

Solar Panel Recycling: Global Market

https://marketpublishers.com/r/S5591B650096EN.html

Date: August 2023

Pages: 146

Price: US\$ 5,500.00 (Single User License)

ID: S5591B650096EN

Abstracts

Report Scope:

This report is a detailed analysis of the global solar panel recycling industry. It examines process categories, key drivers, emerging trends and major players in each category and provides market estimates. The report also analyses the companies and regions and highlights and elaborates on the influence of government regulations, current technology and economic factors in this marketplace. It also provides the facts, figures and statistics required to evaluate stable market aspects and the industry's current trends and projections. The report also focuses on market analyses through different viewpoints such as ESG (Economical, social and governance) analysis, patent analysis, and emerging trends.

The global solar panel recycling industry scope is as follows %li%

By Process (Chemical, Thermal and Laser)

By Technology (Silicon-based (c-Si), Thin-film and Other)

By Shelf-life (Regular Loss and Early Loss)

All market data are expressed in current U.S. dollars.

Report Includes:

21 data tables and 63 additional tables

A comprehensive overview and an up-to-date analysis of the global solar panel



recycling market

Analyses of the global market trends, with market revenue (sales figures) for 2022, estimates for 2023, and projections of compound annual growth rates (CAGRs) through 2028

Discussion of the market growth drivers, opportunities and restraints in the solar panel recycling industry, along with the regulatory dynamics, manufacturing trends, upcoming technologies, and future trends & innovations

Estimation of the actual market size and revenue forecast for global solar panel recycling market in USD million values, and corresponding market share analysis based on the process, technology, shelf life, and region

Review of the industry supply chain analysis for solar panel recycling market providing a systematic study of key intermediaries involved, with emphasis on manufacturers, suppliers, and major type of end users of these products

A look at the environmental, social, and governance (ESG) standards in solar panel recycling industry and recent ESG specific developments in global market

Review of the key patent grants and recent patent applications on solar panel recycling, with emphasis on emerging technologies and new developments within the marketplace

Updated information on recent merger and acquisition (M&A) activities, venture fundings, and other impactful growth strategies in the global solar panel recycling market

Identification of the key players operating in the market, and analysis of their competitive landscape based on recent developments, segmental revenues, and operational integration

Company profiles of major players within the industry, including Aurubis AG, First Solar, Trina Solar, Reclaim PV Recycling, and Veolia Environnement S.A.



Contents

CHAPTER 1 INTRODUCTION

Study Goals and Objectives
Reasons for Doing This Study
Scope of Report
Methodology
Information Sources
Geographic Breakdown

CHAPTER 2 SUMMARY AND HIGHLIGHTS

Market Outlook
Market Summary

CHAPTER 3 MARKET OVERVIEW

Market Definition

Solar PV Industry

Solar Irradiance

Energy Demand

Value Chain Overview

Parent Market Overview -- Global E-Waste Market

History

Recycling Process

Regulatory Framework

North America

Europe

Asia-Pacific

Other Regulations

CHAPTER 4 MARKET DYNAMICS

Drivers

Government Policies for the Safe Disposal of Solar Panels

Rising Environmental Concerns

Resource Recovery and Economic Incentives

Increasing Installation of Solar Panels



Challenges

Cost-effectiveness

Availability of Inexpensive Alternatives

Limited Recycling Infrastructure

Technological Advancements in Solar Panels

Opportunities

Partnership Between Manufacturers and Recycling Companies

Recycling Standards and Certifications

Growth of Downstream Industries

Green Products

CHAPTER 5 MARKET BREAKDOWN BY PROCESS

Introduction

Chemical Process

Thermal Process

Laser Process

CHAPTER 6 MARKET BREAKDOWN BY TECHNOLOGY

Introduction

Silicon-based Technology

Thin-film Technology

Other Technologies

CHAPTER 7 MARKET BREAKDOWN BY SHELF LIFE

Introduction

Regular Loss

Early Loss

CHAPTER 8 MARKET BREAKDOWN BY REGION

Introduction

North America

Europe

Asia-Pacific

Rest of the World



CHAPTER 9 SUSTAINABILITY IN THE SOLAR PANEL RECYCLING INDUSTRY: AN ESG PERSPECTIVE

Importance of ESG in the Solar Panel Recycling Industry

ESG Ratings and Metrics: Understanding the Data

ESG Practices in the Solar Panel Recycling Industry

Current Status of ESG in the Market for Solar Panel Recycling

ESG Score Analysis

Risk Scale, Exposure Scale and Management Scale

Case Study: Example of Successful ESG Implementation

Environmental Initiatives:

