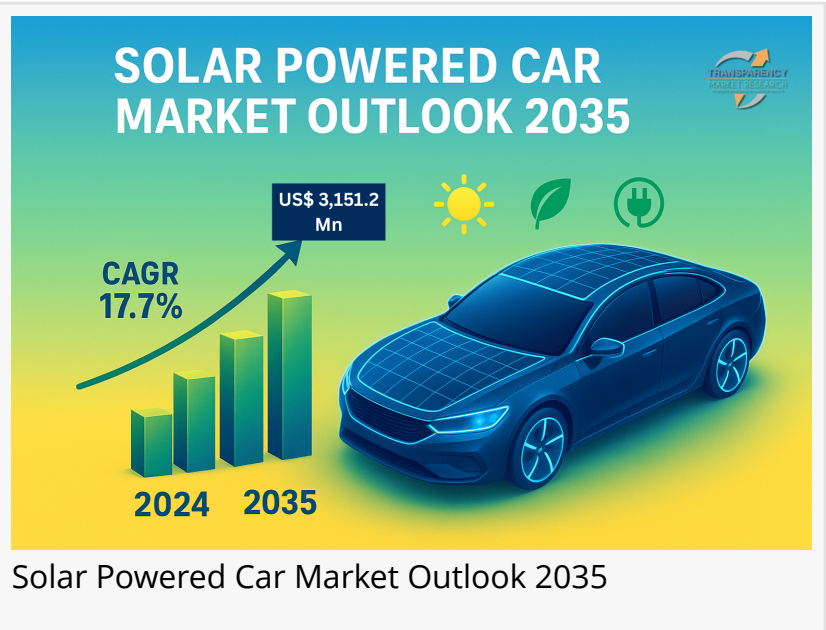


Solar Powered Car Market Size Forecast to USD 3.15 Billion by 2035 with a Focus on Sustainable Mobility - Report by TMR

Global Solar Powered Car Market to Reach USD 3.15 Billion by 2035, Growing at 17.7% CAGR – Trending Report by Transparency Market Research

WILMINGTON, DE, UNITED STATES,
September 25, 2025 /
EINPresswire.com/ -- [Solar Powered Car Market Outlook 2035](#)

The global solar powered car market is witnessing rapid growth as demand for clean mobility, sustainable energy adoption, and advancements in solar technology reshape the automotive sector. In 2024, the industry was valued at US\$ 450.0 Mn. Looking ahead, the market is projected to expand at a striking CAGR of 17.7% from 2025 to 2035, reaching nearly US\$ 3,151.2 Mn by 2035.



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Solar Powered Car Market Outlook 2035: Valued at USD 450 Million in 2024, Projected to Surpass USD 3.15 Billion by 2035”

Latest Report by Transparency Market Research, Inc.

The growth of solar powered cars is supported by rising global concerns over carbon emissions, government incentives for renewable energy vehicles, and continuous R&D in photovoltaic (PV) integration into vehicle designs. The combination of solar panels with electric vehicle technology presents a transformative solution for extending driving ranges, reducing charging infrastructure dependency, and lowering operational costs.

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Analysts' Viewpoint on the Solar Powered Car Market

Analysts highlight that solar powered cars are emerging as a niche yet high-potential segment within the electric vehicle (EV) industry. While currently in the early adoption stage, advancements in solar panel efficiency, lightweight materials, and energy storage technologies are accelerating commercialization.

Europe and Asia-Pacific are at the forefront of adoption, supported by strong policy frameworks, OEM innovation, and rising consumer awareness of eco-friendly transportation. Over the next decade, partnerships between solar technology providers and automakers are expected to define competitive advantages in the industry.

Solar Powered Car Market Overview

Solar powered cars integrate photovoltaic panels into their bodywork, enabling vehicles to capture solar energy and convert it into electrical power to recharge batteries or extend driving range. These cars are viewed as a step toward sustainable and self-sufficient transportation.

Key Applications:

- Passenger Vehicles – Eco-friendly cars designed for personal use.
- Commercial Vehicles – Delivery vans, fleet vehicles, and taxis using solar assist.
- Hybrid EV-Solar Models – Electric cars with solar panels to supplement battery life.
- Concept & R&D Models – Prototypes for performance, endurance, and efficiency testing.

Analysis of Key Players in the Solar Powered Car Market

The solar-powered car market is witnessing increasing innovation, with leading players introducing solar-integrated EVs, optional solar roof systems, and retrofit solutions for conventional vehicles. Companies are investing in lightweight materials, energy-efficient designs, and AI-driven energy management technologies to enhance performance, reduce emissions, and accelerate the adoption of sustainable urban mobility.

Leading players include:

- Squad Mobility B.V.
- Eva City car
- Aptera Motors Corp
- Lightyear
- HYUNDAI MOTOR GROUP
- TOYOTA MOTOR CORPORATION
- Mahindra & Mahindra Ltd.
- The Ford Motor Company
- Venturi

- Other Prominent Players

Each of these companies has been profiled in the solar powered car market research report based on parameters such as company overview, financial performance, business strategies, product portfolio, business segments, and recent developments.

