+357 96 030922
info@marketpublishers.com

# Power Ancillary Services Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type of Service (Frequency Regulation, Spinning Reserve, Non-Spinning Reserve, Black Start Services, Others), By Source Type (Conventional Power Plants, Renewable Energy Sources, Energy Storage Systems, Others), By End User (Transmission System Operators (TSOs) / Grid Operators, Independent Power Producers, Utilities, Large Industrial & Commercial Consumers, Others), By Region & Competition, 2020-2030F

https://marketpublishers.com/r/P041DA0E0224EN.html
Date: August 2025
Pages: 185
Price: US$ 4,500.00 (Single User License)
ID: P041DA0E0224EN

## Abstracts

**Market Overview**

Global Power Ancillary Services Market was valued at USD 2.71 Billion in 2024 and is expected to reach USD 10.85 Billion by 2030 with a CAGR of 25.83% during the forecast period.

The global Power Ancillary Services Market is witnessing significant growth as modern power systems undergo rapid transformation driven by the integration of renewable energy, digital grid modernization, and the need for enhanced grid reliability and flexibility. Ancillary services, which include frequency regulation, voltage control, spinning and non-spinning reserves, and black start capabilities, are essential for maintaining the stability and reliability of power grids. Traditionally, these services were provided by large, centralized thermal power plants. However, with the rise of

+357 96 030922
info@marketpublishers.com

decentralized energy sources such as wind and solar, along with the deployment of advanced energy storage systems and demand-side management technologies, the ancillary services landscape has evolved considerably.

The increasing penetration of variable renewable energy sources across North America, Europe, and Asia-Pacific has heightened the need for flexible grid operations. This has created strong demand for fast-response ancillary services such as frequency regulation and load following. Battery energy storage systems (BESS), in particular, have emerged as a preferred solution for providing rapid-response ancillary services due to their ability to react in milliseconds. Market players like Tesla, Fluence (a joint venture between Siemens and AES), and W?rtsil? are expanding their portfolios in this domain. Additionally, grid operators and utilities are exploring hybrid solutions combining storage with renewables to ensure stability in power delivery.

**Key Market Drivers**

Rising Renewable Energy Integration

The global shift toward cleaner energy sources is a significant driver of the power ancillary services market. Renewable energy sources such as wind and solar are variable and intermittent, causing fluctuations in grid frequency and voltage. Ancillary services are essential to manage these instabilities and ensure grid reliability.

> According to IEA, renewables accounted for over 30% of global electricity generation in 2023, up from 26% in 2020.
>
> In Europe, wind and solar produced 22.3% of total electricity in 2023, surpassing fossil gas.
>
> India aims to achieve 500 GW of non-fossil fuel capacity by 2030, making ancillary services crucial for grid integration.
>
> The U.S. added 25 GW of utility-scale solar and 12 GW of wind capacity in 2023 alone, increasing demand for frequency response.
>
> In China, non-fossil energy sources contributed 47% of total power generation capacity in 2023, further pushing ancillary market needs.

+357 96 030922
info@marketpublishers.com

## Key Market Challenges

Lack of Standardized Market Structures Across Regions

One of the major challenges in the global power ancillary services market is the lack of uniformity in market design and regulation across different countries and even within regions. Ancillary services are often governed by grid operators or regulatory bodies, which have differing frameworks for procurement, pricing, and eligibility criteria. In the U.S., markets like PJM, CAISO, and ERCOT have evolved competitive procurement models, while many countries in Africa, Southeast Asia, and Latin America still rely on vertically integrated utilities without open access. This fragmentation hinders the scalability of technology solutions and creates barriers for multinational providers. In developing economies, ancillary services may not be monetized or even formally recognized, leaving limited incentives for participants to invest in grid-support assets. The absence of global benchmarks for frequency response times, reserve sizes, or voltage recovery targets makes it difficult for equipment vendors to design universally accepted systems. Moreover, varying interconnection standards and performance testing methods complicate the ability of storage, renewables, and demand response players to enter multiple markets efficiently. While some harmonization is taking place, such as through ENTSO-E in Europe or ASEAN's power grid integration efforts, the global ancillary services market still suffers from policy asymmetry, limiting seamless integration and investment flows.

