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Solar Street Lighting Market Outlook 2025-2034: Market Share, and Growth Analysis By Type (Portable, Standalone, Centralized), By Component Type (Controller, Lamp, Solar Panel, Sensors, Battery, Other Components), By Luminaries, By Application

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Abstracts

The Solar Street Lighting Market is valued at USD 11.2 billion in 2025 and is projected to grow at a CAGR of 18.8% to reach USD 52.9 billion by 2034.The solar street lighting market is emerging as a key segment within the renewable energy and smart infrastructure ecosystem. These systems offer a sustainable alternative to conventional streetlights by harnessing solar power, making them especially appealing for areas lacking reliable grid access. As cities strive toward greener and smarter environments, solar street lighting presents a cost-efficient and eco-friendly solution for illuminating roadways, walkways, and public spaces. The systems typically consist of photovoltaic panels, LED luminaires, batteries, and smart control units, enabling reliable performance even in challenging conditions. With growing global attention on carbon reduction and energy independence, governments, municipalities, and private entities are increasingly investing in solar-powered lighting. Their ability to operate off-grid while requiring minimal maintenance has positioned solar streetlights as a cornerstone of rural electrification and urban sustainability initiatives alike. Throughout 2024, the solar street lighting market witnessed tangible shifts toward smarter and more integrated lighting solutions. Key urban development projects incorporated solar lighting as part of broader smart city goals, enhancing safety, visibility, and energy efficiency. Technological upgrades focused on integrating solar lighting with wireless communication systems, enabling remote monitoring and adaptive brightness control. This shift allowed city planners and maintenance teams to better manage lighting infrastructure, particularly in areas experiencing variable weather or energy constraints. At the same time, rural development agencies deployed solar streetlights in off-grid

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communities to improve nighttime safety and access to public services. A strong emphasis was also placed on the durability and lifespan of solar components, with manufacturers introducing longer-lasting batteries and corrosion-resistant fixtures suited for diverse climates. These market developments collectively showcased a growing confidence in the reliability and scalability of solar street lighting solutions. As the market progresses in, it is expected to evolve with greater emphasis on system intelligence, modular design, and integrated renewable energy platforms. AI-driven lighting controls are anticipated to become standard in urban deployments, optimizing energy usage based on traffic flow and weather patterns. In parallel, rural markets will continue expanding adoption thanks to government electrification programs and NGO-led initiatives focused on community resilience. Manufacturers are likely to respond with more compact and easy-to-install systems that reduce installation time and cost, further lowering the barrier to entry. There will also be a growing push to integrate solar streetlights with other smart infrastructure elements, such as surveillance systems and environmental sensors, creating multi-functional lighting hubs. While the outlook remains positive, key challenges like limited technical expertise and the need for long-term service contracts in remote areas may temper growth if not addressed. Still, the long-term momentum behind solar street lighting is strong, especially as sustainable urbanization continues to take priority worldwide.

Key Insights Solar Street Lighting Market

Smart control features such as motion sensors and remote monitoring are increasingly integrated into solar street lighting systems, allowing dynamic brightness adjustment and proactive maintenance based on real-time data and user needs.

Modular system designs are gaining traction, enabling easy customization and faster deployment for both urban and rural applications. These systems simplify installation and reduce labor costs, making them ideal for scalable infrastructure rollouts.

There is a growing emphasis on aesthetic and design improvements, as municipalities look to blend functionality with urban design. Sleek, modern solar streetlight poles are being chosen not just for efficiency but also for their visual appeal.

Energy storage technologies are evolving, with lithium-ion and other advanced batteries now offering better performance and longer life. This enables solar

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lights to function reliably during cloudy days or extended periods of low sunlight.

Partnerships between governments and private companies are rising, helping to fund and implement solar street lighting projects. These collaborations often include maintenance services and long-term warranties to ensure lasting impact.

Environmental regulations and policy support for renewable energy are pushing municipalities and utilities to adopt cleaner lighting alternatives such as solar-powered streetlights.

Increasing electricity costs and the need for energy independence are encouraging local governments and communities to invest in off-grid lighting infrastructure that reduces operational expenses over time.

Rising urbanization and the need for reliable public lighting in expanding cities and underserved rural areas are accelerating demand for flexible and self-sufficient lighting systems.

Improved awareness of solar technology benefits, combined with falling component prices and better system reliability, is making solar street lighting an increasingly viable option across geographies.

High initial costs for procurement and installation can deter adoption, particularly in lower-income regions. Even when long-term savings are evident, upfront budget constraints and limited financing options remain a major barrier to scaling projects.

Solar Street Lighting Market Segmentation

By Type

- Portable
- Standalone
- Centralized

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By Component Type

- Controller
- Lamp
- Solar Panel
- Sensors
- Battery
- Other Components

By Luminaries

- Light Emitting Diode
- Compact Fluorescent Lamps

By Application

- Parking Lot
- Highway And Roadway
- Airport Runway
- Manufacturing Site

Key Companies Analysed

- Acuity Brands Inc.
- Bajaj Electricals Limited

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Bridgelux Inc.

Cooper Lighting LLC

Dragons Breath Solar

Jiangsu Sokoyo Solar Lighting Co. Ltd.

Signify Holding B.V.

Solektra Solar Energy

Sunna Design SA

Urja Global Ltd.

Omega Solar LLC

VerySol GmbH

Solar Street Lights

Yingli Solar Holding Co. Ltd.

Greenshine New Energy Co. Ltd.

ABB Limited

Nomo Group CO. Ltd.

Su-Kam Power Systems Ltd.

GE Lighting

Digital Lumens Incorporated

Honeywell International Inc.

Legrand Group

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Lutron Electronics Company Inc.

Osram Licht AG

Zumtobel Group AG

Anhui Longvolt Energy Co. Ltd.

BISOL Group

Covimed Solar

Jinhua SunMaster Solar Lighting Co. Ltd.

Shenzhen Spark Co. Ltd. .

Solar Street Lighting Market Analytics

The report employs rigorous tools, including Porter’s Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Solar Street Lighting Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis’ proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

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Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Solar Street Lighting market data and outlook to 2034

United States

Canada

Mexico

Europe — Solar Street Lighting market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Solar Street Lighting market data and outlook to 2034

China

Japan

India

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South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Solar Street Lighting market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Solar Street Lighting market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

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This study combines primary inputs from industry experts across the Solar Street Lighting value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

- What is the current and forecast market size of the Solar Street Lighting industry at global, regional, and country levels?
- Which types, applications, and technologies present the highest growth potential?
- How are supply chains adapting to geopolitical and economic shocks?
- What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?
- Who are the leading players, and how are their strategies evolving in the face of global uncertainty?
- Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?
- Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Solar Street Lighting Market Report

- Global Solar Street Lighting market size and growth projections (CAGR), 2024-2034
- Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Solar Street Lighting trade, costs, and supply chains
- Solar Street Lighting market size, share, and outlook across 5 regions and 27

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countries, 2023-2034

Solar Street Lighting market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Solar Street Lighting market trends, drivers, restraints, and opportunities

Porter’s Five Forces analysis, technological developments, and Solar Street Lighting supply chain analysis

Solar Street Lighting trade analysis, Solar Street Lighting market price analysis, and Solar Street Lighting supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Solar Street Lighting market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

** The updated report will be delivered within 3 working days*

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