Key Developments in the Solar Powered Car Market

- January 2025 – Vayve Mobility introduced Eva, India's first solar electric car, at the Bharat Mobility Expo. Priced from INR 3.25 lakh, the compact two-seater city EV offers a range of up to 250 km, a top speed of 70 km/h, and operating costs as low as INR 0.5/km. Available with 9, 12, and 18 kWh battery options, Eva also features an optional solar roof capable of delivering 3,000 km of free annual driving. With advanced features such as CarPlay/Android Auto, a panoramic sunroof, and liquid battery cooling, Eva is positioned as an affordable and sustainable urban mobility solution.
- January 2025 – Aptera Motors unveiled its new "production-intent" solar-powered EV, designed in collaboration with Italian design house Pininfarina. The ultra-efficient, three-wheeled vehicle integrates 700W solar panels, enabling up to 40 miles of solar range per day and 400 miles on a full charge. Leveraging Pininfarina's wind tunnel in Turin, the model aims for a drag coefficient as low as 0.13, making it one of the most aerodynamic production vehicles globally. Despite earlier setbacks and a temporary shutdown in 2011, Aptera has revived operations, supported by crowdfunding and renewed demand for solar mobility solutions.

□ Full Market Report available for delivery. For purchase or customization, please request here – https://www.transparencymarketresearch.com/sample/sample.php?flag=S&rep_id=25529

Key Growth Drivers

1. Rising Demand for Clean Mobility – Governments and consumers pushing for zero-emission transport.
2. Advancements in Solar Technology – Higher solar cell efficiency improving energy generation.
3. Extended Driving Range Benefits – Reduced dependency on EV charging stations.
4. Government Incentives – Subsidies, tax credits, and green policies boosting adoption.
5. Sustainable Consumer Preferences – Growing eco-consciousness influencing vehicle choices.

Market Restraints & Challenges

- High Initial Costs – Solar powered cars remain more expensive than conventional EVs.
- Low Solar Energy Conversion Efficiency – Limited energy capture restricts range extension.
- Infrastructure & Awareness Gaps – Consumer adoption hindered by lack of education and charging integration.

- Early Adoption Stage – Limited availability of mass-produced models.

Market Segmentation

By Vehicle Type

- Passenger Cars
- Commercial Vehicles

By Solar Panel Type

- Monocrystalline Solar Panels
- Polycrystalline Solar Panels
- Thin-Film Solar Panels

By Battery Type

- Lithium-Ion Battery
- Lead-Acid Battery
- Others

By Region

- North America
- Europe
- Asia-Pacific
- Latin America
- Middle East & Africa

Market Trends & Innovations

1. Integration of Advanced PV Materials – Lightweight and flexible solar panels.
2. Hybrid Solar-Electric Vehicles – OEMs developing solar-assisted EVs for extended range.
3. Collaborations Between Automakers & Solar Firms – Co-development of next-gen solar mobility solutions.
4. Expansion of Solar EV Fleets – Adoption in delivery and shared mobility sectors.
5. Sustainability Branding – Automakers leveraging solar-powered cars as green identity vehicles.

Future Outlook

The solar powered car market is expected to reach US\$ 3,151.2 Mn by 2035, driven by rapid innovation, government support, and rising consumer demand for eco-friendly alternatives. Though still in the emerging stage, solar powered cars are set to become a critical part of the sustainable mobility ecosystem.

Key Trends for the Future:

- Wider adoption in urban mobility and fleet operations.
- Mass production by global automakers driving affordability.
- Integration with smart grids and renewable energy ecosystems.
- Growth in Asia-Pacific and Europe as leading solar car markets.

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Important FAQs with Answers

Q1. What was the global solar powered car market size in 2024?

A1. The market was valued at US\$ 450.0 Mn in 2024.

Q2. What is the projected market size by 2035?

A2. The market is expected to reach US\$ 3,151.2 Mn by 2035.

Q3. What is the CAGR for 2025–2035?

A3. The industry is projected to grow at a CAGR of 17.7%.

Q4. What are the major applications of solar powered cars?

A4. Passenger vehicles, commercial fleets, hybrid solar-EVs, and R&D prototypes.

Q5. Who are the key players in the market?

A5. Lightyear, Sono Motors, Toyota, Hyundai, Tesla, Aptera, Fisker, and others.

Q6. What trends will shape the future of the industry?

A6. Advanced solar integration, OEM-solar partnerships, expansion of fleet adoption, and increasing government incentives.

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Our exclusive blend of quantitative forecasting and trends analysis provides forward-looking insights for thousands of decision-makers, made possible by experienced teams of Analysts, Researchers, and Consultants. The proprietary data sources and various tools & techniques we use always reflect the latest trends and information. With a broad research and analysis capability, Transparency Market Research employs rigorous primary and secondary research techniques in all of its business reports.

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