

# **Solar Panel Recycling Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028**

<https://marketpublishers.com/r/S8A90245249CEN.html>

Date: November 2023

Pages: 138

Price: US\$ 2,499.00 (Single User License)

ID: S8A90245249CEN

## **Abstracts**

The global solar panel recycling market size reached US\$ 132.3 Million in 2022. Looking forward, IMARC Group expects the market to reach US\$ 353.4 Million by 2028, exhibiting a growth rate (CAGR) of 17.8% during 2022-2028.

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:**

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 2023-2028. 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
  - United States
  - Canada
- Asia-Pacific
  - China
  - Japan
  - India
  - South Korea
  - Australia
  - Indonesia
  - Others
- Europe
  - Germany
  - France
  - United Kingdom
  - Italy
  - Spain

Russia

Others

Latin America

Brazil

Mexico

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?

## Contents

### **1 PREFACE**

### **2 SCOPE AND METHODOLOGY**

- 2.1 Objectives of the Study
- 2.2 Stakeholders
- 2.3 Data Sources
  - 2.3.1 Primary Sources
  - 2.3.2 Secondary Sources
- 2.4 Market Estimation
  - 2.4.1 Bottom-Up Approach
  - 2.4.2 Top-Down Approach
- 2.5 Forecasting Methodology

### **3 EXECUTIVE SUMMARY**

### **4 INTRODUCTION**

- 4.1 Overview
- 4.2 Key Industry Trends

### **5 GLOBAL SOLAR PANEL RECYCLING MARKET**

- 5.1 Market Overview
- 5.2 Market Performance
- 5.3 Impact of COVID-19
- 5.4 Market Forecast

### **6 MARKET BREAKUP BY PROCESS**

- 6.1 Thermal
  - 6.1.1 Market Trends
  - 6.1.2 Market Forecast
- 6.2 Mechanical
  - 6.2.1 Market Trends

- 6.2.2 Market Forecast
- 6.3 Laser
  - 6.3.1 Market Trends
  - 6.3.2 Market Forecast
- 6.4 Others
  - 6.4.1 Market Trends
  - 6.4.2 Market Forecast

## **7 MARKET BREAKUP BY TYPE**

- 7.1 Crystalline Silicon
  - 7.1.1 Market Trends
  - 7.1.2 Market Forecast
- 7.2 Thin Film
  - 7.2.1 Market Trends
  - 7.2.2 Market Forecast
- 7.3 Others
  - 7.3.1 Market Trends
  - 7.3.2 Market Forecast

## **8 MARKET BREAKUP BY MATERIAL**

- 8.1 Metal
  - 8.1.1 Market Trends
  - 8.1.2 Market Forecast
- 8.2 Glass
  - 8.2.1 Market Trends
  - 8.2.2 Market Forecast
- 8.3 Aluminum
  - 8.3.1 Market Trends
  - 8.3.2 Market Forecast
- 8.4 Silicon
  - 8.4.1 Market Trends
  - 8.4.2 Market Forecast
- 8.5 Others
  - 8.5.1 Market Trends
  - 8.5.2 Market Forecast

