

The Global Solar Panel Recycling Market projected to grow to USD 2,489.52 Million with a CAGR of 31.75% during 2032

The global solar panel recycling market size is projected to reach USD 2,489.52 million by 2032, exhibiting a CAGR of 31.75%

PUNE, MAHARASHTRA, INDIA, September 23, 2025 /EINPresswire.com/ -- The global [solar panel recycling market](#) size was valued at USD 219.28 million in

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North America dominated the global market with a share of 14.32% in 2023.”

Fortune Business Insights

2023 and is projected to be worth USD 274.21 million in 2024 and reach USD 2,489.52 million by 2032, exhibiting a CAGR of 31.75% during the forecast period.

The global solar panel recycling market is gaining traction due to rising PV installations, stricter end-of-life

regulations, and increasing emphasis on circular economy practices. Recycling recovers valuable materials (glass, aluminum, silicon, silver, copper) and reduces environmental impact from end-of-life photovoltaic (PV) modules.

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Key Drivers of Market Growth

Several factors are contributing to the expansion of the solar panel recycling market:

- **Increasing PV Installations & Aging Fleet:** Rapid deployment of solar modules over the past decade—combined with approaching end-of-life for early installations—drives demand for recycling infrastructure.
- **Regulation & Producer Responsibility:** Extended Producer Responsibility (EPR) laws, EU's Waste Electrical and Electronic Equipment (WEEE)-style rules, and national mandates encourage recycling and take-back programs.
- **Valuable Recoverable Materials:** Recovery of glass, aluminum frames, silver, silicon wafers, and other materials improves economics and reduces the need for virgin raw materials.
- **Circular Economy & ESG Pressure:** Corporates and governments prioritize circularity and lower

lifecycle emissions, encouraging recycling adoption.

- Technological Improvements: Advances in mechanical separation, thermal and hydrometallurgical recovery increase yields and lower processing costs.

Future Outlook

The solar panel recycling market is expected to expand substantially as module retirements accelerate and recycling technologies and logistics mature. Opportunities include reverse-logistics services, material recovery for new PV manufacturing, and policy-driven collection networks. Continued R&D into lower-cost, higher-yield recovery processes (especially for silicon and silver) will improve margins and attract investment.

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Report Coverage

This report provides an in-depth analysis of the solar panel recycling market, covering:

- Market Size & Forecast: Historical data, base year, and multi-year forecasts.
- Key Market Drivers & Restraints: Market enablers, adoption barriers, and risk factors (logistics, cost of collection, variable module chemistries).
- Segmentation & Regional Analysis: By module type, technology, end-use application, and geography.
- Competitive Landscape: Company profiles, partnerships, capacity, technologies, and M&A activity.
- Regulatory Framework: Extended Producer Responsibility (EPR) policies, national/regional regulations, incentives, and compliance costs.
- Technological Advancements: Mechanical separation, advanced thermal treatments, hydrometallurgical recovery methods, automated sorting and busbar/silicon recovery.

Segmentation Analysis

- Module Type / Feedstock:
- Crystalline Silicon (mono-Si, multi-Si)
- Thin-film (CdTe, CIGS)
- BIPV / Specialty modules

Crystalline silicon modules represent the largest share by volume due to prevalence of installations; thin-film recycling requires different flows and chemistry.

- Recycling Technology:
- Application / End-use of Recovered Materials:

- Material recovery for new PV manufacturing (glass, aluminum, silicon, silver)
- Construction & secondary applications (recycled glass, framing materials)
- Landfill diversion / waste management
- Energy recovery (where recycling is uneconomical)
- Geography / Regional Analysis:
 - North America: Growing infrastructure; state-level EPR initiatives and take-back programs.
 - Europe: Leading in collection networks and regulation (EPR/WEEE frameworks).
 - Asia Pacific: Largest installed base and module manufacturing; China's domestic policy and logistics critical.
 - Latin America & Middle East & Africa: Emerging market potential with lower collection rates — opportunity for local services.

LIST OF KEY COMPANIES PROFILED IN THE REPORT:

Major players in the biochar market are focusing on strategic collaborations, mergers, and technological innovations to strengthen their market position. Some key players include:

- Veolia (France)
- First Solar Inc. (U.S.)
- Reiling GmbH & Co. KG (Germany)
- SILCONTEL LTD (Israel)
- HAMADA CO., LTD (Japan)
- Solarcycle, Inc (U.S.)
- Recycle Solar Technologies Limited (England)
- ROSI (France)
- The Retrofit Companies, Inc.s (Canada)
- Rinovasol (Netherlands)

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