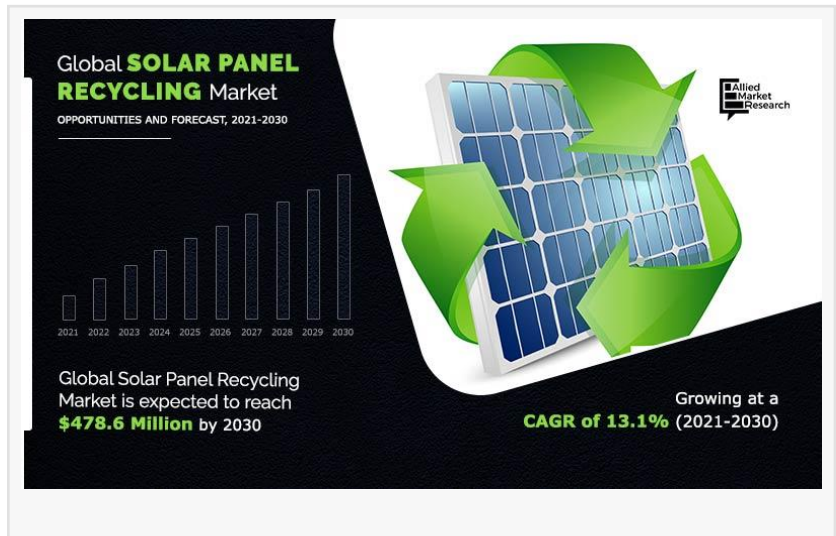


# Solar Panel Recycling Market to Reach \$478.6 Million by 2030, Growing at 13.1% CAGR

*Global Solar Panel Recycling Market  
Driven by Sustainable Energy Adoption &  
Recycling Innovations*

WILMINGTON, DE, UNITED STATES,  
September 2, 2025 /EINPresswire.com/

-- The [solar panel recycling market](#) is gaining momentum as renewable energy adoption surges worldwide. According to a report by Allied Market Research, the global solar panel recycling market size was valued at \$139.7 million in 2020 and is projected to reach \$478.6 million by 2030, growing at a strong CAGR of 13.1% from 2021 to 2030.



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Global solar panel recycling market to hit \$478.6M by 2030, driven by renewable energy growth, regulations, and advanced recycling methods.”

*Allied Market Research*

With the increasing installation of solar panels for power generation, heating, and transportation, managing the panels at their end-of-life stage is becoming essential. Solar panel recycling provides a sustainable solution by recovering valuable materials, reducing waste, and supporting the circular economy.

## □ Rising Demand for Solar Panel Recycling

The rapid expansion of the [global solar industry](#) has created an equally urgent need for solar panel recycling solutions. Factors driving this growth include:

Increasing solar power installations across residential, commercial, and industrial sectors.

Government incentives such as tax credits and subsidies that promote renewable energy adoption.

Technological improvements in solar panels, which lower costs and drive mass adoption.

Regulations in Europe and Asia-Pacific, encouraging structured recycling of photovoltaic (PV) modules.

For example, the U.S. introduced a solar tax credit to cut installation costs by up to 30%, further boosting solar deployment and indirectly increasing recycling demand.

## □ Market Segmentation Analysis

The solar panel recycling market analysis segments the industry by process, type, and region.

### By Process:

Thermal – Accounted for 68.9% share in 2020, expected to maintain dominance due to its high recovery efficiency (up to 98% of unbroken cells).

Mechanical – Held 23.9% share in 2020, forecasted to grow steadily at 13.4% CAGR.

Laser – Emerging as a niche process with advanced recycling potential.

### By Type:

Crystalline Silicon – The largest market segment, driven by its widespread use in standalone PV systems like solar streetlights and telecom towers.

Thin Film – The fastest-growing type, expected to expand at 14.6% CAGR between 2021–2030 due to its efficiency and rising adoption.

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## □ Regional Insights

Europe dominated the global solar panel recycling market in 2020, holding over 43.2% market share. Strong government policies, a large consumer base, and leading recycling companies drive growth in the region.

Asia-Pacific is projected to grow rapidly, fueled by increasing demand for [solar energy](#) in China, India, and Japan.

North America and LAMEA are also adopting solar recycling practices, though at a relatively

slower pace compared to Europe.

Europe is expected to maintain leadership, registering the fastest growth at a CAGR of 13.7% during the forecast period.

#### □ Key Market Players

Several companies are actively shaping the solar panel recycling industry, including:

Aurubis AG

Canadian Solar

Echo Environmental, LLC

Envaris GmbH

First Solar

Hanwha Group

Reiling GmbH & Co. KG

Silrec Corporation

SunPower Corporation

Trina Solar

Other participants include Yingli Energy, Zorlu Holding, Rinovasol Group, ECS Refining, and SiC Processing GmbH, reflecting a competitive landscape with opportunities for innovation.

#### □ COVID-19 Impact

The COVID-19 pandemic slowed growth in 2020 due to supply chain disruptions, labor shortages, and reduced investments. Many European economies, including Germany, France, Spain, and Italy, implemented strict lockdown measures, limiting manufacturing and recycling operations.

However, as global economies recover, solar installations are expected to surge again, creating long-term opportunities for the solar panel recycling market.

#### □ Future Outlook

The future of the solar panel recycling market looks promising, driven by:

Rising awareness of e-waste management in renewable energy.

Technological innovations improving recovery rates of silicon, glass, and precious metals.

Circular economy initiatives ensuring sustainability of solar power adoption.

Government regulations mandating recycling responsibilities for manufacturers.

By 2030, solar panel recycling will become a mainstream industry, helping reduce environmental impact while maximizing material recovery for reuse.

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## □ Conclusion

The solar panel recycling market is set for rapid expansion, backed by increasing solar installations, regulatory support, and technological progress. With a projected value of \$478.6 million by 2030, recycling will play a critical role in making solar energy not just renewable, but also truly sustainable.

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Pawan Kumar, the CEO of Allied Market Research, is leading the organization toward providing high-quality data and insights. We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

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