

Global Artificial Intelligence in Renewable Energy Market Size Study, by Deployment Type (On Premises, Cloud), by End-Use Industry (Energy Generation, Energy Transmission, Energy Distribution, Utilities), by Component Type (Solution, Service), and Regional Forecasts 2022-2032

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Abstracts

Global Artificial Intelligence in Renewable Energy Market is valued at approximately USD 630 million in 2023 and is anticipated to grow with a healthy growth rate of more than 24.6% over the forecast period 2024-2032. The artificial intelligence (AI) in renewable energy industry encompasses the development of computer systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and decision-making. AI has significantly advanced across various sectors, including renewable energy, where its applications have the potential to revolutionize the generation, distribution, and consumption of clean energy.

Artificial intelligence plays a critical role in the field of solar energy by enhancing the efficiency of photovoltaic panels through tracking the sun's movement and adjusting the panels' angles accordingly. AI-driven algorithms analyze weather data and predict cloud cover, facilitating better grid integration and energy forecasting. Additionally, AI is utilized for predictive maintenance of solar installations, reducing downtime and maintenance costs. Moreover, advancements in AI and the growing focus on renewable energy sources present significant opportunities for market expansion. AI is essential in optimizing renewable energy production by analyzing historical and real-time data, improving power output by predicting and optimizing solar and wind power generation. However, the high cost associated with AI-driven technologies is going to impede the overall demand for the market during the forecast period 2024-2032.

The key regions considered for the Global Artificial Intelligence in Renewable Energy Market study include Asia Pacific, North America, Europe, Latin America, and Rest of the World. North America dominated the market in 2023 due to the early adoption of AI technologies and substantial investments in renewable energy projects. Meanwhile, the Asia Pacific region is expected to grow at the fastest rate during the forecast period, driven by the increasing focus on renewable energy and the rapid adoption of AI technologies within the region.

Major market players included in this report are:

Vestas

App Orchid

Alpiq Holding Ltd.

Origami

Siemens AG

Flex Ltd.

Enphase Energy

Enel Spa

Atos SE

General Electric

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

By Deployment Type:

On Premises

Cloud

By End-Use Industry:

Energy Generation

Energy Transmission

Energy Distribution

Utilities

By Component Type:

Solution

Service

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

RoMEA

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market

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