

Solar Batteries - A Global Market Overview

Market Report | 2024-11-05 | 240 pages | Industry Experts

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Report description:

Solar Batteries Market Trends and Outlook

Solar Batteries market refers to the industry involved in the production, distribution, and sale of batteries designed to store energy generated from solar power systems. Solar batteries store excess electricity generated by solar panels during sunny periods, allowing users to draw on that stored energy when sunlight is not available (e.g., during the night or cloudy days). These batteries are key components in solar energy systems for residential, commercial, and industrial sectors, providing backup power and enabling users to optimize their energy consumption.

The global Solar Batteries market is estimated at US\$257.3 million in 2024 and is expected to record a CAGR of 15.7% during the 2024-2030 analysis period and stand at a projected US\$617.5 million by 2030.

The global Solar Batteries market is driven by several key growth trends which include the global shift towards renewable energy and the need to reduce carbon emissions, which has significantly increased the adoption of solar power systems. The declining costs of solar panels and battery storage technologies, particularly lithium-ion batteries, make solar energy more accessible and affordable. Government policies, incentives, and regulatory frameworks that promote clean energy, such as subsidies, tax credits, and renewable energy mandates, further drive market growth. Additionally, the rising demand for energy storage solutions to improve grid stability, support off-grid applications, and provide backup power during outages is fuelling the adoption of solar batteries.

Solar Batteries Regional Market Analysis

Asia-Pacific region holds the dominant position in the Solar Batteries market, accounting for 35.8% in 2024, due to its massive energy demand, government support for renewable energy, and abundant solar resources. The Asia-Pacific region is projected to be the fastest-growing market, with a CAGR of 17.5% during the forecast period 2024-2030. This growth is driven by factors such as industrialization, urbanization, and population growth which make the region ideal for large-scale solar power projects.

Additionally, the declining costs of solar technology and energy storage solutions, along with significant investments in clean energy infrastructure, further boost the demand for solar batteries in Asia Pacific.

Solar Batteries Market Analysis by Product Type

Lithium-ion is a leading Product Type in the Solar Batteries market, with an estimated share of 83.8% in 2024, owing to their superior energy density, efficiency, and longer lifespan compared to other battery technologies. They can store more energy in a smaller space, making them ideal for both residential and commercial solar applications where space is limited. Additionally, lithium-ion batteries have high charge/discharge efficiency, meaning less energy is lost during storage and retrieval, making them

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more cost-effective over time.

Conversely, Lead-Acid is expected to record the fastest CAGR of 17.8% during the 2024-2030 forecast period due to its affordability and established use in energy storage systems, particularly in emerging markets. Additionally, advancements in lead-acid technology, such as improvements in efficiency and lifespan, are helping to extend their relevance in the solar battery market, particularly in regions with growing energy needs but limited access to more expensive alternatives.

Solar Batteries Market Analysis by End-Use Sector

The Industrial sector led the market with a 44% share in 2024 because of its large-scale energy consumption and the growing need for reliable, cost-effective power solutions. Industries require continuous and stable energy supply, which makes solar batteries attractive for mitigating the risks of grid outages and managing energy cost. Furthermore, many industries are under pressure to meet sustainability goals and reduce carbon footprints, driving the adoption of solar energy paired with battery storage.

On the other hand, Commercial sector is expected to register the fastest CAGR of 16.2% during the forecast period 2024-2030, driven by the need to reduce energy costs, ensure reliable backup power, and meet sustainability targets. Growing incentives and the need for efficient energy management further accelerate this growth.

Solar Batteries Market Report Scope

This global report on Solar Batteries analyzes the market based on type and end-use sector. In addition to providing profiles of major companies operating in this space, the latest corporate and industrial developments have been covered to offer a clear panorama of how and where the market is progressing.

Key Metrics

Historical Period: 2021-2023

Base Year: 2023

Forecast Period: 2024-2030

Units: Value market in US\$

Companies Mentioned: 10+

Solar Batteries Market by Geographic Region

- North America (The United States, Canada, and Mexico)
- Europe (France, Germany, Italy, Spain, United Kingdom, Poland, Netherlands, Portugal, Denmark, Greece & Sweden)
- Asia-Pacific (Australia, China, India, Japan & South Korea)
- South America (Brazil & Chile)
- Rest of World (South Africa, UAE & Egypt)

Solar Batteries Market by Product Type

- Lithium-ion
- Lead Acid
- Flow Batteries

Solar Batteries Market by End-Use Sector

- Industrial
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