Social Initiatives:

Governance Initiatives:

Outcomes:

Investments:

Future of ESG: Emerging Trends and Opportunities

Concluding Remarks from BCC

CHAPTER 10 EMERGING TECHNOLOGIES AND DEVELOPMENT

Key Highlights

Megatrend

Circular Economy Practices

Green Products

Emerging Technologies in the Market

Hot Blade Delamination Process

Nano-Silicon

Sequential Electrowinning

New Technology Developments

CHAPTER 11 PATENT ANALYSIS

Significance of Patents

Importance of Patent Analysis

Patent Analysis Based on Country of Origin

Patent Analysis Based on Year Issued

Patent Analysis Based on Patents Issued to Different Companies

CHAPTER 12 M&A AND FUNDING OUTLOOK



M&A Analysis
Startups Fundings in Solar Panel Recycling

CHAPTER 13 COMPETITIVE INTELLIGENCE

Industry Structure

Market for Solar Panel Recycling Structure

CHAPTER 14 COMPANY PROFILES

AERISOUL METAL & ENERGY CORP. S.R.O.

AURUBIS AG

CASCADE ECO MINERALS LLC

FIRST SOLAR

NTH CYCLE INC.

RECLAIM PV RECYCLING

ROSI SOLAR

SOLARCYCLE INC.

THE RETROFIT COMPANIES INC.

TRINA SOLAR CO. LTD.

VEOLIA ENVIRONNEMENT S.A.

WE RECYCLE SOLAR, INC.

Other Players

CHAPTER 15 APPENDIX: ACRONYMS

List of Tables

Summary Table : Global Market for Solar Panel Recycling, by Technology, Through 2028

Table 1: Average Global Horizontal Irradiance and Photovoltaic Power Output, in 2020

Table 2 : Share of Population with Access to Electricity, 2021

Table 3: Solar Capacity Target, by Top Countries

Table 4 : Solar Module Composition and Waste Classification

Table 5: Overview of Recycling Process for Silicon Solar Modules

Table 6 : Overview of Recycling Process for Thin-Film

Table 7: List of Organizations Related to Solar Panel Recycling

Table 8: Cumulative Installed Capacity, by Country, 2022

Table 9 : Solar Panel Installations, 2011-2022



Table 10: List of Solar Panel Recycling Plants, 2018-2023*

Table 11: Partnerships in Industry, 2021-2023*

Table 12: Energy Payback Estimates for Rooftop PV Systems

Table 13: Global Market for Solar Panel Recycling, by Process, Through 2028

Table 14: Global Market for Chemical Process in Solar Panel Recycling, by Region,

Through 2028

Table 15: Global Market for Thermal Process in Solar Panel Recycling, by Region,

Through 2028

Table 16: Global Market for Laser Process in Solar Panel Recycling, by Region,

Through 2028

Table 17: Weight of Materials in Solar Panels and their Recovery Rate

Table 18: Global Market for Solar Panel Recycling, by Technology, Through 2028

Table 19: Component Share in Crystalline Silicon (c-Si) PV panels, by Weight, 2020

Vs. 2030

Table 20: Global Market for Silicon-based (c-Si) Technology in Solar Panel Recycling,

by Region, Through 2028

Table 21: Crystalline Silicon Vs. Thin-film

Table 22: Global Market for Thin-film Technology in Solar Panel Recycling, by Region,

Through 2028

Table 23: Global Market for Other Technologies in Solar Panel Recycling, by Region,

Through 2028

Table 24: Failure Rate of Solar Panels Annually, by Stage

Table 25: Degradation Rate of Solar Panels, by Tier

Table 26: Global Market for Solar Panel Recycling, by Shelf Life, Through 2028

Table 27: Global Market for Regular Loss Shelf Life in Solar Panel Recycling, by

Region, Through 2028

Table 28: Early loss Solar Panel Scenario

Table 29: Global Market for Early Loss Shelf Life in Solar Panel Recycling, by Region,