## Key Market Trends

Emergence of Aggregated DERs and Virtual Power Plants

Distributed energy resources (DERs)—including rooftop solar, EVs, smart thermostats, and residential batteries—are increasingly aggregated into virtual power plants (VPPs) to provide ancillary services. Enabled by digital platforms and AI-based forecasting, VPPs can mimic the functionality of traditional generators by responding collectively to grid signals. In markets like Germany, Australia, and parts of the U.S., regulatory reforms now allow VPPs to participate in frequency regulation, load following, and demand curtailment markets. For example, in South Australia, Tesla's VPP has aggregated over 5,000 residential systems to deliver over 8 MW of frequency control services. The UK's National Grid is also piloting VPP participation in dynamic response programs. This trend enables consumer empowerment and creates new revenue streams for prosumers. With global smart meter penetration surpassing 60% in advanced economies, the digital backbone required for DER aggregation is maturing rapidly.

+357 96 030922
info@marketpublishers.com

Moreover, cloud-based platforms offer real-time monitoring, analytics, and automated dispatch, further improving response accuracy. As electricity markets shift toward decentralization and flexibility, the rise of VPPs and aggregated DERs will be a transformative force in the ancillary services landscape.

**Key Market Players**

General Electric

Siemens Energy

ABB Ltd.

Schneider Electric

Hitachi ABB Power Grids

Tesla, Inc.

AES Corporation

Enel X

ENGIE

NextEra Energy

**Report Scope:**

In this report, the Global Power Ancillary Services Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Power Ancillary Services Market, By Type of Service:

Frequency Regulation

Spinning Reserve

+357 96 030922
info@marketpublishers.com

Non-Spinning Reserve

Black Start Services

Others

Power Ancillary Services Market, By Source Type:

Conventional Power Plants

Renewable Energy Sources

Energy Storage Systems

Others

Power Ancillary Services Market, By End User:

Transmission System Operators (TSOs) / Grid Operators

Independent Power Producers

Utilities

Large Industrial & Commercial Consumers

Others

Power Ancillary Services Market, By Region:

North America

United States

Canada

Mexico

+357 96 030922
info@marketpublishers.com

Europe

Germany

France

United Kingdom

Italy

Spain

South America

Brazil

Argentina

Colombia

Asia-Pacific

China

India

Japan

South Korea

Australia

Middle East & Africa

Saudi Arabia

UAE

South Africa

+357 96 030922
info@marketpublishers.com

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Power Ancillary Services Market.

Available Customizations:

Global Power Ancillary Services Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

+357 96 030922
info@marketpublishers.com

# Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

## 7. EUROPE POWER ANCILLARY SERVICES MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com



## 8. ASIA PACIFIC POWER ANCILLARY SERVICES MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com



## 9. MIDDLE EAST & AFRICA POWER ANCILLARY SERVICES MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com



## 10. SOUTH AMERICA POWER ANCILLARY SERVICES MARKET OUTLOOK

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

## I would like to order

Product name: Power Ancillary Services Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type of Service (Frequency Regulation, Spinning Reserve, Non-Spinning Reserve, Black Start Services, Others), By Source Type (Conventional Power Plants, Renewable Energy Sources, Energy Storage Systems, Others), By End User (Transmission System Operators (TSOs) / Grid Operators, Independent Power Producers, Utilities, Large Industrial & Commercial Consumers, Others), By Region & Competition, 2020-2030F

Product link: https://marketpublishers.com/r/P041DA0E0224EN.html

Price: US$ 4,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/P041DA0E0224EN.html