## **9 MARKET BREAKUP BY SHELF LIFE**

## 9.1 Normal Loss

### 9.1.1 Market Trends

### 9.1.2 Market Forecast

## 9.2 Early Loss

### 9.2.1 Market Trends

### 9.2.2 Market Forecast

## **10 MARKET BREAKUP BY REGION**

### 10.1 North America

#### 10.1.1 United States

##### 10.1.1.1 Market Trends

##### 10.1.1.2 Market Forecast

#### 10.1.2 Canada

##### 10.1.2.1 Market Trends

##### 10.1.2.2 Market Forecast

### 10.2 Asia-Pacific

#### 10.2.1 China

##### 10.2.1.1 Market Trends

##### 10.2.1.2 Market Forecast

#### 10.2.2 Japan

##### 10.2.2.1 Market Trends

##### 10.2.2.2 Market Forecast

#### 10.2.3 India

##### 10.2.3.1 Market Trends

##### 10.2.3.2 Market Forecast

#### 10.2.4 South Korea

##### 10.2.4.1 Market Trends

##### 10.2.4.2 Market Forecast

#### 10.2.5 Australia

##### 10.2.5.1 Market Trends

##### 10.2.5.2 Market Forecast

#### 10.2.6 Indonesia

##### 10.2.6.1 Market Trends

##### 10.2.6.2 Market Forecast

#### 10.2.7 Others

##### 10.2.7.1 Market Trends

##### 10.2.7.2 Market Forecast

## 10.3 Europe

### 10.3.1 Germany

10.3.1.1 Market Trends

10.3.1.2 Market Forecast

### 10.3.2 France

10.3.2.1 Market Trends

10.3.2.2 Market Forecast

### 10.3.3 United Kingdom

10.3.3.1 Market Trends

10.3.3.2 Market Forecast

### 10.3.4 Italy

10.3.4.1 Market Trends

10.3.4.2 Market Forecast

### 10.3.5 Spain

10.3.5.1 Market Trends

10.3.5.2 Market Forecast

### 10.3.6 Russia

10.3.6.1 Market Trends

10.3.6.2 Market Forecast

### 10.3.7 Others

10.3.7.1 Market Trends

10.3.7.2 Market Forecast

## 10.4 Latin America

### 10.4.1 Brazil

10.4.1.1 Market Trends

10.4.1.2 Market Forecast

### 10.4.2 Mexico

10.4.2.1 Market Trends

10.4.2.2 Market Forecast

### 10.4.3 Others

10.4.3.1 Market Trends

10.4.3.2 Market Forecast

## 10.5 Middle East and Africa

10.5.1 Market Trends

10.5.2 Market Breakup by Country

10.5.3 Market Forecast

## 11 SWOT ANALYSIS

- 11.1 Overview
- 11.2 Strengths
- 11.3 Weaknesses
- 11.4 Opportunities
- 11.5 Threats

## **12 VALUE CHAIN ANALYSIS**

## **13 PORTERS FIVE FORCES ANALYSIS**

- 13.1 Overview
- 13.2 Bargaining Power of Buyers
- 13.3 Bargaining Power of Suppliers
- 13.4 Degree of Competition
- 13.5 Threat of New Entrants
- 13.6 Threat of Substitutes

## **14 PRICE ANALYSIS**

## **15 COMPETITIVE LANDSCAPE**

- 15.1 Market Structure
- 15.2 Key Players
- 15.3 Profiles of Key Players
  - 15.3.1 Canadian Solar.
    - 15.3.1.1 Company Overview
    - 15.3.1.2 Product Portfolio
    - 15.3.1.3 Financials
    - 15.3.1.4 SWOT Analysis
  - 15.3.2 Echo Environmental LLC (Envela Corporation)
    - 15.3.2.1 Company Overview
    - 15.3.2.2 Product Portfolio
  - 15.3.3 Envaris GmbH
    - 15.3.3.1 Company Overview
    - 15.3.3.2 Product Portfolio
  - 15.3.4 First Solar Inc.
    - 15.3.4.1 Company Overview



- 15.3.4.2 Product Portfolio
- 15.3.4.3 Financials
- 15.3.4.4 SWOT Analysis
- 15.3.5 Hanwha Group
  - 15.3.5.1 Company Overview
  - 15.3.5.2 Product Portfolio
- 15.3.6 Reclaim PV Recycling Pty Ltd
  - 15.3.6.1 Company Overview
  - 15.3.6.2 Product Portfolio
- 15.3.7 Reiling GmbH & Co. KG
  - 15.3.7.1 Company Overview
  - 15.3.7.2 Product Portfolio
- 15.3.8 SILCONTEL LTD
  - 15.3.8.1 Company Overview
  - 15.3.8.2 Product Portfolio
- 15.3.9 Silrec Corporation
  - 15.3.9.1 Company Overview
  - 15.3.9.2 Product Portfolio
- 15.3.10 SunPower Corporation (Total SE)
  - 15.3.10.1 Company Overview
  - 15.3.10.2 Product Portfolio
  - 15.3.10.3 Financials
  - 15.3.10.4 SWOT Analysis
- 15.3.11 Total Green Recycling
  - 15.3.11.1 Company Overview
  - 15.3.11.2 Product Portfolio
- 15.3.12 Trina Solar
  - 15.3.12.1 Company Overview
  - 15.3.12.2 Product Portfolio

## List Of Tables

### LIST OF TABLES

Table 1: Global: Solar Panel Recycling Market: Key Industry Highlights, 2022 and 2028

Table 2: Global: Solar Panel Recycling Market Forecast: Breakup by Process (in Million US\$), 2023-2028

Table 3: Global: Solar Panel Recycling Market Forecast: Breakup by Type (in Million US\$), 2023-2028

Table 4: Global: Solar Panel Recycling Market Forecast: Breakup by Material (in Million US\$), 2023-2028

Table 5: Global: Solar Panel Recycling Market Forecast: Breakup by Shelf Life (in Million US\$), 2023-2028

