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How Do Solar Panels Work Even When the Sun Isn't Shining?

Solar panels turn sunlight into electricity. That's why we often think they only work when the sun is out. But what happens at night or on cloudy days? Can solar panels still help power homes when it's dark or gray outside? The answer is yes—with some help!

When the sun shines, solar panels absorb sunlight and turn it into electricity right away. This power can be used in homes, schools, or businesses. But during the day, solar panels often make more electricity than is needed at that moment. What happens to the extra energy?

The extra electricity is either stored or shared. Some homes have batteries that store solar power for later use. These batteries save the extra electricity made during sunny times so it can be used at night or when the weather is cloudy. This way, people can still use clean solar power even when the panels aren't making any new electricity.

In many places, extra solar power is sent back into the power grid. The grid is the system that delivers electricity to homes and buildings. When homes send extra energy to the grid, they often get credit for it. Later, they can use electricity from the grid when the panels aren't producing, like at night.

Even when it's cloudy, solar panels can still work—just not as well. They still get some light, even if the sun is behind clouds. On very dark days, they may not make much electricity, but they usually still help a little.

Thanks to smart systems, batteries, and the power grid, solar panels can keep homes running even when the sun isn't shining. Solar energy is becoming more reliable and easier to use, no matter the weather.