

## A-Core Container

# Price of solar panels per unit power



## 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 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. How much do solar panels cost?

The price of solar panels changes depending on where you live, but the average for installation is just under \$29,000 or \$2.75 per watt. 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.

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.

How much does a home solar system cost?

According to studies by the U.S. Department of Energy, the all-in cost of a home solar panel system is between \$2.74 to \$3.30 per watt. 1,2,12 This figure includes the solar panels, the installation, and other expenses. Using these numbers, an average-sized 8-kilowatt residential solar system would cost between \$21,900 – \$26,400.

How much does it cost to install and manage solar panels?

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What is the relative cost of solar energy?

Another measure of the relative cost of solar energy is its price per kilowatt-hour (kWh). 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. Net cost of the system / lifetime output = cost per kilowatt hour.

How much does solar cost in California?

Divide annual kWh by ~1,200 (typical kWh/year per kW of solar in much of California). In California, expect \$2.75 – \$3.50 per watt before incentives (solar panel cost in California). This gives your solar cost per square foot. Estimate your system size, price before and after incentives, and cost per square foot.

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### Contact Us

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