Table 6: Global: Solar Panel Recycling Market Forecast: Breakup by Region (in Million US\$), 2023-2028

Table 7: Global: Solar Panel Recycling Market: Competitive Structure

Table 8: Global: Solar Panel Recycling Market: Key Players

## List Of Figures

### LIST OF FIGURES

Figure 1: Global: Solar Panel Recycling Market: Major Drivers and Challenges

Figure 2: Global: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017-2022

Figure 3: Global: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 4: Global: Solar Panel Recycling Market: Breakup by Process (in %), 2022

Figure 5: Global: Solar Panel Recycling Market: Breakup by Type (in %), 2022

Figure 6: Global: Solar Panel Recycling Market: Breakup by Material (in %), 2022

Figure 7: Global: Solar Panel Recycling Market: Breakup by Shelf Life (in %), 2022

Figure 8: Global: Solar Panel Recycling Market: Breakup by Region (in %), 2022

Figure 9: Global: Solar Panel Recycling (Thermal) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 10: Global: Solar Panel Recycling (Thermal) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 11: Global: Solar Panel Recycling (Mechanical) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 12: Global: Solar Panel Recycling (Mechanical) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 13: Global: Solar Panel Recycling (Laser) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 14: Global: Solar Panel Recycling (Laser) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 15: Global: Solar Panel Recycling (Other Processes) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 16: Global: Solar Panel Recycling (Other Processes) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 17: Global: Solar Panel Recycling (Crystalline Silicon) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 18: Global: Solar Panel Recycling (Crystalline Silicon) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 19: Global: Solar Panel Recycling (Thin Film) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 20: Global: Solar Panel Recycling (Thin Film) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 21: Global: Solar Panel Recycling (Other Types) Market: Sales Value (in Million

US\$), 2017 & 2022

Figure 22: Global: Solar Panel Recycling (Other Types) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 23: Global: Solar Panel Recycling (Metal) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 24: Global: Solar Panel Recycling (Metal) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 25: Global: Solar Panel Recycling (Glass) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 26: Global: Solar Panel Recycling (Glass) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 27: Global: Solar Panel Recycling (Aluminum) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 28: Global: Solar Panel Recycling (Aluminum) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 29: Global: Solar Panel Recycling (Silicon) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 30: Global: Solar Panel Recycling (Silicon) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 31: Global: Solar Panel Recycling (Other Materials) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 32: Global: Solar Panel Recycling (Other Materials) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 33: Global: Solar Panel Recycling (Normal Loss) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 34: Global: Solar Panel Recycling (Normal Loss) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 35: Global: Solar Panel Recycling (Early Loss) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 36: Global: Solar Panel Recycling (Early Loss) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 37: North America: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 38: North America: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 39: United States: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 40: United States: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 41: Canada: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 42: Canada: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 43: Asia-Pacific: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 44: Asia-Pacific: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 45: China: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 46: China: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 47: Japan: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 48: Japan: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 49: India: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 50: India: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 51: South Korea: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 52: South Korea: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 53: Australia: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 54: Australia: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 55: Indonesia: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 56: Indonesia: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 57: Others: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 58: Others: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 59: Europe: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 60: Europe: Solar Panel Recycling Market Forecast: Sales Value (in Million

US\$), 2023-2028

Figure 61: Germany: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 62: Germany: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 63: France: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 64: France: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 65: United Kingdom: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 66: United Kingdom: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 67: Italy: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 68: Italy: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 69: Spain: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 70: Spain: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 71: Russia: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 72: Russia: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 73: Others: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 74: Others: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 75: Latin America: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 76: Latin America: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 77: Brazil: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 78: Brazil: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 79: Mexico: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 80: Mexico: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 81: Others: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 82: Others: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 83: Middle East and Africa: Solar Panel Recycling Market: Sales Value (in Million US\$), 2017 & 2022

Figure 84: Middle East and Africa: Solar Panel Recycling Market: Breakup by Country (in %), 2022

Figure 85: Middle East and Africa: Solar Panel Recycling Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 86: Global: Solar Panel Recycling Industry: SWOT Analysis

Figure 87: Global: Solar Panel Recycling Industry: Value Chain Analysis

Figure 88: Global: Solar Panel Recycling Industry: Porter's Five Forces Analysis

## I would like to order

Product name: Solar Panel Recycling Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

Product link: <https://marketpublishers.com/r/S8A90245249CEN.html>

Price: US\$ 2,499.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/S8A90245249CEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970



