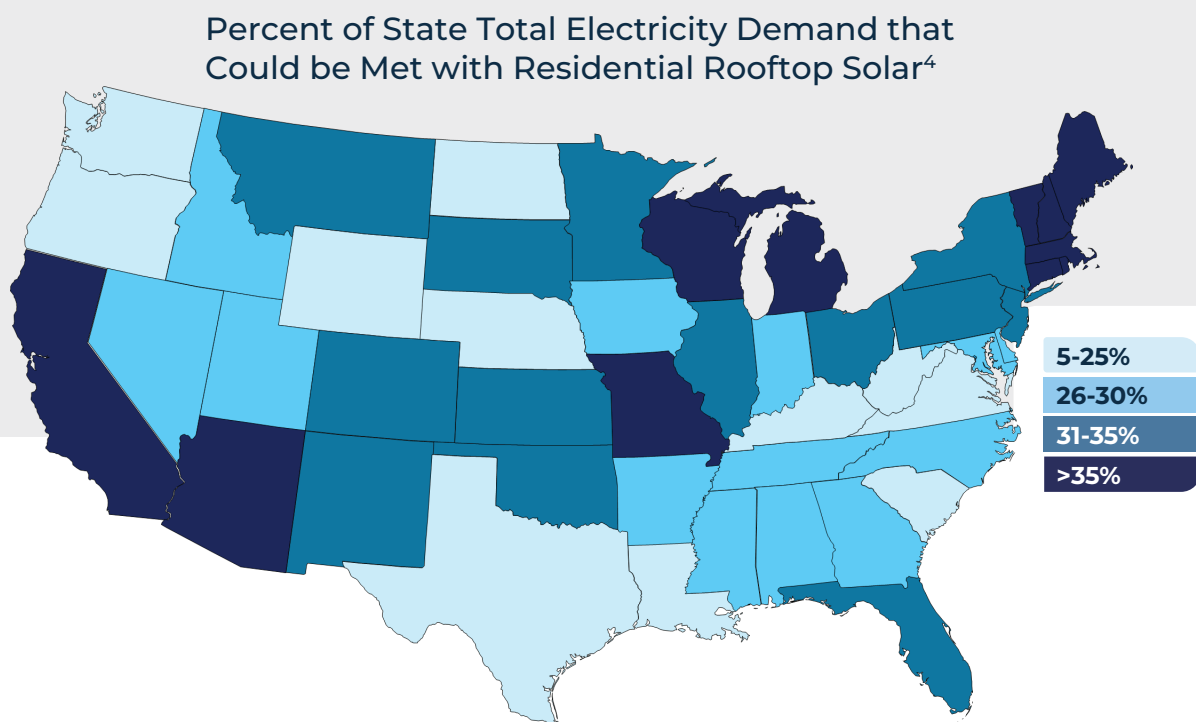
Electricity generation from solar rooftops has tremendous potential. It is estimated that the US could install 731 GW of solar systems on residential rooftops. If fully utilized, this could generate 1,200 TWh per year. Since the United States currently uses a little over 4,000 TWh per year, this means that solar rooftops could effectively increase total US energy production by over 28% While no energy source is built out to its total potential, building out even a portion of this would make a massive contribution to meet the growing electricity demand from new homes, manufacturing facilities, data centers, and military bases.<sup>2</sup>

## Helping Homeowners Save Money with Consistent Bills

While annual savings vary based on electricity usage and system size, homeowners can expect to save \$1,500<sup>3</sup> a year on electricity bills on average. This means that collectively, US homeowners with solar systems saved approximately \$2.3 Billion on their electricity bills in 2024.

## Resilience Is Needed

Increasingly, homeowners are adding batteries to their solar systems, enabling them to keep the lights on during power outages. During several past storms, like hurricane Helene which swept through Florida and the Carolinas or Hurricane Beryl which hit Texas, several reports emerged showing that homeowners with solar and storage systems were able to keep the lights on houses warm while their neighbors were in the dark. While most homes have no backup at all, solar and storage offers the ability to keep food cold in the fridge and heating and cooling systems running. They can help the US energy grid withstand and recover faster from hurricanes, fires, floods, and other disruptions to its energy supply.



<sup>1</sup> EIA State Electricity Profiles, Nov 6, 2024 [www.eia.gov/electricity/state/](http://www.eia.gov/electricity/state/)

<sup>2</sup> National Renewable Energy Laboratory. Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment. Jan 2016. Pieter Gagnon, Robert Margolis, Jennifer Melius, Caleb Phillips, and Ryan Elmore

<sup>3</sup> Energysage website: How much money do solar panels save in 2024? [www.energysage.com/solar/much-solar-panels-save/](http://www.energysage.com/solar/much-solar-panels-save/)

<sup>4</sup> Based on 2023 total electricity generation from all sources. Source: EIA Electricity Data Browser.