

Blockchain for Sustainable Supply Chains Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025-2034

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Abstracts

The Global Blockchain For Sustainable Supply Chains Market reached USD 827.6 million in 2024 and is projected to register a robust CAGR of 35.1% between 2025 and 2034, driven by the increasing need for transparency, efficiency, and accountability in supply chain operations. The demand for blockchain technology in supply chains is surging as companies seek solutions to mitigate fraud, enhance traceability, and comply with environmental, social, and governance (ESG) standards. Enterprises are leveraging blockchain to streamline their operations, improve compliance with carbon neutrality regulations, and foster sustainable practices. The growing emphasis on responsible sourcing and ethical business practices is also accelerating blockchain adoption across industries. Companies are utilizing blockchain-powered solutions to establish trust with stakeholders, automate compliance verification, and enhance real-time tracking of goods. Additionally, the technology's ability to provide immutable records and ensure data integrity is making it indispensable for modern supply chains.

The blockchain for sustainable supply chains market is segmented by component into platforms and services. In 2024, the platform segment dominated the market with a share of approximately 60% and is expected to surpass USD 9 billion by 2034. Blockchain platforms are instrumental in helping companies track sustainability efforts, reduce fraud, and enhance supply chain transparency. These platforms facilitate compliance with ESG mandates and carbon neutrality goals by offering features such as carbon credit tracing and trading. Businesses are increasingly investing in blockchain platforms to verify carbon offset claims and create a more sustainable supply chain ecosystem.

By technology, the market is classified into public blockchain, private blockchain, and

consortium blockchain. The private blockchain segment accounted for 40% of the market in 2024, with strong adoption in business supply chains that require high levels of data confidentiality and operational control. Unlike public blockchains, private blockchains restrict access to authorized participants, ensuring secure and efficient data management. These blockchains offer a faster transaction speed and are widely adopted in large-scale industrial applications, including food and agriculture, healthcare, and high-value supply chains. Industries such as luxury goods and pharmaceuticals are increasingly deploying private blockchain solutions to prevent counterfeiting and enhance provenance tracking, ensuring authenticity and regulatory compliance.

North America is leading the blockchain for sustainable supply chains market, holding a 40% share in 2024. The U.S. alone generated USD 288.4 million in 2024, supported by continuous technological advancements, strong government backing, and strategic business investments. The U.S. government is actively exploring blockchain applications to enhance supply chain security and transparency. Federal agencies are assessing the potential of blockchain technology to improve operational efficiency, streamline documentation, and enhance fraud prevention measures. With increasing regulatory initiatives and corporate commitments toward sustainability, blockchain is poised to become an integral component of supply chain management in North America and beyond.

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