

The average cost of solar panels





Overview

Based on our 2025 survey of 1,000 solar customers, the national average price for a single solar panel professionally installed is \$1,200. This means most full-size systems of between 20 and 30 panels cost between \$24,000 and \$36,000.

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The cost of solar panels depends mainly on system size, equipment quality, installation complexity, location and available incentives. Financing solar panels might be a good idea if your loan payments are less than your power bill. A small residential solar panel system costs around \$14,210 before.

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

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 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 bill savings you get from solar panels make them a worthwhile investment for most Americans. Our team of solar experts.

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 installation costs \$12,600 to \$31,500 after the 30% federal tax credit. Solar panel prices depend on the size.



Since 2010, the cost to install solar panels on a home has fallen by roughly 50%. Costs rose slightly from 2020-2023 largely due to supply chain tangles from the pandemic, and then fell again in 2024. As a general trend, we expect U.S. solar prices to continue falling as local manufacturing plants. 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 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 does a home solar system cost?

According to the SEIA, home solar systems have an average price of \$3.24 per watt in the U.S. before incentives. Comparatively, our team found an average cost per watt of \$3.10 based on our survey responses. Note that system pricing can vary based on the solar panel and equipment brand, installer, location and more.

How much does solar cost per watt?

For reference, the national average cost of solar panels is \$3.03 per watt. Solar rebates help make solar more affordable by directly lowering the upfront cost of a solar installation. If you have access to solar rebates, consider yourself lucky! They are few and far between these days.

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?

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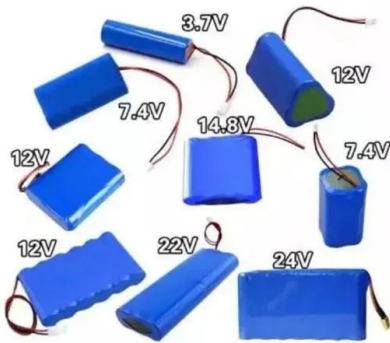


How do you calculate the cost of a solar system?

Solar panel costs are usually measured in the cost per watt of solar installed. However, solar system sizes are measured in kilowatts (kW). To calculate the total price of installing a home solar system, you'll need the system size to be in watts. To convert kilowatts to watts, all you need to do is multiply the system size in kW by 1,000.



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[How Much Do Solar Panels Cost? , Sunrun](#)

How much do solar panels cost in 2025? Updated 3/6/2025 Over the last ten years, the cost of installing solar panels has decreased by over 40% 1, fueling growth across new markets and deploying thousands of systems across the ...

[Solar Panel Costs California: Are Solar Panels Worth It?](#)

The average cost of installing solar panels in California falls between \$10,000 and \$13,000 after incorporating the 30% solar federal tax credit. However, the suitability of solar for your budget



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

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 bill savings you get from solar panels ...

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

These benchmarks help measure progress toward goals for reducing solar electricity costs and guide SETO research and development programs. Read more to find out how these cost



benchmarks are modeled and download the ...



Solar Panel Cost Calculator

See how much solar can reduce your electricity costs. Why use a solar cost calculator? We find that understanding the average cost of solar panels empowers homeowners to make better decisions when they get serious about ...



[How Much Does Solar Installation Cost? Price Guide ...](#)

The Bottom Line While solar panels demand a substantial initial investment, they offer both financial and environmental advantages in the long run. Various factors, including the type of panels, climate conditions, and ...



[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 ground-mount systems. This work has ...





Solar Panel Cost in 2025: How to Estimate The Cost...

The average cost for one 400W solar panel is between \$120 and \$200 when it's installed as part of a rooftop solar array. This boils down to \$0.30 to \$0.50 per watt for panels purchased through a full-service solar company.



Solar Panel Costs in 2025

The average cost of a residential solar panel system ranges from \$18,000 to \$43,000, depending on the system size, location, and available incentives. Typically, a 6-8 kW system--suitable for an average 2,000-square-foot ...

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