

# Average solar system cost





## Overview

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Residential solar panel systems cost \$0.09 to \$0.11 per kilowatt-hour (kWh) installed on average, though prices vary greatly depending on the type of panels and how much daily sun they receive. In comparison, the residential electricity rate in the US averages \$0.14 to \$0.16 per kWh.

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A typical American household needs a 10-kilowatt (kW) system to adequately power their home, which costs \$28,241 in 2025. That price effectively drops to \$19,873 after considering the full federal solar tax credit. NOTE: Under the “One Big Beautiful Bill Act” signed in July 2025, the federal solar.

Get solar power system costs based on your location, roof, power usage, and current local offers. Published: August 2025 Solar panels cost about \$21,816 on average when purchased with cash or \$26,004 when purchased with a loan for a 7.2 kW system. While that price tag seems steep, the electricity.

Solar panel costs range from \$16,600 to \$20,500 for the average 6.5 kW system, but prices can vary from as little as \$7,700 for smaller solar systems to upward of \$34,700 for larger systems. To find the most up-to-date solar panel costs in 2025, we compared research from the U.S. Department of

NREL analyzes the total costs associated with installing photovoltaic (PV) systems for residential rooftop, commercial rooftop, and utility-scale ground-mount systems. This work has grown to include cost models for solar-plus-storage systems. NREL's PV cost benchmarking work uses a bottom-up.

Each year, the U.S. Department of Energy (DOE) Solar Energy Technologies Office (SETO) and its national laboratory partners analyze cost data for U.S. solar photovoltaic (PV) systems to develop cost benchmarks. These benchmarks help measure progress toward goals for reducing solar electricity costs.



Today's premium monocrystalline solar panels typically cost between 30 and 50 cents per Watt, putting the price of a single 400-watt solar panel between \$120 to \$200, depending on how you buy it. Less efficient polycrystalline panels are typically cheaper at \$0.25 per Watt. The cost of a solar. How much does a commercial solar system cost?

Commercial solar installations are a great way for companies to lower energy costs. Generally, installing solar panels on businesses costs a bit less per watt because the systems are larger, but the total costs will be higher. In 2025, the average cost for commercial solar panels is just about \$2.00 per watt.

How much do solar panels cost per square foot?

However, the cost per square foot varies based on the size of the home and unique variables found in every installation. For example, the post-tax credit cost of solar panels for a 2,500-square-foot home is around \$20,000 for a rate of \$7.96 per square foot. But how much do solar panels cost for a 1,500-square-foot home?

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How much does home solar cost?

The average pre-incentive cost of home solar is \$29,161 for a three-bedroom house, or \$20,412 after claiming the 30% tax credit. However, as shown in the chart below, the number of bedrooms isn't a great indicator of the size and cost of a solar system – and neither is living space, for that matter.

Are solar installations cheap?

Solar installations aren't cheap, but the actual equipment is a relatively small part of the total cost. It's only 35% of your total installation cost, according to the US Department of Energy. Soft costs, also known as the hidden costs of installing solar, are nonhardware costs, and they make up 65% of your total solar costs, according to the DOE.

How much does solar installation cost?

On the high end, we talked to a solar customer in Hawaii who spent \$100,000 going solar. Dion in Nevada said their 10-kW system cost about \$20,000, which is about the national average price for a 7-kW system. What else affects solar installation costs?



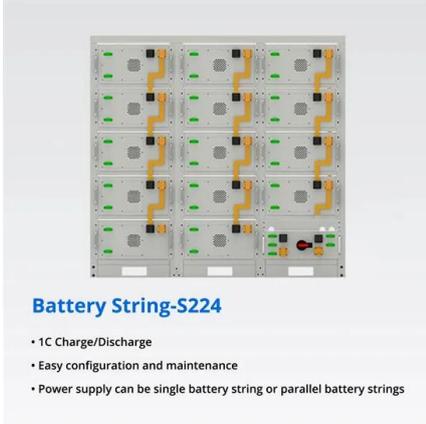
How much does a solar system cost per watt?

As of publishing, the average cost per watt is \$2.84. Most solar companies set the price according to the solar system's wattage. A solar installation's “cost per watt” is a little like the “price per square foot” when you buy a house. It helps compare the value of solar energy systems in different sizes.



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### [Solar Panel Cost in 2025: How to Estimate The Cost ...](#)

On average, solar panels cost \$8.77 per square foot of living space, after factoring in the 30% tax credit. However, the cost per square foot varies based on the size of the home and unique variables found in every ...

### How Much Do Solar Panels Cost? (2025)

Solar panels cost by system size Solar panels cost \$3.00 to \$4.50 per watt installed on average, with homeowners spending about \$3.75 per watt before factoring in available solar incentives. A 6- to 10-kW solar panel ...



### [Texas Solar Panel Cost: 2025 Prices and Savings](#)

As of August 2025, the average solar panel system costs \$2.09/W including installation in Texas. For a 5 kW installation, this comes out to about \$10,454 before incentives, though prices range from \$8,886 to \$12,022. ...

### [How Much Do Solar Panels Cost for Your Home?](#)

As solar energy continues to become more accessible and cost-effective in the United States, many homeowners are considering installing a home solar system. Before making the switch, the first question many people ...



### [How Much Does It Cost to Install Solar Panels? \[2025 ...](#)

Solar panel installation costs an average of \$27,173. Most homeowners spend between \$3,500 at the low end and a maximum of \$55,000 on a complete system. Where you live, the number of panels you need, ...



### [Solar Panel Cost per Square Foot: How Much Will ...](#)

The average pre-incentive cost of a solar system for a 3,000 square foot home was \$30,100 based on thousands of sales conducted on solar in 2022. The number of panels in these systems depends on the ...



### [Solar Panel Cost in 2025: Everything You Need to ...](#)

The average solar panel installation cost is \$23,100, and since the average home size in the U.S. is just under 2,000 square feet, the cost of solar panel installation for homes that are 2,000 square feet will be around the ...





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