

The current price per watt of photovoltaic panels





Overview

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). How much does a CPV solar system cost?

Concentrated photovoltaic (CPV) panels are \$0.80 to \$1.10 per watt. While not as well-known as other types of panels, CPV panels are highly efficient and may grow in popularity. A 6 kW solar system would cost \$4,800 to \$6,600. A single solar cell costs about \$0.30 and most panels use 60 or 72 cells. The more cells in a panel, the higher the cost.

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 much does a monocrystalline solar panel cost?

Monocrystalline solar panels are the most popular choice for residential installation (nearly all residential solar panels installed in 2022 were monocrystalline) because they have the highest efficiency rates from 17% to 22%. The average cost for these panels is between \$1 and \$1.50 per watt, but prices may differ depending on location.

How much does energy cost per watt?

According to the most recent data from the EnergySage Marketplace, the average cost-per-watt across the U.S. is around \$2.53/W before incentives. Your state-level average cost-per-watt will be a more relevant benchmark, but those numbers vary widely.

Where did photovoltaic cost data come from?



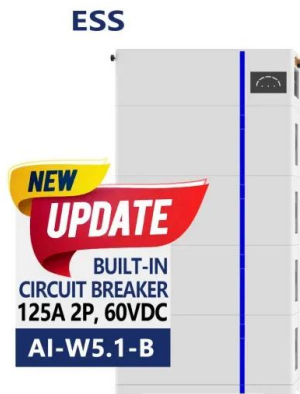
Photovoltaic cost data between 1975 and 2003 has been taken from Nemet (2009), between 2004 and 2009 from Farmer & Lafond (2016), and since 2010 from IRENA. Prices from Nemet (2009) and Farmer & Lafond (2016) have been converted to 2024 US\$ using the US GDP deflator, to account for the effects of inflation.

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 m² and a rated power of 400 watts, corresponding to an efficiency of 21.1%.



The current price per watt of photovoltaic panels



[Understanding The Cost Per Watt Of Solar Panels](#)

The cost per watt of solar panels is the price of generating 1 watt of electricity using solar panels: \$3-\$5 per watt for residential and \$2-\$4 for commercial.

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Solar Panel Cost In 2025: It May Be Lower Than You Think

According to the most recent data from the EnergySage Marketplace, the average cost-per-watt across the U.S. is around \$2.53/W before incentives. Your state-level average ...

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Solar Panel Price in Pakistan 2024 , All Types Rates

As global trends move towards sustainable energy solutions, Pakistan is increasingly adopting solar power as an energy solution. Given ...

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Solar Panel Price Per Watt: Buy solar panel and solar ...

The solar panel price per watt matters a lot since they are the foundation of any solar system. Like we have mentioned earlier, the average per watt price of ...



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

Expect the cost per watt to be between \$2 and \$3. As of publishing, the average cost per watt is \$2.84. Most solar companies set the price according to the solar system's ...

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Solar Panel Price in India 2025

Discover the latest solar panel prices in India for 2025. Get insights on solar panel cost per watt, price trends, and compare the best solar panels for homes in India.

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Sample Order
UL/KC/CB/UN38.3/UL



[Solar Photovoltaic System Cost Benchmarks](#)

Unlike most PV cost studies that report values solely in dollars per watt, SETO's PV system cost benchmark reports values using intrinsic units for each component.

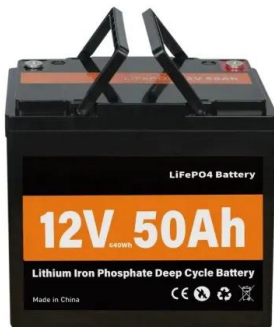
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2025 Solar Panel Costs: Ultimate Guide to Pricing and Savings

Unlike most PV cost studies that report values solely in dollars per watt, SETO's PV system cost benchmark reports values using intrinsic units for each ...

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Yes, You Can Afford to Go Solar: The Cost of Solar Panels in ...

