

Global Smart Energy Market: Growth Projections, Industry Trends, and Key Insights for a US\$ 350.9 Billion Market by 2034

The global smart energy market was valued at \$148.6B in 2023 and is projected to grow at an 8.2% CAGR, reaching \$350.9B by 2034.

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EINPresswire.com/ -- The global [smart energy market](#), valued at US\$ 148.6 billion in 2023, is poised for significant growth, projected to reach US\$ 350.9 billion by 2034. With a robust CAGR of 8.2%, the market is being fueled by the increasing demand for sustainable, efficient energy solutions, and the integration of digital technologies and the Internet of Things (IoT) into the energy sector. Smart energy technologies are at the forefront of optimizing energy use, reducing emissions, and enhancing grid efficiency, making them essential for the global transition toward cleaner energy.



Smart Energy Market

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Analyst Viewpoint

The rise in demand for sustainable energy solutions, coupled with a surge in IoT and digital technology adoption in the energy sector, is driving the smart energy market's expansion. These technologies enable energy systems to be more efficient, responsive, and integrated, reducing energy losses, lowering CO2 emissions, and improving overall system performance.

Smart energy solutions, such as smart grids, smart meters, and energy management systems, are transforming the energy landscape by enabling better monitoring, control, and optimization of energy generation, distribution, and consumption. These systems also allow for greater integration of renewable energy sources, contributing to the decarbonization of the energy sector.

Market Introduction

Smart energy encompasses a range of solutions that integrate energy systems for optimal efficiency. This includes smart grids, which allow for the two-way flow of electricity and real-time data exchange between utilities and consumers, and smart meters that monitor energy usage. Other solutions, such as smart solar, energy storage systems, and energy management systems, further enhance the efficiency of energy systems.

The global shift toward renewable energy sources—such as solar, wind, and hydropower—is key to the growth of the smart energy market. These sources of energy are not only more sustainable but also essential for reducing dependence on fossil fuels. By combining renewable energy with smart systems, energy can be generated, distributed, and consumed more efficiently.

For example, smart grids can help manage the variability of renewable energy by balancing supply and demand in real time, ensuring that energy is available when needed. Governments worldwide are supporting this shift with policies and regulations designed to promote the adoption of smart energy systems.

Key Drivers of Growth

Increase in Demand for Sustainable and Efficient Energy Solutions The growing need to reduce environmental impacts and improve energy security is a significant driver of the smart energy market. Conventional fossil fuels, such as coal and oil, are detrimental to the environment and contribute to air pollution. In contrast, renewable energy sources—combined with smart energy systems—offer cleaner, more sustainable alternatives.

Governments are increasingly investing in smart energy infrastructure to facilitate the transition to cleaner energy. For instance, in 2023, the European Union announced funding for the Gabreta smart grids project, aimed at digitizing the distribution grid and fostering cross-border cooperation between Germany and the Czech Republic.

Surge in Penetration of Digital Technologies and IoT IoT and digital technologies are transforming how energy is produced, consumed, and managed. Smart meters, connected appliances, and IoT-driven energy management systems enable consumers to optimize energy usage, reduce costs, and contribute to grid stability. These technologies also allow utilities to monitor and control energy flows more efficiently.

In February 2024, the U.K. announced initiatives to advance smart energy technologies, including

funding for innovative IoT-driven energy tariffs and technologies. This emphasis on digital innovation is contributing to the market's rapid growth.

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Regional Outlook

Asia Pacific leads the smart energy market, holding the largest share in 2023 and expected to maintain its dominance throughout the forecast period. The region's growth is driven by significant investments in clean energy infrastructure. For example, in February 2024, Enercon Asia announced plans to invest US\$ 40–100 million in the clean energy sector of the Philippines.

Europe also plays a crucial role in the smart energy market, with countries such as Germany and the U.K. leading the development of smart energy infrastructure. The European market is supported by various funding initiatives, such as the EU's investment in the Gabreta smart grids project.

Key Players in the Market

Leading companies in the smart energy market are focused on enhancing energy efficiency and enabling carbon neutrality through the development of advanced energy solutions. Notable players include:

GE Vernova

ABB

Schneider Electric

Honeywell International Inc.

IBM Corporation

Cisco Systems, Inc.

Tesla

Itron, Inc.

Eaton

Siemens Gamesa Renewable Energy, S.A.U.

Panasonic Corporation

E.ON SE

Enel Spa

Johnson Controls Inc.

Hubbell

These companies are innovating in areas such as electric vehicle (EV) charging infrastructure, energy storage, photovoltaic inverters, and energy management systems to drive the smart energy revolution.

Recent Developments

Mitsubishi Electric supplied Taiwan Power Company with its first smart meter system outside Japan in July 2024. The system will be central to managing and controlling smart meters and communication modules.

Siemens partnered with Kuwait University to launch the Gulf Cooperation Council's first Distributed Energy Systems (DES) Smart Lab in June 2024, set to open in 2025. This lab will focus on developing low-carbon energy systems and smart energy technologies.

Market Segmentation

The smart energy market is segmented by technology, service, application, and end-use:

Technology: Smart Grids, Smart Meters, Smart Solar, Smart Energy Storage, Energy Management Systems, Others

Service: Deployment & Integration, Consulting Services, Energy Services, Others

Application: Energy Generation, Energy Transmission, Energy Distribution, Energy Consumption, Energy Storage, Others

End-Use: Residential, Commercial, Industrial

Conclusion

The smart energy market is set to experience substantial growth, driven by the increasing demand for sustainable, efficient energy solutions and the adoption of IoT and digital technologies. With a projected CAGR of 8.2%, the market is expected to reach US\$ 350.9 billion by 2034. As smart energy systems become more integrated and advanced, they will play a central role in the global transition toward a cleaner, more efficient energy future.

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