

North America EV Solar Modules Market By Solar Panel Type (Monocrystalline, Polycrystalline), By Grid Type (Off-grid Module, On-grid Module, Hybrid Module), By Application (Passenger Vehicles, Commercial Vehicles), By Country, By Competition, Forecast and Opportunities 2020-2030F

Market Report | 2025-03-24 | 120 pages | TechSci Research

AVAILABLE LICENSES:

- Single User License \$4000.00
- Multi-User License \$5000.00
- Custom Research License \$7500.00

Report description:

The North America EV Solar Modules Market was valued at USD 49.36 Million in 2024 and is expected to reach USD 138.47 Million by 2030 with a CAGR of 18.58% during the forecast period. The North America EV Solar Modules market refers to the integration of solar panel technology into the electric vehicle ecosystem, specifically for solar-powered charging solutions. These modules are designed to harness solar energy and convert it into electricity to charge electric vehicles, offering a sustainable and eco-friendly alternative to conventional grid-based charging. The market for these solar modules is expected to rise due to a combination of factors. The growing adoption of electric vehicles across North America, driven by environmental awareness, government incentives, and advancements in battery technology, is creating a significant demand for innovative charging solutions. As the need for charging infrastructure expands, integrating solar power provides an environmentally friendly and cost-effective option, especially in regions with abundant sunlight.

Key Market Drivers

Growing Adoption of Electric Vehicles (EVs)

The increasing adoption of electric vehicles across North America is one of the primary drivers propelling the growth of the North America EV Solar Modules Market. As more consumers and businesses opt for sustainable transportation solutions, the demand for infrastructure supporting EVs, such as charging stations, is surging. Solar modules, integrated with EV charging systems, offer an eco-friendly and efficient solution for charging electric vehicles without relying solely on grid power. Governments across the U.S. and Canada are pushing for a transition to electric mobility through incentives, rebates, and environmental policies aimed at reducing carbon emissions. This transition is further bolstered by automakers' increased production of electric vehicles, offering a diverse range of options for consumers.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

For instance, the total number of electric vehicles on the road in the U.S. exceeded 1.7 million in 2023, a number expected to grow by over 30% annually through 2030. With more electric vehicles being introduced into the market, the need for charging infrastructure powered by sustainable energy solutions like solar modules will continue to rise.

Key Market Challenges

High Initial Capital Investment

One of the primary challenges facing the North America EV Solar Modules Market is the high initial capital investment required for the installation of solar-powered electric vehicle charging stations. While solar power offers long-term savings through lower energy costs, the upfront costs for purchasing and installing solar modules, battery storage systems, and the necessary infrastructure can be substantial. For both residential and commercial customers, this financial barrier can be a significant deterrent, especially when compared to traditional grid-powered charging stations that may require much lower initial investment. While government incentives and rebates do help reduce some of these costs, they are not always sufficient to make solar charging infrastructure affordable for all potential customers.

For businesses, the lack of immediate financial return on investment, along with the complexities of integrating solar power with existing charging networks, can further discourage adoption. This challenge is compounded by the need for specialized skills to install and maintain solar-powered charging systems, which can lead to additional expenses and logistical issues. Although the cost of solar technology has decreased in recent years, the initial capital investment remains a considerable challenge for broader market penetration and adoption, limiting the speed at which the North America EV Solar Modules Market can grow.

Key Market Trends

Integration of Solar Power with Electric Vehicle Charging Infrastructure

A key trend in the North America EV Solar Modules Market is the increasing integration of solar power with electric vehicle charging infrastructure. As electric vehicle adoption accelerates, the demand for sustainable and efficient charging solutions is rising. The integration of solar modules into charging stations not only makes charging more eco-friendly but also reduces dependency on the grid, enabling users to harness renewable energy. This trend is gaining traction due to the growing emphasis on sustainability, energy independence, and the desire to lower operating costs.

Solar-powered charging stations are particularly beneficial for remote locations, where access to the power grid might be limited or costly. By using solar energy to charge electric vehicles, these systems can provide a decentralized, cost-effective, and sustainable charging solution. Several electric vehicle manufacturers and energy companies are exploring partnerships to integrate solar modules directly into vehicles, further enhancing the trend toward renewable energy usage. This integration is expected to play a significant role in transforming the electric vehicle ecosystem into a more energy-efficient and sustainable model.