Through 2028

Table 30 : Global Market for Solar Panel Recycling, by Region, Through 2028

Table 31: North American Market for Solar Panel Recycling, by Country, Through 2028

Table 32: European Market for Solar Panel Recycling, by Country, Through 2028

Table 33: APAC Market for Solar Panel Recycling, by Country, Through 2028

Table 34: ROW Market for Solar Panel Recycling, by Country, Through 2028

Table 35: ESG Ratings and Metrics

Table 36 : ESG Diversity Issue Analysis

Table 37: ESG Employee Safety and Labor Practices Issue Analysis

Table 38: ESG Resource Efficiency and Emissions Issue Analysis

Table 39 : ESG Waste Reduction Issue Analysis



Table 40: ESG Sustainable Supply Chain Analysis

Table 41: ESG Ethical Corporate Behavior Analysis

Table 42 : Score Card of ESG Scores of Companies

Table 43: Risk Scale, Exposure Scale and Management Scale

Table 44 : Energy Payback Estimates for Rooftop PV Systems

Table 45: New Technology Developments, 2023

Table 46: Patents Related to Solar Panel Recycling Based on Country of Origin, Jan

2018-May 2023

Table 47: Patents Related to Solar Panel Recycling Based on Year Issued, Jan

2018-May 2023

Table 48: Patents Related to Solar Panel Recycling, by Company, Jan 2018-May 2023

Table 49: List of Patents in Solar Panel Recycling, Jan 2018-May 2023

Table 50 : M&A, January 2020-June 2023

Table 51: Startup Fundings in Solar Panel Recycling, January 2022-June 2023

Table 52: Company Market Share, in 2022

Table 53: Aerisoul Metal & Energy Corp.: News, 2020

Table 54: Aerisoul Metal & Energy Corp.: Solar Panel Recycling Product/Service

Portfolio

Table 55: Aurubis AG: Annual Revenue, 2022

Table 56: Aurubis AG: News, 2022

Table 57: Aurubis AG: ESG Ratings

Table 58: Aurubis AG: Solar Panel Recycling Product/Service Portfolio

Table 59: Cascade Eco Minerals LLC: News, 2021

Table 60: Cascade Eco Minerals LLC: Solar Panel Recycling Product/Service Portfolio

Table 61: First Solar: Annual Revenue, 2022

Table 62: First Solar: ESG Ratings

Table 63: First Solar: Solar Panel Recycling Product/Service Portfolio

Table 64: Nth Cycle Inc.: News, 2023

Table 65: Nth Cycle Inc.: Solar Panel Recycling Product/Service Portfolio

Table 66: Reclaim PV Recycling: News, 2022

Table 67: Reclaim PV Recycling: Solar Panel Recycling Product/Service Portfolio

Table 68: ROSI Solar: News, 2023

Table 69: ROSI Solar: Solar Panel Recycling Product/Service Portfolio

Table 70: SOLARCYCLE Inc.: News, 2023

Table 71: SOLARCYCLE Inc.: Solar Panel Recycling Product/Service Portfolio

Table 72: The Retrofit Companies Inc.: Solar Panel Recycling Product/Service Portfolio

Table 73: Trina Solar: Annual Revenue, 2022

Table 74: Trina Solar: ESG Ratings

Table 75: Trina Solar: Solar Panel Recycling Product/Service Portfolio



Table 76: Veolia Environnement S.A.: Annual Revenue, 2022

Table 77: Veolia Environnement S.A.: News, 2021

Table 78: Veolia Environnement S.A.: ESG Ratings

Table 79: Veolia Environnement S.A.: Solar Panel Recycling Product/Service Portfolio

Table 80 : We Recycle Solar: News, 2023

Table 81: We Recyle Solar: Solar Panel Recycling Product/Service Portfolio

Table 82 : Other Players in the Market

Table 83: Acronyms Used in This Report

List of Figures

Summary Figure: Global Market for Solar Panel Recycling, by Technology, 2022-2028

