

Global Synchronous Condenser Market Size Study & Forecast, by Cooling Type (Hydrogen-Cooled, Air-Cooled, Water-Cooled), by Type (New & Refurbished), by Starting Method (Static Frequency Converter, Pony Motor), by End-User, by Reactive Power Rating, and Regional Forecasts 2025-2035

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Abstracts

The Global Synchronous Condenser Market is valued at approximately USD 0.69 billion in 2024 and is projected to expand at a compound annual growth rate (CAGR) of 2.60% over the forecast period from 2025 to 2035. Synchronous condensers, widely known for their ability to provide reactive power compensation, voltage stability, and grid inertia, are gaining increasing prominence in contemporary grid stabilization strategies. With the surge in renewable integration across utility-scale grids, synchronous condensers are being reintroduced as essential legacy grid components with modernized engineering. These rotating machines not only support the transmission of power over long distances but also cushion the impact of frequency fluctuations caused by the intermittent nature of solar and wind generation.

As the global energy landscape gravitates toward decarbonization, utilities and grid operators are under mounting pressure to reduce dependency on fossil fuel-based peaker plants. In this context, synchronous condensers are being deployed as strategic assets to replace or complement retiring thermal generators, providing vital grid services such as short-circuit power and system inertia without carbon emissions. The push for grid reliability amid massive renewable deployment in regions like North America and Europe has catapulted demand for high-efficiency, cost-effective condenser systems. At the same time, refurbishing existing units rather than building new ones from scratch is gaining traction, as it significantly cuts down project timelines

and capital expenditure. Technological advancements in brushless excitation, air-cooling systems, and digital controls are also expanding their adaptability across both developed and emerging economies.

Regionally, North America is expected to maintain a firm grip on market share, driven by the decommissioning of coal and nuclear power plants, along with rising investments in renewable energy infrastructure. The United States and Canada are investing heavily in synchronous condenser projects to mitigate the effects of renewable variability and to stabilize voltage across regional transmission networks. Meanwhile, Europe—propelled by its green energy mandates and grid codes—has witnessed accelerated deployment of these systems, particularly in the UK, Germany, and the Nordic countries. In the Asia-Pacific region, rapid industrialization, population growth, and energy demand have led countries like China, India, and Australia to explore synchronous condensers as a solution to balance grid frequency, maintain reliability, and support energy transition initiatives.

Major market player included in this report are:

ABB Ltd.

Siemens AG

General Electric Company

Voith GmbH & Co. KGaA

Hyundai Electric & Energy Systems Co., Ltd.

Eaton Corporation plc

Fuji Electric Co., Ltd.

Mitsubishi Electric Corporation

WEG Group

Ansaldo Energia S.p.A

Toshiba Energy Systems & Solutions Corporation

Power Systems & Controls, Inc.

HICO America

Brush Group

Electromechanical Engineering Associates

Global Synchronous Condenser Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025-2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players.

The detailed segments and sub-segments of the market are explained below:

By Cooling Type:

Hydrogen-Cooled

Air-Cooled

Water-Cooled

By Type:

New

Refurbished

By Starting Method:

Static Frequency Converter

Pony Motor

By End-User:

Utilities

Industrial

Commercial

Others

By Reactive Power Rating:

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