

Smart Energy Market Forecasts to 2030 – Global Analysis by Product (Smart Meters, Smart Grid Infrastructure, Energy Storage Systems, Smart Appliances and Other Products), Component, Technology, Application and By Geography

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Abstracts

According to Statistics MRC, the Global Smart Energy Market is accounted for \$177.7 billion in 2024 and is expected to reach \$360.2 billion by 2030 growing at a CAGR of 12.5% during the forecast period. Smart energy is the efficient, sustainable, and technology-driven management and utilization of energy resources. It optimizes energy production, distribution, and consumption by utilizing cutting-edge technology like as artificial intelligence (AI), big data analytics, and the Internet of Things (IoT). In order to provide a flexible, robust infrastructure, smart energy systems combine conventional power networks with renewable energy sources like solar and wind. They make it possible for demand-response systems, automated control, and real-time monitoring to improve waste reduction and energy efficiency.

Market Dynamics:

Driver:

Rising Demand for Energy Efficiency

The rising demand for energy efficiency is significantly driving the growth of the market. As consumers and industries seek to reduce energy consumption and costs, smart energy solutions, such as smart grids, meters, and energy management systems, are becoming increasingly essential. These technologies enable real-time monitoring, optimized energy use, and integration of renewable energy sources, enhancing overall

efficiency. This trend is pushing advancements in automation, data analytics, and renewable energy integration, contributing to the market's expansion.

Restraint:

High Initial Investment

The substantial initial investment necessary for smart energy systems creates a significant barrier to market expansion. The high upfront expenditures of infrastructure, including smart meters, sensors, and software, make many families and companies reluctant to implement smart energy solutions. This problem is especially noticeable in emerging nations, where the adoption of smart energy solutions is slowed down by financial incentives and budgetary restrictions, thus it limits the growth of the market.

Opportunity:

Technological Advancements

Technological improvements are greatly boosting the industry by increasing energy efficiency, lowering prices, and allowing for improved grid management. Energy distribution and consumption are optimized by innovations like smart meters, IoT integration, and analytics driven by artificial intelligence. Demand-response solutions, energy storage systems, and renewable energy technologies are also enhancing the sustainability and responsiveness of energy systems. These developments are promoting a more robust, economical, and sustainable energy infrastructure, which is aiding in the expansion of the smart energy industry on a worldwide scale.

Threat:

Data Privacy and Security Concerns

Concerns about data security and privacy seriously impede the market expansion for smart energy. The risk of cyberattacks and data breaches rises as smart grids and energy management systems gather enormous volumes of private information. This results in regulatory difficulties, a decline in customer trust, and the requirement for strict security measures. As a result, companies must spend money on strong cybersecurity procedures to guarantee safe and secure data management, which restricts their ability to grow their market.

Covid-19 Impact:

The COVID-19 pandemic disrupted the Smart Energy Market, initially causing delays in projects and installations due to lockdowns and supply chain issues. However, the shift to remote work and heightened awareness of energy efficiency boosted demand for smart energy solutions. Post-pandemic, the market saw growth driven by government incentives, increased investments in renewable energy, and the push for sustainable technologies, accelerating the adoption of smart grids, meters, and energy management systems.

The smart meters segment is expected to be the largest during the forecast period

The smart meters segment is expected to be the largest during the forecast period as they provide consumers and utilities with detailed insights, promoting energy efficiency and reducing waste. These devices facilitate dynamic pricing, allowing users to optimize energy usage. Additionally, smart meters support grid modernization, enhance demand-response capabilities, and contribute to the integration of renewable energy sources. Their widespread adoption is fostering more sustainable and reliable energy systems globally, fueling market expansion.

The software segment is expected to have the highest CAGR during the forecast period

The software segment is expected to have the highest CAGR during the forecast period because advanced software solutions help utilities and businesses monitor and control energy usage through smart meters, grids, and real-time data analytics. They improve demand response, enhance energy forecasting, and support predictive maintenance. Additionally, software-driven platforms promote integration with renewable energy sources, streamline grid management, and enable consumers to track and reduce their energy consumption, boosting overall market adoption.

Region with largest share:

North America is projected to hold the largest market share during the forecast period due to demand for energy efficiency, renewable energy integration, and sustainability. Technological advancements in smart grids, meters, and energy storage systems enhance energy management and grid reliability. Government incentives and policies promoting clean energy solutions play a key role in market growth. Additionally, rising consumer awareness of energy conservation, along with corporate commitments to reduce carbon footprints, contribute to the adoption of smart energy technologies across

residential, commercial, and industrial sectors.

Region with highest CAGR:

Asia Pacific is projected to witness the highest CAGR over the forecast period as Governments are promoting smart grid technologies, renewable energy integration, and energy efficiency initiatives to address environmental concerns. The growing adoption of IoT and AI for energy management and the shift towards decentralized energy systems further fuel market growth. Additionally, investments in infrastructure and rising consumer awareness about energy conservation are contributing to the accelerated adoption of smart energy solutions across the region.

Key players in the market

Some of the key players in Smart Energy market include General Electric Company, Siemens AG, ABB Ltd., Cisco Systems, Inc., IBM Corporation, Honeywell International Inc., Schneider Electric SE, Siemens Gamesa Renewable Energy, Itron, Inc., Trilliant Holdings, Inc., Landis+Gyr Group AG, Eaton Corporation, Schweitzer Engineering Laboratories, Inc., C3.ai, Inc. and Enphase Energy, Inc.

Key Developments:

In May 2024, ABB expanded electrification portfolio with acquisition of Siemens' Wiring Accessories business. The acquisition had broadened ABB's market reach and complements its regional customer offering within smart buildings.

In February 2024, ABB announced an agreement to acquire SEAM Group, a major provider of energized asset management. The acquisition brought significant additional expertise to customers in the areas of predictive, preventive, and corrective maintenance.

In January 2024, ABB announced to acquire Canadian company Real Tech, a leading supplier of innovative optical sensor technology that enables real-time water monitoring. Through the acquisition, ABB expands its strong presence in the water segment and complement its product portfolio with optical technology critical for smart water management.

Products Covered:

Smart Meters

Smart Grid Infrastructure

Energy Storage Systems

Smart Appliances

Other Products

Components Covered:

Hardware

Software

Services

Technologies Covered:

Wireless Technology

Wired Technology

Applications Covered:

Residential

Commercial

Industrial

Utilities

Other Applications

Regions Covered:**North America**

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free

Smart Energy Market Forecasts to 2030 – Global Analysis by Product (Smart Meters, Smart Grid Infrastructure, E...

customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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