

Sustainable product

Panels that stand the test of time

Solar panels with longer lifetimes reduce demand for new materials. The Sunpower Maxeon panel line is backed by the solar industry's best-in-class warranty of 40 years, the longest lifetime in the industry.

The US National Renewable Energy Laboratory (NREL) has evaluated the trade-offs between extending PV module lifetimes or ramping up closed-loop recycling for solar panels with shorter lifetimes and published its findings in [PLOS One](#). The results show that modules with longer lifetimes reduce new material demand through lower deployment, resulting in less waste. It was concluded that offsetting new material demand can be accomplished in ways other than recycling, including high-yield, high-efficiency, reliable systems (thereby reducing replacement and total deployment needs), remanufacturing of components, and circular material sourcing.

Additionally, longer operating life means that significantly more clean energy is generated by each panel, greatly improving the environmental footprint of the technology.

The new SunPower Maxeon 40-Year Warranty is based on external field studies from more than 33 million Interdigitated Back Contact (IBC) panels deployed worldwide, comprehensive accelerated life testing by Maxeon and third parties, and a physics-based model which Maxeon uses to determine the expected performance impact over time from major degradation and failure modes. The result is an unprecedented 88.3 percent warranted power level at the end of 40 years, meaning Maxeon IBC panels deliver up to 9.5% more power after 40 years than standard solar panels deliver after 25 years.

Collectively, these results give Maxeon and our customers confidence that the SunPower Maxeon module technology can support a 40-year warranted life, and that continued operation beyond this period is certainly feasible.

Maxeon's high efficiency, high yield and industry's longest warranty of 40 years could reduce new material demand, resulting in less waste, lower carbon emissions and environmental impact.

