

# Medium-Voltage Switchgear for Renewables Market Forecasts to 2034 – Global Analysis By Voltage Range (1-12 kV, 12-24 kV and 24-36 kV), Technology, Application, End User and By Geography

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## Abstracts

According to Statistics MRC, the Global Medium-Voltage Switchgear for Renewables Market is accounted for \$9.15 billion in 2026 and is expected to reach \$15.73 billion by 2034 growing at a CAGR of 7.0% during the forecast period. Medium-voltage switchgear is vital for renewable energy applications, managing and safeguarding electrical systems operating from 1 kV to 52 kV. It ensures the safe distribution of power in solar, wind, and hybrid energy projects while reducing the risk of equipment failure and operational interruptions. Modern switchgear incorporates features like remote monitoring, automatic fault identification, and arc flash protection, improving both reliability and grid performance. As renewable energy adoption grows, these switchgear solutions are advancing to provide greater flexibility, enhanced safety, and seamless integration with smart grid infrastructures, playing a key role in the transition to sustainable energy systems.

According to the International Energy Agency (IEA), renewable electricity capacity is expected to expand by more than 2,300 GW between 2024 and 2030, with solar PV and wind accounting for over 95% of this growth. This massive integration requires reliable medium-voltage distribution systems and switchgear to connect renewable plants to grids and manage variability.

## Market Dynamics:

Driver:

## Growing adoption of renewable energy sources

Rising investments in renewable energy projects, including wind and solar, are significantly fueling the medium-voltage switchgear market. As large-scale solar and wind installations increase worldwide, the need for dependable power distribution and protective equipment becomes critical. Medium-voltage switchgear provides safety, operational stability, and efficient energy management for these renewable systems. Policy support, environmental regulations, and sustainability-focused corporate strategies are driving the expansion of renewable energy, which in turn elevates the demand for switchgear solutions. This ensures consistent electricity delivery and minimizes system disruptions, positioning medium-voltage switchgear as a key enabler for efficient and secure renewable energy integration.

### Restraint:

#### High initial investment costs

The high upfront costs of medium-voltage switchgear, including purchase, installation, and commissioning, pose a significant restraint on market growth. Smaller renewable energy projects and emerging markets may find these investments prohibitive. Advanced features and specialized installation requirements further increase overall expenses, creating financial challenges for developers. While medium-voltage switchgear offers long-term reliability and lower maintenance costs, the initial capital outlay can discourage adoption. Consequently, some projects may select more affordable solutions, slowing the broader deployment of medium-voltage switchgear. This financial barrier limits market penetration, despite the clear operational benefits and efficiency improvements offered by modern switchgear technologies.

### Opportunity:

#### Expansion of renewable energy installations

The global surge in renewable energy developments offers considerable prospects for medium-voltage switchgear providers. Solar, wind, and hybrid projects increasingly demand dependable distribution and protection systems. Policy initiatives and private investments in sustainable energy further stimulate the need for switchgear capable of managing high-voltage renewable inputs. This growing market encourages manufacturers to deliver modular, scalable, and technologically advanced solutions, while entering emerging economies. Additionally, new renewable installations often

require smart switchgear to maintain grid stability and performance.

Threat:

Intense competition among manufacturers

Competition in the medium-voltage switchgear market is fierce, with both established firms and new players offering alternative solutions. Price competition, marketing tactics, and product differentiation create pressure on profit margins and market presence. International competitors often provide cost-effective solutions for emerging markets, heightening competitive intensity. Smaller or regional manufacturers may find it challenging to match the technological sophistication, scalability, and breadth of offerings from multinational companies. This competitive landscape threatens market stability, necessitating ongoing innovation, strategic alliances, and operational efficiency to maintain market share and capitalize on growth opportunities in the renewable energy switchgear sector.

### **Covid-19 Impact:**

The Covid-19 outbreak caused significant short-term disruptions in the medium-voltage switchgear market for renewable energy. Supply chain interruptions, factory shutdowns, and labor shortages delayed manufacturing and delivery of switchgear equipment, affecting renewable project schedules. Economic uncertainty also resulted in reduced investments and postponed installations, especially in developing regions. Despite these challenges, demand rebounded as pandemic restrictions lifted, driven by renewed interest in clean energy and government initiatives supporting renewable infrastructure. The crisis underscored the importance of resilient supply chains, adaptive logistics, and flexible project management for manufacturers, emphasizing strategies to minimize future disruptions in the medium-voltage switchgear market.

