

Blockchain in the Energy Sector - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Blockchain Market in the Energy is expected to register a CAGR of 34% during the forecast period.

Key Highlights

- Blockchain technology helps regions meet their goals for renewable energy, makes grids more reliable and efficient, and cuts down on the amount of money utilities have to spend on clean energy generation. Thus, its adoption is expected to increase over the forecast period.
- Since microgrids allow electricity to be traded within a certain area and have other benefits during emergencies with the main grid (like acting as backup solutions), vendors on the market could take advantage of the growing use of microgrids. One illustration is the pilot project that German company OLI Systems, which sells energy blockchains, set up in Europe's microgrid.
- The biggest benefits of blockchain in the energy sector are lower costs, less damage to the environment, and more openness among stakeholders without sacrificing privacy.
- Software solutions, such as enterprise Ethereum solutions, can also help traditional energy sectors like oil and gas. With these private blockchain networks, oil and gas companies can protect their privacy and trade secrets by giving only pre-approved parties access to their data and letting them join select consortiums.
- Among significant applications, the 'payments' category exhibited the highest association and implementation of blockchain in the energy sector. By tracking the chain of custody for grid materials, distributed ledger technology can potentially improve utility providers' efficiencies. Beyond provenance tracking, blockchain offers unique solutions for renewable energy distribution.

The COVID-19 pandemic crisis made it more important for people, businesses, and the economy to use digital and energy technologies. The company knew how much it depended on digital and energy solutions to help people work from home, heat

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their homes, run hospitals, and run their businesses.

Blockchain in Energy Sector Market Trends

Payments Hold the Largest Share in the Market

- The blockchain ledger is used in many different fields to lower transaction costs, make exchanges more efficient, and find out where energy comes from. For instance, IBM's Blockchain World Wire network revolutionized cross-border (Forex) payments. It enabled nearly real-time transaction clearing and settlement with finality. By acting as an agreed-upon store of value shared between parties, the method integrated payment instruction messages and leveraged digital assets to settle transactions. Such product features that enhance payments in different sectors will create a competitive edge in the market.
- The use of blockchain technology also made it possible to connect payment systems to smart grids. This made the companies want to put even more money into combining financial services with smart grid technology.
- Blockchain technology has made traditional payment methods less effective. It is also advancing to overcome the issues of hacking and data breaches. For instance, RWE's power utility has tested blockchain technology to authenticate and manage the billing process for hundreds of autonomous electric vehicle charging stations in Germany and California.
- Using blockchain in the energy sector would also minimize the overhead for utilities. By facilitating the billing and metering process between the utility and the consumer instead of involving intermediary retailers and brokers, consumers benefit from lower costs.

United States is Expected to Hold Major Share

- When blockchain is used in the energy industry, transactions, like trading energy, can be recorded and settled almost immediately. Since all parties use the same platform, there is no need for an intermediary and little need for reconciliation. As early adopters of technology, North Americans are seeing a lot of blockchain being used in the energy sector.
- According to the US Energy Information Administration, utility-scale electricity-producing facilities in the US generated nearly 4.12 trillion kilowatt-hours (kWh), or about 4.116 billion kWh, of energy in 2021. Coal, natural gas, petroleum, and other gases made up about 61% of the fuel used to generate this power. Nuclear energy roughly accounted for 19% of the total, while renewable energy sources comprised about 20%. Small-scale solar photovoltaic systems generated an additional 49 billion kWh of electricity. Such massive energy production will enable the energy sector to adopt blockchain solutions to ease payment transactions, risk and compliance management, and many other issues.
- Government bodies are granting funds to incorporate blockchain to secure energy grids. For example, to assist in safeguarding the national power system, the US Department of Energy (DOE) is awarding TFA Labs almost USD 200,000 in funding. The suggested strategy calls for verifying and securing devices on the grid that are free of malware, creating technology to increase the security of commonly used consumer electronics, and offering a reasonably priced way to secure any item right out of the box using blockchain technology.
- Invenergy, a privately held company that builds, owns, and runs clean energy solutions around the world, and GE Renewable Energy announced that the 998-megawatt Traverse Wind Energy Center will begin commercial operations in March 2022. This was the first wind farm in North America to be built in a single phase. Such factors are expected to augment the market's growth during the forecast period.

In January 2022, BMW partnered with Energy Web to demonstrate a blockchain solution for recharging electric vehicles with renewable energy. The charging cost was routed through Energy Web's blockchain solution.

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Blockchain in Energy Sector Industry Overview

There are a lot of big players in the energy blockchain market, which is very competitive. As far as market share goes, SAP SE (SAP), Microsoft Corp., Accenture PLC, and IBM Corp. are the three biggest players on the market right now. These big players have a big share of the market, so they are focusing on getting more customers in other countries. These companies leverage strategic collaborative initiatives to increase their market shares and profitability. To strengthen their product capabilities, the companies operating in the market are also acquiring start-ups working on blockchain in energy technologies.

In July 2022, INFINITY partnered with the blockchain company Yesports. This partnership aimed to launch a fan engagement program based on non-fungible tokens (NFTs). The deal highlighted an increasing number of esports organizations looking to rely on blockchain and Web3 to establish fan engagement strategies.

Intel announced in April 2022 that their new Intel Blockchain ASIC (application-specific integrated circuit) was coming out. This chip is supposed to make hashing for proof-of-work consensus networks more energy-efficient.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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