Key Market Players

- [] Tesla, Inc.
- [] Complete Solar, Inc.
- [] First Solar, Inc.
- [] NextEra Energy, Inc.
- [] Canadian Solar Inc.
- [] Enphase Energy, Inc.
- [] Vivint, Inc.
- [] Sunnova Energy Corporation

Report Scope:

In this report, the North America EV Solar Modules Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

- [] North America EV Solar Modules Market, By Solar Panel Type:
 - o Monocrystalline
 - o Polycrystalline
- [] North America EV Solar Modules Market, By Grid Type:
 - o Off-grid Module

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- o On-grid Module
- o Hybrid Module
- North America EV Solar Modules Market, By Application:
 - o Passenger Vehicles
 - o Commercial Vehicles
- North America EV Solar Modules Market, By Country:
 - o United States
 - o Canada
 - o Mexico

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the North America EV Solar Modules Market.

Available Customizations:

North America EV Solar Modules Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

- Detailed analysis and profiling of additional market players (up to five).

Table of Contents:

1. Product Overview
 - 1.1. Market Definition
 - 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.3. Key Market Segmentations
2. Research Methodology
 - 2.1. Objective of the Study
 - 2.2. Baseline Methodology
 - 2.3. Formulation of the Scope
 - 2.4. Assumptions and Limitations
 - 2.5. Sources of Research
 - 2.5.1. Secondary Research
 - 2.5.2. Primary Research
 - 2.6. Approach for the Market Study
 - 2.6.1. The Bottom-Up Approach
 - 2.6.2. The Top-Down Approach
 - 2.7. Methodology Followed for Calculation of Market Size & Market Shares
 - 2.8. Forecasting Methodology
 - 2.8.1. Data Triangulation & Validation
3. Executive Summary
 - 3.1. Overview of the Market
 - 3.2. Overview of Key Market Segmentations
 - 3.3. Overview of Key Market Players
 - 3.4. Overview of Key Regions/Countries
 - 3.5. Overview of Market Drivers, Challenges, and Trends
4. Voice of Customer
5. North America EV Solar Modules Market Outlook
 - 5.1. Market Size & Forecast

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Solar Panel Type (Monocrystalline, Polycrystalline)
 - 5.2.2. By Grid Type (Off-grid Module, On-grid Module, Hybrid Module)
 - 5.2.3. By Application (Passenger Vehicles, Commercial Vehicles)
 - 5.2.4. By Country (United States, Canada, Mexico)
 - 5.2.5. By Company (2024)
- 5.3. Market Map
- 6. United States EV Solar Modules Market Outlook
 - 6.1. Market Size & Forecast
 - 6.1.1. By Value
 - 6.2. Market Share & Forecast
 - 6.2.1. By Solar Panel Type
 - 6.2.2. By Grid Type
 - 6.2.3. By Application
- 7. Canada EV Solar Modules Market Outlook
 - 7.1. Market Size & Forecast
 - 7.1.1. By Value
 - 7.2. Market Share & Forecast
 - 7.2.1. By Solar Panel Type
 - 7.2.2. By Grid Type
 - 7.2.3. By Application
- 8. Mexico EV Solar Modules Market Outlook
 - 8.1. Market Size & Forecast
 - 8.1.1. By Value
 - 8.2. Market Share & Forecast
 - 8.2.1. By Solar Panel Type
 - 8.2.2. By Grid Type
 - 8.2.3. By Application
- 9. Market Dynamics
 - 9.1. Drivers
 - 9.2. Challenges
- 10. Market Trends & Developments
 - 10.1. Merger & Acquisition (If Any)
 - 10.2. Product Launches (If Any)
 - 10.3. Recent Developments
- 11. Company Profiles
 - 11.1. Tesla, Inc.
 - 11.1.1. Business Overview
 - 11.1.2. Key Revenue and Financials
 - 11.1.3. Recent Developments
 - 11.1.4. Key Personnel/Key Contact Person
 - 11.1.5. Key Product/Services Offered
 - 11.2. Complete Solar, Inc.
 - 11.3. First Solar, Inc.
 - 11.4. NextEra Energy, Inc.
 - 11.5. Canadian Solar Inc.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 11.6. Enphase Energy, Inc.
- 11.7. Vivint, Inc.
- 11.8. Sunnova Energy Corporation
- 12. Strategic Recommendations
- 13. About Us & Disclaimer

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

North America EV Solar Modules Market By Solar Panel Type (Monocrystalline, Polycrystalline), By Grid Type (Off-grid Module, On-grid Module, Hybrid Module), By Application (Passenger Vehicles, Commercial Vehicles), By Country, By Competition, Forecast and Opportunities 2020-2030F

Market Report | 2025-03-24 | 120 pages | TechSci Research

To place an Order with Scotts International:

- ☐ - Print this form
- ☐ - Complete the relevant blank fields and sign
- ☐ - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4000.00
	Multi-User License	\$5000.00
	Custom Research License	\$7500.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

☐** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Date

2025-05-10

Signature



Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com