

# Cost per kwh of solar panel





## Overview

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Solar panels generate “free” electricity, but installing a system still costs money. 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.

As of 2025, the average cost of residential solar panels in the U.S. is between \$15,000 and \$25,000 before incentives. This typically translates to about \$2.50 to \$3.50 per watt of installed capacity (more on price per watt below). The total price depends on your system size, location, roof type.

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.

Solar panels cost \$1,200 per panel, depending on the type of panel, home size, energy usage, and labor. Clicking “Get Your Estimate” submits your data to All Star Pros, which will process your data in accordance with the All Star Pros Privacy Policy. Understanding solar panel costs is a key step in.

It costs around \$30,000 to install solar panels. That's a big number, but incentives usually lower it significantly. The average U.S. solar shopper needs about 11 kilowatts (kW) of home solar to cover their electricity usage. Based on thousands of quotes in the EnergySage Marketplace, you'll pay.



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 Energy. What is the average price of a solar panel?

The cost of solar panels for an average-size home ranges from \$11,144 to \$14,696. Find out solar panel costs by state, installation costs and more.

What is the actual cost per watt of a solar panel?

One 150 to 300-watt solar panel costs \$112 to \$450 on average, or between \$0.75 to \$1.50 per watt depending on the type of panel, energy-efficiency rating, and size. Solar companies that purchase in bulk typically spend \$0.75 per watt, whereas homeowners spend \$1 per watt.

How much does solar panel installation really cost?

What is the cost of a solar panel installation for an average 2,000 square foot home today?

The average cost of a residential solar panel installation in 2022 ranges between \$18,000 and \$20,000, before applying tax credits or other incentives that may be available where you live. This works out to between \$2.75 and \$3.35 per watt of solar installed, depending on your location and the brands of solar equipment used.

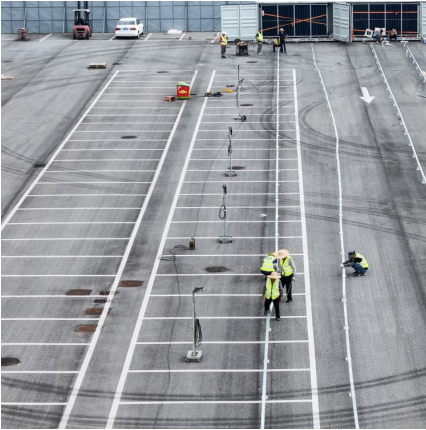
How much are you paying for solar electricity per kWh?

kWh is what you currently pay for your electricity. Your utility company or your solar company sends you a monthly bill that says how many kWh of energy you've used that month. The price per kWh on your electricity bills can range anywhere from \$0.0771 in Louisiana to \$0.3236 in Hawaii.



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### [Solar Panel Prices in 2025: Average Cost by kWh. ...](#)

How much does solar panel installation cost? See pricing by home size, nationwide averages, and factors that will affect your costs in 2025.

### [Solar Panel Costs in 2025 : It's Usually Worth It](#)

This guide explains the costs involved in going solar, factors that affect pricing, and how to decide if solar panels are the right choice for you.



### **Solar Energy Cost per kWh in 2025 [With Installation Cost]**

Read this article to find out the current solar energy cost per kWh and how much you can save by installing a solar panel system on your home.



### **2025 Solar Panel Costs: Ultimate Guide to Pricing and Savings**

The U.S. Department of Energy's solar office and its national laboratory partners analyze cost data for U.S. solar photovoltaic systems to develop



cost benchmarks to measure progress towards goals and guide research and development ...



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

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### [Solar Panel Cost In 2025: It May Be Lower Than You ...](#)

Solar panels are just 12% of the total cost of a solar panel installation. Federal and state solar incentives significantly lower the cost of solar for most homeowners.



### 2025 Solar Panel Costs: Ultimate Guide to Pricing and Savings

Whereas the price per watt considers the solar system's size, the price per kWh shows the price of the solar system per unit of energy it produces over a given period of time.



### [How Much Do Solar Panels Cost? - Forbes Home](#)

To find the most up-to-date solar panel costs in 2025, we compared research from the U.S. Department of Energy and prices from 54 retailers and manufacturers for popular solar panel

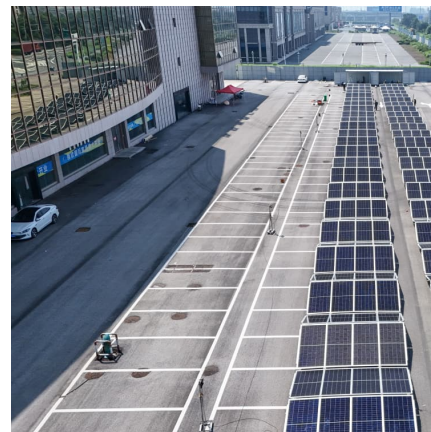


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### [How Much Do Solar Panels Cost? \(Aug 2025\)](#)

The cost of solar panels depends mainly on system size, equipment quality, installation complexity, location and available incentives. Jump to insight



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### [Solar Photovoltaic System Cost Benchmarks](#)

The U.S. Department of Energy's solar office and its national laboratory partners analyze cost data for U.S. solar photovoltaic systems to develop cost benchmarks to measure progress ...



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### [Solar Panel Cost in 2025: Pricing and Savings Breakdown](#)

With current average electricity rates at 15.95 cents per kWh, which is projected to rise by 2.5% annually, solar enables you to secure lower utility costs for 25 years.



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