

Solar Panel Recycling Market Report by Process (Thermal, Mechanical, Laser, and Others), Type (Crystalline Silicon, Thin Film, and Others), Material (Metal, Glass, Aluminum, Silicon, and Others), Shelf Life (Normal Loss, Early Loss), and Region 2024-2032

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Report description:

The global solar panel recycling market size reached US\$ 155.8 Million in 2023. Looking forward, IMARC Group expects the market to reach US\$ 516.3 Million by 2032, exhibiting a growth rate (CAGR) of 13.8% during 2024-2032.

Solar panels comprise hazardous materials, such as silicon, silver, aluminum, copper, gallium, lead, and cadmium. Their increasing installation across the globe has fueled the need for recycling to reduce waste generation. Solar panel recycling involves activities ranging from decommissioning to collection and sorting. It prevents the release of hazardous substances from waste streams and lessens the greenhouse (GHG) gas emissions of photovoltaic (PV) modules. Presently, several manufacturers are purifying recovered materials to use in new panels or other components like glass foam.

The rising sales of solar panels worldwide due to the increasing adoption of renewable energy sources is resulting in a massive amount of waste streams in landfills every year. This represents one of the key factors stimulating the need for solar panel recycling methods to minimize human health risks and ensure end-of-life (EoL) management. It also helps to reduce the overall cost of new panels and create job opportunities. Apart from this, the introduction of strict regulations and policies, such as product stewardship and increasing landfill costs, by governing authorities of numerous countries is also contributing to the market growth. Additionally, these authorities are legalizing recycling processes and implementing various solar energy projects. This, in turn, is presenting lucrative opportunities to manufacturers operating in this industry for expanding their market reach.

Furthermore, several companies are investing in research and development (R&D) activities to recover and recycle rare metal elements, which is anticipated to promote the market growth.

Key Market Segmentation:

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IMARC Group provides an analysis of the key trends in each sub-segment of the global solar panel recycling market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on process, type, material and shelf life.

Breakup by Process:

- Thermal
- Mechanical
- Laser
- Others

Breakup by Type:

- Crystalline Silicon
- Thin Film
- Others

Breakup by Material:

- Metal
- Glass
- Aluminum
- Silicon
- Others

Breakup by Shelf Life:

- Normal Loss
- Early Loss

Breakup by Region:

- North America
 - o□ United States
 - o□ Canada
- Asia-Pacific
 - o□ China
 - o□ Japan
 - o□ India
 - o□ South Korea
 - o□ Australia
 - o□ Indonesia
 - o□ Others
- Europe
 - o□ Germany
 - o□ France
 - o□ United Kingdom
 - o□ Italy
 - o□ Spain
 - o□ Russia
 - o□ Others
- Latin America
 - o□ Brazil

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- o Mexico
- o Others
- Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Canadian Solar., Echo Environmental LLC (Envela Corporation), Envaris GmbH, First Solar Inc., Hanwha Group, Reclaim PV Recycling Pty Ltd, Reiling GmbH & Co. KG, SILCONTEL LTD, Silrec Corporation, SunPower Corporation (Total SE), Total Green Recycling and Trina Solar.

Key Questions Answered in This Report:

- How has the global solar panel recycling market performed so far and how will it perform in the coming years?
- What has been the impact of COVID-19 on the global solar panel recycling market?
- What are the key regional markets?
- What is the breakup of the market based on the process?
- What is the breakup of the market based on the type?
- What is the breakup of the market based on the material?
- What is the breakup of the market based on the shelf life?
- What are the various stages in the value chain of the industry?
- What are the key driving factors and challenges in the industry?
- What is the structure of the global solar panel recycling market and who are the key players?
- What is the degree of competition in the industry?

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