

Generative AI In Energy Market In 2029

*The Business Research Company's
Generative AI In Energy Global Market
Report 2025 – Market Size, Trends, And
Global Forecast 2025-2034*

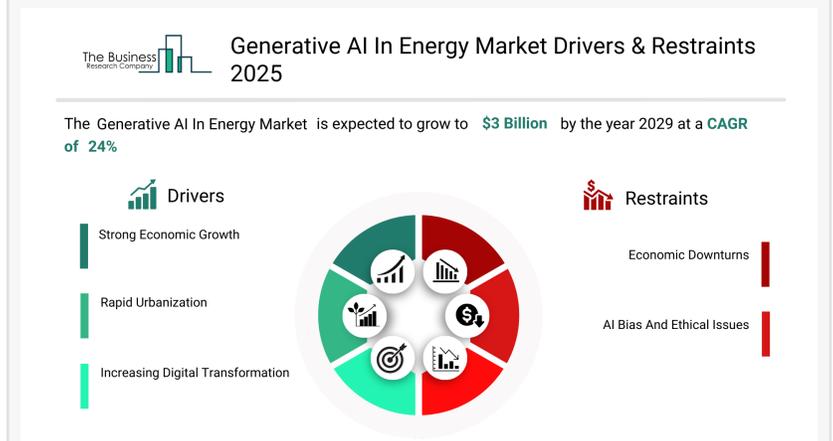
LONDON, GREATER LONDON, UNITED KINGDOM, December 24, 2025 /EINPresswire.com/ -- "[Generative AI In Energy Market](#) to Surpass \$3 billion in 2029. In comparison, the Artificial Intelligence market, which is considered as its parent market, is expected to be approximately \$250 billion by 2029, with Generative AI In Energy to represent around 1.2% of the parent market. Within the broader Information Technology industry, which is expected to be \$12,711 billion by 2029, the Generative AI In Energy market is estimated to account for nearly 0.02% of the total market value.

Which Will Be the Biggest Region in the Generative AI In Energy Market in 2029

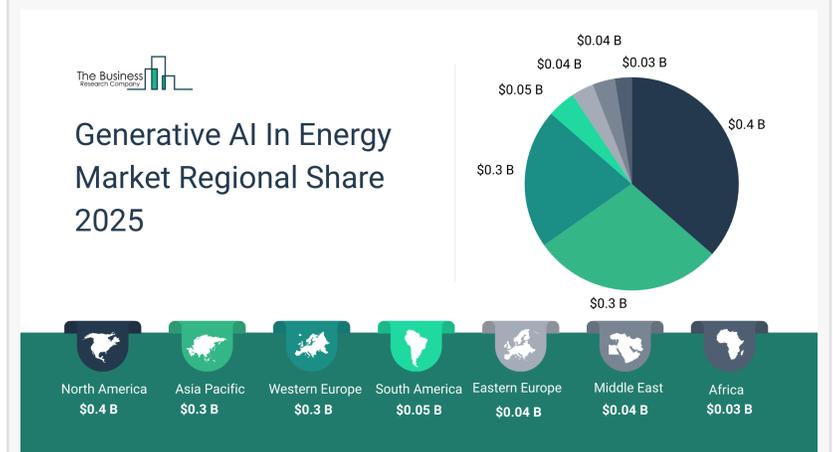
Asia Pacific will be the largest region in the generative AI in energy market in 2029, valued at \$931 million. The market is expected to grow from \$261 million in 2024 at a compound annual growth rate (CAGR) of 29%. The exponential growth can be attributed to the increasing adoption of artificial intelligence and increasing demand for digital twin.



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Which Will Be The Largest Country In The [Global Generative AI In Energy Market](#) In 2029?

The USA will be the largest country in the generative AI in energy market in 2029, valued at \$820 million. The market is expected to grow from \$309 million in 2024 at a compound annual growth rate (CAGR) of 22%. The exponential growth can be attributed to the increasing technological advancements and renewable energy expansion.

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What will be Largest Segment in the Generative AI In Energy Market in 2029?

The generative AI in energy market is segmented by component into solutions and services. The services market will be the largest segment of the generative AI in energy market segmented by component, accounting for 69% or \$2,058 million of the total in 2029. The services market will be supported by technological advancements and a strong focus on renewable energy integration.

