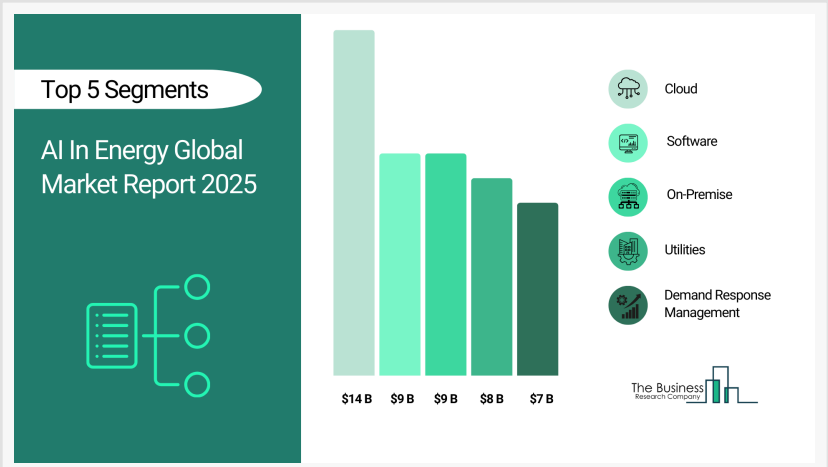
AI In Energy Market In 2029

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



AI In Energy Market Segments 2025.webp

LONDON, GREATER LONDON, UNITED KINGDOM, December 29, 2025 /EINPresswire.com/ -- "AI In Energy Market to Surpass $51 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 AI In Energy to represent around 20% of the parent market. Within the broader Information Technology industry, which is expected to be $12,711 billion by 2029, the AI In Energy market is estimated to account for nearly 0.4% of the total market value.

> The Business Research Company's Latest Report Explores Market Driver, Trends, Regional Insights - Market Sizing & Forecasts Through 2034"
>
> *The Business Research Company*

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

North America will be the largest region in the AI in energy market in 2029, valued at $19,807 million. The market is expected to grow from $7,801 million in 2024 at a compound annual growth rate (CAGR) of 20%. The rapid growth is supported by the rising increasing technological advancements, focus on product launches and increasing electricity demand.

Which Will Be The Largest Country In The Global AI In Energy Market In 2029?

The USA will be the largest country in the AI in energy market in 2029, valued at $16,757 million. The market is expected to grow from $6,469 million in 2024 at a compound annual growth rate (CAGR) of 21%. The exponential growth can be attributed to the rising residential building construction and consumption and increasing demand for solar energy systems.

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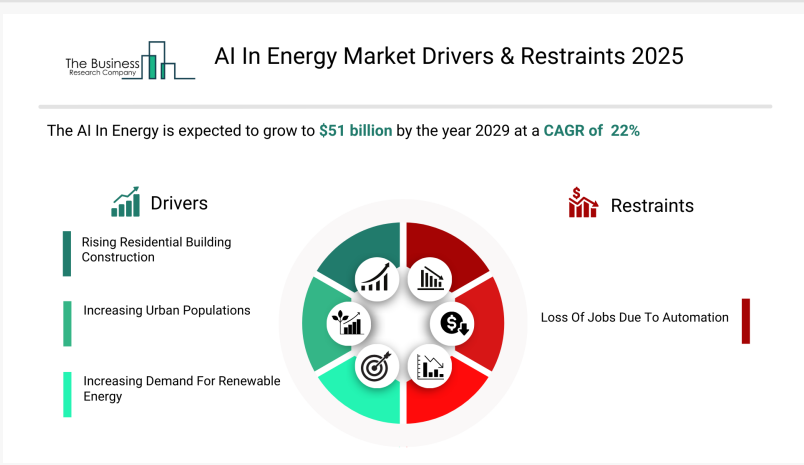
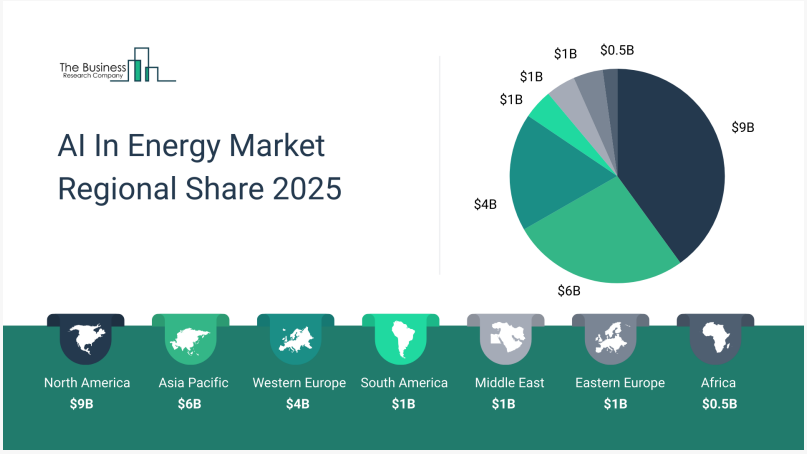
What will be Largest Segment in the AI In Energy Market in 2029?
The AI in energy market is segmented by offering into support services, hardware, AI-as-a-service and software. The software market will be the largest segment of the AI in energy market segmented by offering, accounting for 33% or $17,032 million of the total in 2029. The software market will be supported by increasing adoption of energy management software for operational efficiency, rising use of predictive maintenance software to reduce system failures, growing demand for demand response software for grid optimization, advancements in grid management software to ensure real-time energy distribution, the rising need for AI-powered software for renewable energy integration, increasing focus on reducing carbon emissions through software tools and the growing demand for scalable and user-friendly energy software solutions. AI-powered software solutions are extensively utilized to enhance energy efficiency and optimize consumption across industrial, commercial and residential sectors. These systems facilitate real-time monitoring, predictive maintenance and energy optimization, thereby driving strong demand for AI software in energy management.