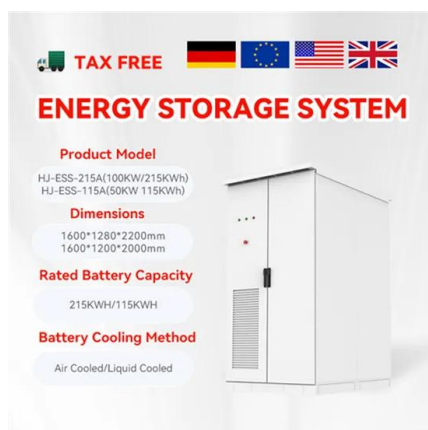
Today, the price of solar panels for a home is currently averaging \$3-5 per watt, depending on the state you live in the size of your PV system and other factors mentioned above. Efficiency ...

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Photovoltaic Panels Price in India (2025)

Solar energy has become a cornerstone of India's renewable energy drive, and photovoltaic (PV) panels play a critical role in this ...

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How Much Do Solar Panels Cost in 2025?

While there's no set solar panel price, we do have an average price for solar panels installed in Australia (including the inverter). According to ...

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Solar Panel Price in Pakistan (for All Plates) September 2025

The current Solar Panel Price in Pakistan is Rs. 85 per Watt. It was last updated on 07 September, 2023.

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How Much Do Solar Panels Cost in 2025? Everything ...

Prices can be different for each state, as well. The average solar panel price per watt in the US is \$3.56, according to data from FindEnergy. That adds up to ...

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How Much Do Solar Panels Cost?

According to the latest National Renewable Energy Laboratory (NREL) data, the current overall range is \$2.50 to \$4.50 per watt for a ...

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The Cost of Solar Panels

The Solar Choice Price Index measures the cost of solar power systems on a dollar per watt (\$/W) basis. This pricing metric helps consumers ...

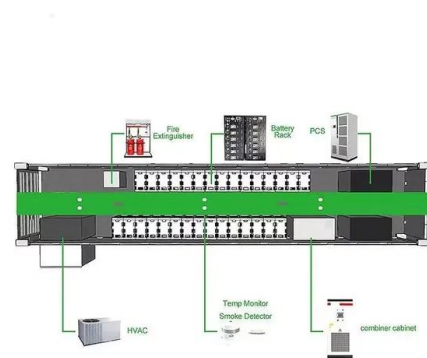
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Solar Installed System Cost Analysis

Solar Installed System Cost Analysis NREL analyzes the total costs associated with installing photovoltaic (PV) systems for residential rooftop, commercial rooftop, and utility-scale ...

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How Much Do Solar Panels Cost in 2025? Everything You Need ...

Prices can be different for each state, as well. The average solar panel price per watt in the US is \$3.56, according to data from FindEnergy. That adds up to \$17,823 for a 5-kilowatt system.

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Solar Panel Ratings Explained - Wattage, Current, ...

Solar panel ratings are crucial for understanding how solar panels perform and what they're capable of. Whether you're setting up a DIY system ...

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Yes, You Can Afford to Go Solar: The Cost of Solar ...

Today, the price of solar panels for a home is currently averaging \$3-5 per watt, depending on the state you live in the size of your PV system and other ...

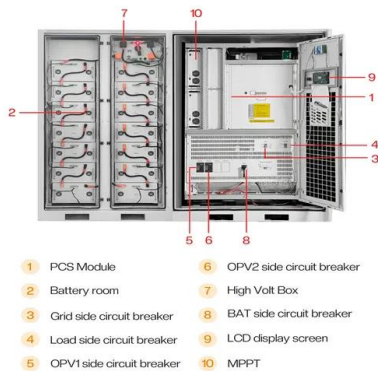
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Solar (photovoltaic) panel prices

IRENA presents solar photovoltaic module prices for a number of different technologies. Here we use the average yearly price for technologies ...

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PVWatts Calculator

NREL's PVWatts ® Calculator Estimates the energy production of grid-connected photovoltaic (PV) energy systems throughout the world. It allows homeowners, small building owners, ...

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Solar Panel Price in Pakistan Today

Choosing the right solar panel in Pakistan depends on several factors, including your budget, energy needs, and available space. Solar panel ...

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

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 ...

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Solar (photovoltaic) panel prices

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2025 Solar Panel Costs: Ultimate Guide to Pricing and Savings

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, ...

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Solar Panel Costs in 2025 : It's Usually Worth It

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. Here are five steps ...

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