



Solar hybrid power system

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If you're interested in going solar, it's important to know about the options available to you--especially because new developments mean there is better technology on the market than ever before. One compelling option is a hybrid solar system, which is tied to a grid but also has special hybrid inverters and battery combinations that allow the system to provide power in case the electrical grid is down.

Even if you use solar power, there are many benefits to staying connected to the grid. In particular, if your local utility company supports net metering, you can save even more money (and pay off your solar panels faster) with your electric bills. On the other hand, grid-tied electrical sources are not always the most reliable. By having a hybrid solar panel system in place, you can feel confident that you can still pull power from a battery when the rest of the grid is down.

Similar to a traditional solar panel system that is connected to the grid, a hybrid solar panel still uses photovoltaic (PV) materials to collect and convert sunlight into energy. In a traditional system, that electricity is routed to the grid, which allows the homeowner to go without a battery while still being able to access electricity during overcast days or the night.

With a hybrid solar system, however, the electricity is routed to a hybrid inverter and battery. Once the battery is full, the excess is channeled through a smart meter to the grid's power lines. This allows the homeowner to retain a portion of the electricity, which can help power the home not only during overcast days or the night but also if there is an energy blackout.

Hybrid solar systems that store energy in a battery while remaining tied to the grid should not be confused with systems that use both solar and wind energy, which are often also referred to as hybrid systems.

Due to weather events, aging systems and other reasons for grid vulnerability, the fact is that most Americans experience power outages at least once a year--with many experts saying that experience will only become more common. That leaves many people susceptible to going without power for hours or longer, which is never fun and is often costly (due to spoiled food) or even dangerous for certain health conditions.

That's why the most compelling reason to invest in a hybrid solar system is that it essentially guarantees that you can keep a continuous supply of power--even if the rest of the grid is down--by pulling from your own battery. This makes hybrid solar systems especially attractive to residents of areas that are prone to losing power, especially if those episodes are for longer periods of time.

A hybrid solar system allows you to get the most energy possible out of your solar panels. By routing the energy generated through a hybrid inverter and into your own battery before kicking back the excess to the grid, you can feel confident that you are utilizing clean, renewable energy as much as possible. In contrast,



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according to the U.S. Energy Information Administration, most of the United States' electricity is generated from natural gas, nuclear energy and coal.

Because a hybrid solar system involves the equipment for both traditional solar panels plus a hybrid inverter and battery, it's not surprising that it is among the more expensive options for using solar power at your home. On average, solar panels cost \$16,000 to purchase and install. For a hybrid system, you also need to factor in the cost of the battery, which is about \$8,000 on average. Although solar panels can last well beyond a decade, batteries generally need to be replaced every 10 years.

The good news is that Congress recently passed an extension of the federal tax credit for solar power installation. Known as the Investment Tax Credit, this allows homeowners to receive a 30% tax credit for projects installed in 2022 or 2023.

After installing a traditional solar panel system, little thought or maintenance is needed. However, due to the more complicated technology at play with a hybrid system, you need a certain amount of knowledge to ensure everything runs smoothly. For example, you may need to check and adjust the settings for how the hybrid inverter, battery and grid are all coordinating.

Although there is still minimal maintenance for a hybrid system's panels, you may need to monitor the battery and keep in mind that natural elements can wear down the battery's lifespan even further. Best Solar Companies By State

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