AI In Energy Market Drivers & Restraints 2025.webp



AI In Energy Market Regional 2025.webp

The AI in energy market is segmented by deployment into on-premise and cloud. The cloud market will be the largest segment of the AI in energy market segmented by deployment, accounting for 63% or $32,035 million of the total in 2029. The cloud market will be supported by the growing adoption of scalable and cost-effective cloud platforms, increasing demand for remote monitoring and management, advancements in cloud-based analytics for real-time energy optimization, the growing focus on reducing operational costs through cloud solutions, rising integration of renewable energy resources using cloud AI, increasing collaborations between energy companies and cloud providers and the expanding use of cloud platforms for predictive maintenance and system upgrades.

The AI in energy market is segmented by application into demand response management, fleet and asset management, renewable energy management, precision drilling, safety and security, infrastructure management and other applications. The demand response management market

will be the largest segment of the AI in energy market segmented by application, accounting for 29% or $14,930 million of the total in 2029. The demand response management market will be supported by rising need for efficient grid balancing during peak demand, increasing adoption of AI-powered solutions for real-time energy monitoring, growing focus on reducing energy costs through automated demand response, advancements in AI-driven predictive analytics for load forecasting, increasing integration of renewable energy sources into demand response programs, rising investments in energy efficiency initiatives and the need for compliance with smart grid regulations. Increasing emphasis on energy efficiency and the need to reduce electricity costs have driven widespread adoption of demand response management solutions. AI-powered systems help optimize energy consumption by dynamically adjusting power usage during peak periods, leading to significant cost savings for both consumers and energy providers.

The AI in energy market is segmented by end user into energy transmission, energy generation, energy distribution, utilities and other end-users. The utilities market will be the largest segment of the AI in energy market segmented by end user, accounting for 35% or $17,918 million of the total in 2029. The utilities market will be supported by increasing adoption of AI-driven energy management platforms, rising need for predictive analytics to enhance operational efficiency, growing investments in demand response programs, advancements in customer-centric AI solutions for utilities, expanding use of AI in billing and payment systems, increasing focus on sustainability and renewable energy integration and the growing demand for AI to improve grid reliability and security.

What is the expected CAGR for the AI In Energy Market leading up to 2029?
The expected CAGR for the AI in energy market leading up to 2029 is 22%.

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

Rising Residential Building Construction - The rising residential building construction will become a key driver of growth in the AI in energy market by 2029. Residential buildings refer to structures specifically designed and constructed for people. With a focus on sustainability, modern residential constructions often incorporate energy-efficient features, such as solar panels, smart appliances and advanced insulation. AI technologies are integrated into these systems to monitor energy usage, adjust settings for optimal efficiency and provide insights for further improvements. As a result, the rising residential building construction is anticipated to contributing to annual growth in the market.

Increasing Urban Populations - The increasing urban populations will emerge as a major factor driving the expansion of the AI in energy market by 2029. Increasing urban populations drive

higher energy demand, straining existing energy infrastructure and necessitating efficient solutions. AI can optimize energy distribution, reduce waste and manage grid stability in densely populated areas. It enables smart energy systems, such as predictive maintenance, demand forecasting and real-time monitoring, ensuring reliable energy supply. Urban growth also encourages the adoption of AI-driven renewable energy integration and energy-efficient technologies, supporting sustainable urbanization and driving the AI in the energy market's growth. Consequently, the increasing urban populations is projected to contributing to annual growth in the market.

Increasing Investments In The Energy Sector - The increasing investments in the energy sector will serve as a key growth catalyst for the AI in energy market by 2029. Increasing investments in the energy sector create opportunities for leveraging AI technologies to drive innovation, improve operational efficiency and address sustainability challenges. By integrating AI into energy systems, stakeholders can optimize energy production, distribution and consumption, leading to a more resilient, reliable and sustainable energy future. Therefore, this increasing investments in the energy sector is projected to supporting to annual growth in the market.

Increasing Cloud-Based Services - The increasing cloud-based services will become a significant driver contributing to the growth of the AI in energy market by 2029. Cloud-based services providing scalable, cost-effective infrastructure for data storage, processing and real-time analytics. Cloud platforms enable seamless integration of AI tools for energy management, predictive maintenance and demand forecasting. They facilitate collaboration across distributed energy systems and ensure efficient deployment of AI-driven solutions for renewable energy optimization and grid management. Consequently, the increasing cloud-based services is projected to contributing to annual growth in the market.

Access the detailed AI In Energy Market report here:
https://www.thebusinessresearchcompany.com/report/ai-in-energy-global-market-report

What Are The Key Growth Opportunities In The AI In Energy Market in 2029?
The most significant growth opportunities are anticipated in the cloud AI in energy market, the AI in energy services market, the AI in energy utilities market and the AI-driven demand response energy market. Collectively, these segments are projected to contribute over $52 billion in market value by 2029, driven by advancements in intelligent grid automation, rapid digitalization of utility operations, and the growing need for real-time energy optimization. This momentum is further strengthened by increasing adoption of AI-enabled demand response platforms, enhanced predictive maintenance capabilities, and scalable cloud-based analytics that improve grid reliability and operational efficiency. Together, these technologies are reshaping how energy is generated, distributed, and managed, fueling transformative growth across the global AI in energy industry.

The cloud AI in energy market is projected to grow by $20,614 million, the AI in energy services market by $10,867 million, the AI in energy utilities market by $10,832 million and the AI-driven

demand response energy market by $9,494 million over the next five years from 2024 to 2029.

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