

Average lifespan of solar panels





Overview

How long do solar panels last?

On average, most residential solar panels are designed to last 25 to 30 years. However, this doesn't mean they suddenly stop working after three decades. Instead, their energy output gradually decreases over time, a process known as degradation. Tier 1 panels (like those from SunPower, REC, or LG) may retain up to 92% efficiency after 25 years.

How long do photovoltaic panels last?

The U.S. Department of Energy says photovoltaic (PV) modules should last about 30-35 years. Many panels keep making electricity much longer. Your panels won't just stop working after 30 years. They'll make less electricity gradually but stay functional.

How long will NREL solar panels last?

NREL's median degradation rate of 0.5% means a typical solar panel system will still operate at about 90% of its original capacity after 20 years. Even with a higher degradation rate of 0.8%, your panels would keep about 84% efficiency after the same period. Some systems perform better than expected.

When does a solar panel expire?

The "20% rule" refers to the point at which a solar panel has lost around 20% of its original efficiency, usually after 25 to 30 years of use. Panels are generally considered to have reached the end of their warranted life once they drop below 80% of their initial performance.



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The lifetime of solar panels impacts your savings. We answer the question "how long do solar panels last" and what it means for you.

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This guide explores how long solar panels last, what factors influence their lifespan, and how to maintain efficiency for decades of clean, renewable power. Average Lifespan of ...

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Find out how long solar panels usually last for, how quickly they degrade over time, and what you can do to maximise their lifespan.

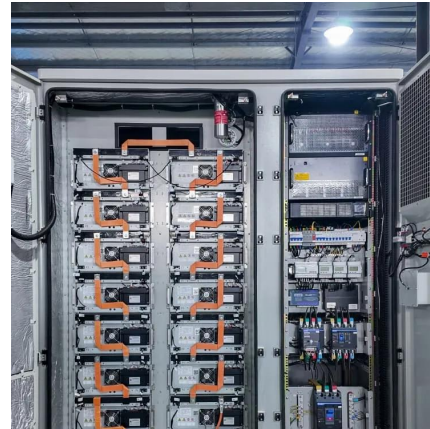
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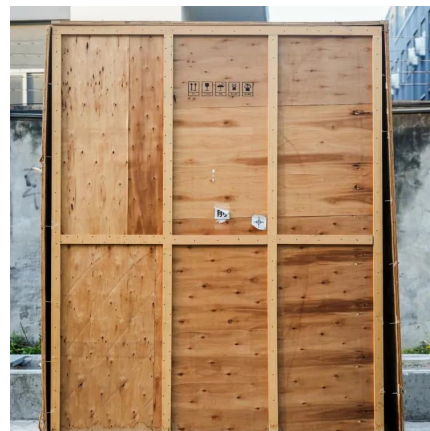
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Solar panels are built to last, but just how long can you expect them to keep powering your home? The average lifespan of a solar panel is 25-30 years, meaning your ...

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