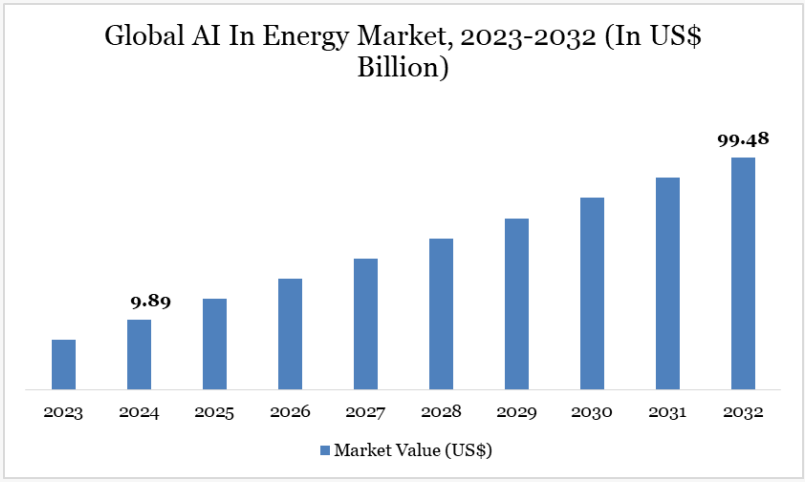
AI in Energy Market Update 2025-2032 | with Increased Investments Future of Clean and Connected Power

AI in Energy Market to grow from $9.89B in 2024 to $99.48B by 2032, driven by a strong 33.45% CAGR from 2025 to 2032.



AI In Energy Market

AUSTIN, CA, UNITED STATES, July 16, 2025 /EINPresswire.com/ -- AI in Energy Market Accelerates with Smart Grid Expansion and Decarbonization Goals

Market Overview

The AI in Energy Market Size was estimated at around US$ 9.89 Billion in 2024 and is expected to grow significantly, reaching close to US$ 99.48 Billion by 2032. CAGR of 33.45% between 2025 and 2032.

> In the U.S., growing investments in smart grids and AI-powered energy optimization are key factors fueling the AI in Energy Market's surge toward $99.48 Billion by 2032," said an energy analyst."
>
> *DataM Intelligence 4Market Research LLP*

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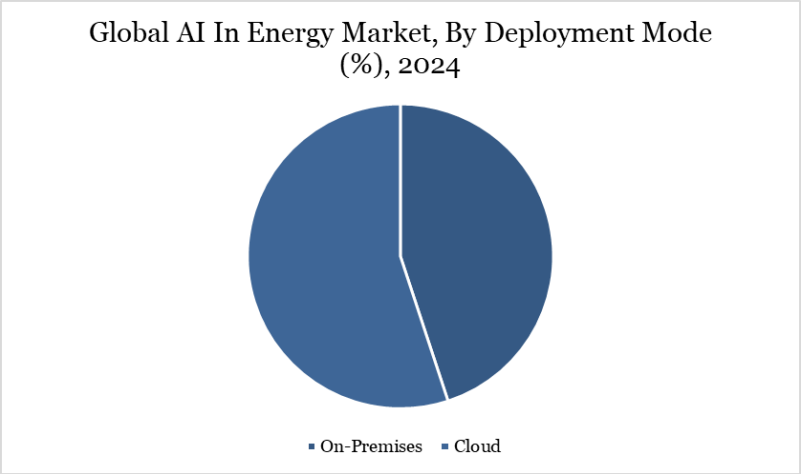
Latest Industry Developments:

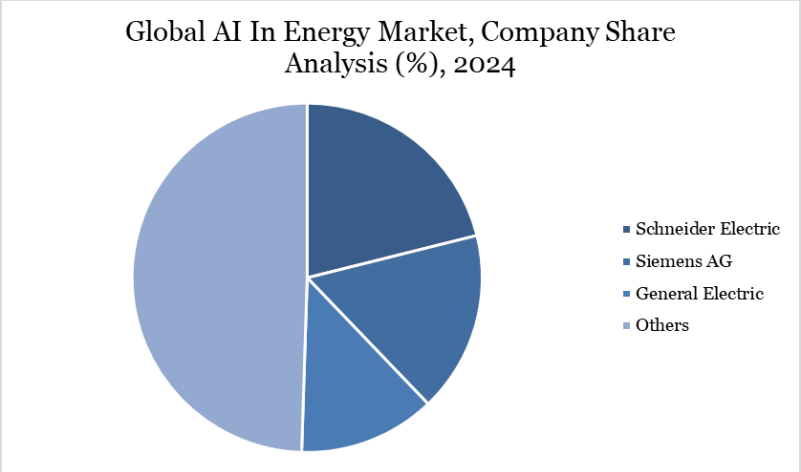
On April 17, 2025, Pacific Gas & Electric Company (PG&E) implemented the first commercial generative AI tool at Diablo Canyon, California's sole operating nuclear power plant, which provides nearly 9% of the state's electricity. Developed by Atomic Canyon with Nvidia's AI technology, the tool simplifies document search and retrieval, reducing the process from hours to just seconds.

In April 2024, the U.S. The Department of Energy (DOE) introduced a series of initiatives focused

on advancing the safe and effective use of AI technologies, with goals to drive innovation, strengthen energy and protect national interests and contribute to addressing the challenges of climate change.



AI In Energy Market By Deployment Mode



AI In Energy Market By Company Share Analysis

Market Drivers / Opportunities

Smart Grid and IoT Integration: AI is at the forefront of smart grid modernization, enabling predictive maintenance, automated fault detection, and efficient load balancing.

Renewable Energy Optimization: AI helps manage intermittency in solar and wind power by improving forecasting accuracy and storage utilization.

Energy Efficiency and Cost Reduction: AI-powered tools analyze usage patterns, allowing both producers and consumers to lower costs and reduce waste.

Decarbonization and Climate Goals: Governments and corporations are adopting AI to meet emissions targets through optimized resource management and real-time monitoring.

Market Geographical Share

North America leads the AI in the Energy market due to significant investments in smart infrastructure, favorable regulations, and early adoption of advanced technologies. The United States remains a key innovator with growing implementation across both utility-scale and distributed energy systems. Meanwhile, Asia-Pacific is emerging as a high-growth region, led by Japan, China, and South Korea, where smart energy solutions are being deployed to support urbanization and green energy goals.

Key Players

Leading companies driving innovation in the AI in Energy Market include:

Schneider Electric
Siemens AG
General Electric
ABB
Honeywell International Inc
IBM
Microsoft Inc.
Oracle
C3.ai, Inc.
Vestas Wind Systems A/S

Market Segmentation:

By Component: (Solutions, Services)

By Deployment Mode: (On-Premises, Cloud)

By Energy Source: (Renewable Energy, Non-Renewable Energy)

By Application: (Demand Forecasting, Grid Optimization & Management, Predictive Maintenance, Safety, Security & Infrastructure, Others

By Region: (North America, Latin America, Europe, Asia Pacific, Middle East, and Africa)

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Recent Developments

United States

March 2025: A U.S.-based utility company launched an AI-driven energy efficiency program that uses machine learning to personalize consumption data and reduce peak loads.

July 2024: A major cloud service provider partnered with an energy firm to use AI in optimizing grid-scale battery storage and enhancing renewable integration.

Japan

February 2025: A Japanese energy tech startup deployed AI-enabled sensors across Tokyo's power lines to improve predictive maintenance and reduce outages.

October 2024: A major Japanese utility collaborated with a global tech firm to pilot AI-based demand forecasting for better load management during peak hours.

Conclusion

The integration of AI in the energy sector is not just a technological upgrade it's a strategic imperative. As the world moves toward smarter, cleaner, and more sustainable energy systems, AI stands at the core of this transition. With robust investments, innovative applications, and cross-sector collaboration, the AI in Energy Market is set to play a vital role in shaping the future of global energy infrastructure.

Experts Research Reports By DataM Intelligence

Battery Energy Storage System Market

Energy as a Service (EaaS) Market

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