



Solar power generation in American homes

How many homes are powered by solar?

California has the largest number of homes powered by solar, accounting for almost 42% of solar-powered homes in the U.S. and 39.3% of residential generation capacity. By 2028, it's estimated that more than 65 million U.S. homes could be powered by solar energy.

Which state has the most solar-powered homes?

The state with the largest number of homes powered by solar is California, accounting for almost 42% of solar-powered homes in the U.S. and 39.3% of residential generation capacity. The state's solar output is impressive -- and disproportionate -- to its share of the U.S. population, 12%.

How much solar energy does a home use in 2022?

In 2022, residential solar panels generated 37 million megawatt-hours, accounting for 18% of all solar energy in the US, according to the Energy Information Administration. The average US home uses about 11,000 kilowatt hours per year, meaning residential solar panels generated enough electricity to power 3.4 million homes in 2022.

What percentage of solar power is produced in 2022?

Small-scale solar installations, including those at homes, businesses, and non-utility industrial sites, collectively generated 29% of all solar power in the US in 2022. At 61 million megawatt hours produced, small-scale solar power generated enough electricity for 5.6 million homes.

This report summarizes the latest statistics related to the residential installation of solar panels and solar power capacity in U.S. homes.

Small-scale solar installations, including those at homes, businesses, and non-utility industrial sites, collectively generated 29% of all solar power in the US in 2022. At 61 million ...

Electricity generated from solar energy in 2023 was enough to power the equivalent of more than 22 million average American homes. California and Texas led in solar generation in 2023.

Explore the 2025 State of Home Energy in an interactive report. Visualize residential solar trends, calculate your savings by state, and understand grid challenges like the duck curve.

Solar projects are making it easier for Americans to choose solar energy to power their homes. Department of Energy Since 2008, hundreds of thousands of solar panels have been ...

The total annual solar generation of 303 TWh in 2024 is enough to power up to 28 million homes, every single day, for a whole year (based on ~10,800 kWh each). Solar Home Panels Cost ...

Everything you need to know about fully solar powered houses in 2025. Complete cost analysis, installation



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guide, real examples, and expert insights. Start your solar journey today.

There are over 5 million solar installations in the United States, delivering clean, affordable, reliable energy to American communities.

In our STEO forecast, utility-scale solar is the fastest-growing source of electricity generation in the United States, increasing from 290 BkWh in 2025 to 424 BkWh by 2027. Almost 70 ...

Residential solar power consumption forecast in the U.S. 2024-2050 Residential sector's non-marketed solar photovoltaic consumption in the United States in 2024 with a forecast to 2050 (in ...

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