The generative AI in energy market is segmented by application into demand forecasting, renewable energy output forecasting, grid management and optimization, energy trading and pricing, customer offerings, energy storage optimization and other applications. The demand forecasting market will be the largest segment of the generative AI in energy market segmented by application, accounting for 23% or \$680 million of the total in 2029. The demand forecasting market will be supported by advanced technological infrastructure and substantial investments in ai and clean energy initiatives.

The generative AI in energy market is segmented by end-user into energy transmission, energy generation, energy distribution, utilities and other end users. The energy generation market will be the largest segment of the generative AI in energy market segmented by end-user, accounting for 33% or \$980 million of the total in 2029. The energy generation market will be supported by potential to optimize operations, enhance efficiency and support the transition to renewable energy sources.

What is the expected CAGR for the Generative AI In Energy Market leading up to 2029?

The expected CAGR for the generative AI in energy market leading up to 2029 is 24%.

What Will Be The Growth Driving Factors In The Global Generative AI In Energy Market In The Forecast Period?The rapid growth of the global generative AI in energy market leading up to 2029, will be driven by the following key factors that are expected to reshape energy production, grid management, and sustainability practices worldwide.

Increasing Renewable Sources Of Energy - The increasing renewable sources of energy will become a key driver of growth in the generative AI in energy market by 2029. Generative ai is required for renewable energy to optimize energy production, grid management and predictive maintenance by analysing vast datasets and generating efficient models for energy forecasting. It enhances decision-making in real-time, reducing costs and improving the reliability of solar,

wind and other renewable sources. As a result, the increasing renewable sources of energy is anticipated to contributing to a 2.5% annual growth in the market.

Growing Adoption Of Digital Twins - The growing adoption of digital twins will emerge as a major factor driving the expansion of the generative AI in energy market by 2029. Digital twins, virtual replicas of physical systems, enable real-time monitoring, simulation and analysis of energy infrastructure. When combined with generative ai, these models can enhance predictive maintenance, optimize energy consumption, improve decision-making and reduce operational costs. As energy companies increasingly adopt digital twin technology to boost efficiency and performance, the demand for advanced generative ai solutions is expected to rise accordingly. Consequently, the growing adoption of digital twins capabilities is projected to contributing to a 2.0% annual growth in the market.

Favorable Government Support - The favorable government support will serve as a key growth catalyst for the generative AI in energy market by 2029. Favorable government support accelerates the adoption of generative AI in energy by providing funding, regulatory frameworks and incentives that drive innovation and deployment. This support fosters research, enhances grid optimization and strengthens cybersecurity, ultimately improving efficiency and reliability in the energy sector. Therefore, this favorable government support operations is projected to supporting to a 1.5% annual growth in the market.

Increasing Demand For Cloud Computing - The increasing demand for cloud computing will become a significant driver contributing to the growth of the generative AI in energy market by 2029. Cloud computing offers scalable resources and advanced analytics capabilities, enabling energy companies to manage vast amounts of data and improve decision-making processes. This adoption facilitates real-time monitoring, predictive maintenance and efficient energy distribution. Consequently, the increasing demand for cloud computing strategies is projected to contributing to a 1.0% annual growth in the market.

Access the detailed Generative AI In Energy Market report here:

<https://www.thebusinessresearchcompany.com/report/generative-ai-in-energy-global-market-report>

What Are The Key Growth Opportunities In The Generative AI In Energy Market in 2029?

The most significant growth opportunities are anticipated in the generative AI in energy services market, the generative AI in energy generation market, and the generative AI in energy demand forecasting market. Collectively, these segments are projected to contribute over \$3 billion in market value by 2029, driven by increasing demand for intelligent energy optimization, real-time predictive modelling, and efficient resource management. This growth reflects the accelerating integration of generative AI technologies in enhancing grid resilience, improving renewable energy utilization, and automating power generation processes. As energy systems become more data-driven and decentralized, these advancements are expected to fuel transformative growth within the broader Generative AI in Energy industry, shaping a smarter and more

sustainable global energy landscape.

The generative AI in energy services market is projected to grow by \$1,385 million, the generative AI in energy generation market by \$698 million, and the generative AI in energy demand forecasting market by \$424 million over the next five years from 2024 to 2029.

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