The 1–12 kV segment is expected to be the largest during the forecast period

The 1–12 kV segment is expected to account for the largest market share during the forecast period. It is commonly applied in solar, wind, and hybrid energy systems, providing effective local distribution and seamless substation integration. This voltage range offers reliable and cost-efficient solutions for managing renewable electricity generation. Its popularity is supported by straightforward installation, minimal maintenance, and compatibility with diverse renewable energy equipment. Consequently, the 1–12 kV segment maintains market dominance, serving a wide array

of renewable energy projects globally and establishing itself as the preferred choice for medium-voltage applications in the renewable energy sector.

The gas-insulated switchgear (GIS) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the gas-insulated switchgear (GIS) segment is predicted to witness the highest growth rate for renewable energy applications. Its compact footprint, high reliability, and minimal maintenance needs make it particularly suitable for solar, wind, and hybrid installations with limited space. GIS also performs well under extreme environmental conditions and offers long-term durability, which enhances its attractiveness for utility-scale projects. The increasing adoption of smart grids and emphasis on safe, dependable switchgear further boost GIS demand. With the global expansion of renewable energy infrastructure, GIS technology is set to grow faster than alternative switchgear types, establishing itself as the fastest-growing segment.

#### **Region with largest share:**

During the forecast period, the Asia Pacific region is expected to hold the largest market share, due to rapid growth in renewable energy and proactive government support in countries such as China, India, and Japan. Expanding solar, wind, and hydro projects are fueling demand for dependable medium-voltage switchgear solutions. Accelerating industrial development, urban expansion, and electrification trends contribute to market growth. The region's strong manufacturing base and advancements in smart grid technologies facilitate widespread adoption of modern switchgear systems. With an increasing emphasis on sustainable energy and stable power distribution, Asia-Pacific maintains its position as the leading region in the global market.

#### **Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, fueled by substantial growth in renewable power installations, grid modernization efforts, and favorable regulatory frameworks across major markets like China, India, Japan, and Southeast Asia. The surge in utility-scale solar and wind projects, expansion of microgrids, and widespread electrification initiatives are driving demand for efficient, adaptable MV switchgear solutions that support renewable integration. Strategic investments and policy incentives further accelerate adoption, making Asia-Pacific the most dynamic and rapidly expanding region in this sector, shaping the future of clean, reliable power infrastructure.

## Key players in the market

Some of the key players in Medium-Voltage Switchgear for Renewables Market include Hitachi ABB Power Grids, General Electric Company, Mitsubishi Electric, Chint, Crompton Greaves, Hyosung, Fuji Electric, Siemens Energy, Toshiba, Alstom SA, L&T Electrical & Automation, Sriwin Electric, Green Energy Electrical, Vital Infraa and Res Q Technologies.

## Key Developments:

In December 2025, Mitsubishi Electric Corporation announced that it has invested in and signed a strategic alliance agreement with Tulip Interfaces, Inc., a Massachusetts, USA-based leader no-code platforms for system operations without programming to support manufacturing digitalization. Tulip Interfaces is also an expert in introducing manufacturing-targeted microservices, which divide large-scale systems into small, independent services to enable flexible development and operations.

In December 2025, Fuji Electric announced an agreement with Robert Bosch GmbH a German automotive parts manufacturer, to collaborate on SiC power semiconductor modules for electric vehicles that feature package compatibility. To achieve a carbon-neutral society, the widespread adoption of electric vehicles (EVs), including hybrid and electric vehicles, is highly anticipated. Power semiconductors are essential components for EVs, installed in inverter systems the drive units of EVs to convert and control electric power.

In November 2025, Siemens Energy has signed a contract to design and deliver the power conversion system for Oklo's Aurora powerhouse reactors. The contract will see Siemens Energy conduct detailed engineering and layout activities for a condensing SST-600 steam turbine, an SGen-100A industrial generator, and associated auxiliaries to support Oklo's first advanced reactor, the Aurora powerhouse at Idaho National Laboratory.

## Voltage Ranges Covered:

1-12 kV

12-24 kV

24-36 kV

Technologies Covered:

Air-Insulated Switchgear (AIS)

Gas-Insulated Switchgear (GIS)

Hybrid Switchgear

Applications Covered:

Solar Farms

Wind Farms

Hydro Plants

Energy Storage Systems

End Users Covered:

Utilities

Industrial

Commercial

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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- 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 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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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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