Figure 1 : Solar PV Industry Value Chain

Figure 2 : Solar Panel Components

Figure 3: Main Stages of PV Recycling

Figure 4 : Solar Panel Recycling Process

Figure 5: Regulatory Framework for PV Recycling, by Top Countries in PV Installations

Figure 6 : Share of Raw Materials in a Solar Panel, by Value, 2022

Figure 7: Share of Raw Materials in a Solar Panel, by Mass, 2022

Figure 8 : Cost Comparison of Solar Panel End-life Management

Figure 9: Global Market Shares of Solar Panel Recycling, by Process, 2022

Figure 10: Chemical Treatment Process of Solar Panel Recycling

Figure 11 : Global Market Shares of Chemical Process in Solar Panel Recycling, by Region, 2022

Figure 12: Thermal Treatment Process of Solar Panel Recycling

Figure 13 : Global Market Shares of Thermal Process in Solar Panel Recycling, by Region, 2022

Figure 14: Global Market Shares of Laser Process in Solar Panel Recycling, by Region, 2022

Figure 15 : Global Market Shares of Solar Panel Recycling, by Technology, 2022

Figure 16: Global Market Shares of Silicon-based (c-Si) Technology in Solar Panel Recycling, by Region, 2022

Figure 17: Global Market Shares of Thin-film Technology in Solar Panel Recycling, by Region, 2022

Figure 18 : Global Market Shares of Other Technologies in Solar Panel Recycling, by Region, 2022

Figure 19: Global Market Shares of Solar Panel Recycling, by Shelf Life, 2022

Figure 20 : Global Market Shares of Regular Loss Shelf Life in Solar Panel Recycling, by Region, 2022

Figure 21 : Global Market Shares of Early Loss Shelf Life in Solar Panel Recycling, by Region, 2022



Figure 22: Total Solar PV Installed Capacity, by Top Countries, 2022

Figure 23: Evolution of Annual PV Installations, 2012-2022

Figure 24 : Global Market Shares of Solar Panel Recycling, by Region, 2022

Figure 25: North American Market Shares of Solar Panel Recycling, by Country, 2022

Figure 26: European Market Shares of Solar Panel Recycling, by Country, 2022

Figure 27: APAC Market Shares of Solar Panel Recycling, by Country, 2022

Figure 28: ROW Market Shares of Solar Panel Recycling, by Country, 2022

Figure 29 : Overview of ESG Factors

Figure 30 : Environmental Scores of Major Companies

Figure 31 : Social Score of Major Companies

Figure 32: Governance Score of Major Companies

Figure 33: Total Score of Major Companies

Figure 34 : Circular PV Economy Model

Figure 35: Emerging Technologies in the Market for Solar Panel Recycling

Figure 36: Startup Fundings in Solar Panel Recycling Industry, by Year, 2022 and 2023

Figure 37: Distribution Share of Startup Funding Amount, by Various Rounds,

2022-2023

Figure 38: Ratio of Public and Private Companies

Figure 39 : Company Market Share, 2022

Figure 40: Aurubis AG: Annual Revenue, 2021 and 2022

Figure 41: Aurubis AG: Revenue Shares, by Business Unit, 2022

Figure 42: Aurubis AG: Revenue Shares, by Country/Region, 2022

Figure 43: First Solar: Annual Revenue, 2021 and 2022

Figure 44: First Solar: Revenue Shares, by Business Unit, 2022

Figure 45: First Solar: Revenue Shares, by Country/Region, 2022

Figure 46: Trina Solar: Annual Revenue, 2021 and 2022

Figure 47: Trina Solar: Revenue Shares, by Business Unit, 2022

Figure 48: Trina Solar: Revenue Shares, by Country/Region, 2022

Figure 49: Veolia Environnement S.A.: Annual Revenue, 2021 and 2022

Figure 50: Veolia Environnement S.A.: Revenue Shares, by Business Unit, 2022

Figure 51: Veolia Environnement S.A.: Revenue Shares, by Country/Region, 2022



I would like to order

Product name: Solar Panel Recycling: Global Market

Product link: https://marketpublishers.com/r/S5591B650096EN.html

Price: US\$ 5,500.00 (Single User License / Electronic Delivery)

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

Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/S5591B650096EN.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
	Custumer 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