

# Conventional PV module prices



## Overview

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Note: Data is expressed in constant 2024 US\$ per watt.

[OurWorldinData.org/energy](https://OurWorldinData.org/energy) | CC BY IRENA presents solar photovoltaic module prices for a number of different technologies. Here we use the average yearly price for technologies 'Thin film a-Si/u-Si or Global Price Index (from Q4 2013)'. This.

Get solar power system costs based on your location, roof, power usage, and current local offers. Published: October 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.

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.

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.

Solar panels cost about \$30,000 on average—but often pay for themselves several times over through 25-30 years of electricity savings. Why trust EnergySage?

As subject matter experts, we provide only objective information. We design every article to provide you with deeply-researched, factual.

**High Efficiency Mono PERC Cell:** The Prices are mainly represented to 9BB solar cells with 23.0%+ efficiency or 10+BB ones with 23.2%+ efficiency and less than 1.5% of CTM efficiency lost. **Mainstream Solar Prices Fall on Fragile China Demand; Legacy Segment Resilient** October 29, 2025 Solar module. What is PV system cost model (pvscm)?

In the PV System Cost Model (PVSCM), the owner's overnight capital expense (cash cost) for an installed PV system is divided into eight categories, which are the same for the utility-scale, commercial, and residential PV market segments: **Module** – The cost to the installer of photovoltaic modules, as delivered.

How much do commercial solar panels cost?

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. There is a lot to consider when figuring out how much you'll spend on a solar installation.

How much does a 12 kW solar panel cost?

The average cost of an 12 kW solar panel installation on EnergySage is \$29,649 before available incentives. You'll typically save anywhere from \$27,000 to \$110,000 over 25 years by going solar. Solar panels are just 12% of the total cost of a solar panel installation.

How much do solar panels cost if I do a DIY installation?

A DIY solar installation will cost somewhere between \$9,000 and \$15,000, depending on the system size and equipment used. When you install solar yourself, you don't have to pay labor costs, customer acquisition costs, or installer profit margins.

How efficient is a residential PV system in 2024?

The representative residential PV system (RPV) for 2024 has a rating of 8 kW dc (the sum of the system's module ratings). Each module has an area (with frame) of 1.9 m<sup>2</sup> and a rated power of 400 watts, corresponding to an efficiency of 21.1%.

How much power does a monofacial solar module produce?

Each module has an area (with frame) of 1.9 m<sup>2</sup> and a rated power of 400 watts, corresponding to an efficiency of 21.1%. The monofacial modules were assembled in the United States in a plant producing 1.5 GW dc per year, using n-type crystalline silicon solar cells produced in Southeast Asia.

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