

# Solar PV Backsheet Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

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## Abstracts

The Global Solar PV Backsheet Market was valued at USD 14.2 billion in 2024 and is projected to expand at a CAGR of 2.2% from 2025 to 2034. The industry is witnessing a shift towards sustainable solutions, driven by advancements in material science and manufacturing techniques. There is a growing emphasis on recyclable backsheets with reduced toxic content, as well as the development of biodegradable and circular economy-based solutions. This focus on environmental sustainability, coupled with national initiatives for renewable energy integration and heightened public awareness about environmental protection, is accelerating product deployment globally. Developing regions are also seeing increased investments, supported by better-managed funding and policy incentives, further fostering market expansion.

The introduction of new backsheet materials has improved thermal dissipation, ensuring that solar cells remain functional even under high-temperature conditions. These innovations are enhancing product reliability and driving adoption, particularly in high-efficiency solar applications where durability is a priority. Manufacturers are responding to market demands by creating backsheet materials that offer superior performance, ensuring extended operational life and reducing the overall maintenance costs of solar PV systems.

In terms of product segmentation, the TPT-primed (Tedlar-Polyester-Tedlar) segment is anticipated to exceed USD 1.1 billion by 2034. Engineered to withstand harsh environmental conditions, TPT-primed backsheets provide exceptional protection against UV radiation, temperature fluctuations, and moisture. Their durability ensures the longevity of solar PV modules, making them a preferred choice in large-scale solar applications. Rising production efficiencies have also reduced photovoltaic component prices, driving higher solar unit deployments and fueling backsheet adoption.

When analyzed by thickness, backsheets exceeding 500 micrometers accounted for

around 43.6% of the market share in 2024 and are expected to grow at over 1% CAGR through 2034. These thicker materials enhance the resilience and durability of solar modules by providing superior protection against weathering, mechanical damage, and environmental stress. Their ability to withstand extreme conditions ensures long-term reliability, which contributes to increased consumer confidence and widespread adoption in the solar energy sector.

In the U.S., the solar PV backsheet market reached USD 2.68 billion in 2024, respectively. North America held a 19.5% market share in 2024, with the sector benefiting from the rapid growth of residential and utility-scale solar systems. These expansions are supported by state-level renewable energy mandates and federal incentives, which are driving innovation in backsheet technology. As the industry advances, the development of specialized backsheet materials capable of withstanding high mechanical and thermal stresses continues to gain momentum, contributing to the long-term growth of the market.

## Contents

### **CHAPTER 1 METHODOLOGY & SCOPE**

- 1.1 Research Design
- 1.2 Base Estimates & Calculations
- 1.3 Forecast Model
- 1.4 Primary Research & Validation
  - 1.4.1 Primary Sources
  - 1.4.2 Data Mining Sources
- 1.5 Market definitions

### **CHAPTER 2 EXECUTIVE SUMMARY**

- 2.1 Industry synopsis, 2021 - 2034

### **CHAPTER 3 INDUSTRY INSIGHTS**

- 3.1 Industry ecosystem
- 3.2 Regulatory landscape
- 3.3 Industry impact forces
  - 3.3.1 Growth drivers
  - 3.3.2 Industry pitfalls & challenges
- 3.4 Growth potential analysis
- 3.5 Porter's analysis
  - 3.5.1 Bargaining power of suppliers
  - 3.5.2 Bargaining power of buyers
  - 3.5.3 Threat of new entrants
  - 3.5.4 Threat of substitutes
- 3.6 PESTEL analysis

### **CHAPTER 4 COMPETITIVE LANDSCAPE, 2024**

- 4.1 Introduction
- 4.2 Strategic dashboard
- 4.3 Innovation & technology landscape

### **CHAPTER 5 MARKET SIZE AND FORECAST, BY PRODUCT, 2021 - 2034 (USD MILLION & MILLION SQUARE FOOT)**

- 5.1 Key trends
- 5.2 TPT-Primed
- 5.3 TPE
- 5.4 PET
- 5.5 PVDF
- 5.6 PEN
- 5.7 Others

## **CHAPTER 6 MARKET SIZE AND FORECAST, BY THICKNESS, 2021 - 2034 (USD MILLION & MILLION SQUARE FOOT)**

- 6.1 Key trends
- 6.2 6.3 100 to 500 micrometer
- 6.4 > 500 micrometer

## **CHAPTER 7 MARKET SIZE AND FORECAST, BY MATERIAL, 2021 - 2034 (USD MILLION & MILLION SQUARE FOOT)**

- 7.1 Key trends
- 7.2 Fluoride
- 7.3 Non fluoride

## **CHAPTER 8 MARKET SIZE AND FORECAST, BY TECHNOLOGY, 2021 - 2034 (USD MILLION & MILLION SQUARE FOOT)**

- 8.1 Key trends
- 8.2 Crystalline
- 8.3 Thin film
- 8.4 Ultra-Thin film

## **CHAPTER 9 MARKET SIZE AND FORECAST, BY REGION, 2021 - 2034 (USD MILLION & MILLION SQUARE FOOT)**

- 9.1 Key trends
- 9.2 North America
  - 9.2.1 U.S.
  - 9.2.2 Canada
  - 9.2.3 Mexico

### 9.3 Europe

- 9.3.1 Austria
- 9.3.2 Norway
- 9.3.3 Denmark
- 9.3.4 Finland
- 9.3.5 France
- 9.3.6 Germany
- 9.3.7 Italy

### 9.4 Asia Pacific

- 9.4.1 China
- 9.4.2 Australia
- 9.4.3 India
- 9.4.4 Japan
- 9.4.5 South Korea

### 9.5 Middle East

- 9.5.1 Israel
- 9.5.2 Saudi Arabia
- 9.5.3 UAE
- 9.5.4 Jordan
- 9.5.5 Oman

### 9.6 Africa

- 9.6.1 South Africa
- 9.6.2 Egypt
- 9.6.3 Algeria
- 9.6.4 Nigeria
- 9.6.5 Morocco

### 9.7 Latin America

- 9.7.1 Brazil
- 9.7.2 Chile
- 9.7.3 Argentina
- 9.7.4 Peru

## **CHAPTER 10 COMPANY PROFILES**

### 10.1 3M

### 10.2 Arkema

### 10.3 Coveme

### 10.4 Dupont

### 10.5 Dunmore

- 10.6 Endurans Solar
- 10.7 Isovoltaic
- 10.8 Jiangsu Zhongtian Technology
- 10.9 Krempel
- 10.10 Renewsys India
- 10.11 Silfab Solar
- 10.12 Taiflex Scientific
- 10.13 Targray
- 10.14 Toyo Aluminium
- 10.15 Vikram Solar

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