

Verified Sustainability Efforts: Seeding trust from pocket to planting

Tree planting validated and registered with transparent, on-chain records on the Cardano blockchain.

Challenge

A Lack of Trust in Tree Planting

Large-scale tree planting has become a key part of reforestation initiatives. However, these efforts are often undermined by poor transparency and accountability. Greenwashing—the practice of overstating environmental benefits—has **misled investors and the public** alike, creating a **situation of chronic distrust in environmental efforts**. Moreover, double counting, where different organizations count and log the same trees multiple times, has further distorted the true impact of these projects and aggravated general sentiment.

Perhaps most concerning is the **lack of follow-up care**. A 2022 study from the UK Centre for Ecology & Hydrology found that, on average, 18% of saplings planted in tropical and subtropical forest restoration efforts died within the first year, rising to 44% after five years.¹ In addition, 90% of companies that claim to plant trees, regrow coral, or restore other ecosystems do not publish restoration outcomes.² The questionable state of current environmental efforts calls for an urgent increase in transparency, verification, and long-term care.



Company
veritree

Industry
Ecosystem restoration &
Carbon sequestration

Size
\$2.69 billion global carbon capture and sequestration (CCS) market³
\$14.25 billion global ecological restoration market⁴

The challenge

- Greenwashing and deficient follow-up
- 44% tropical and subtropical reforestation trees die after 5 years
- 90% companies do not publish restoration outcomes
- Disjointed restoration minimizes the impact
- Lack of transparency erodes trust

The solution

- Verifying sustainability initiatives
- Generating immutable, future-proof records
- Tracking reforestation outcomes
- Building trust between stakeholders
- Increasing job creation for local populations

Organizational importance

- 80% of enterprises wish to invest in sustainability⁵
- 66% believe in integrating sustainability within their strategy⁶
- 72% identify other priorities as ESG blocker⁷

“Through working with the Cardano Foundation, we have aligned with their community’s most knowledgeable and dedicated environmental leaders from around the globe to restore ecosystems in Kenya in a verifiable, provable way. The strength of this partnership and collective effort will lead to global impact on a massive scale.”

Derick Emsley
CEO at veritree

Solution

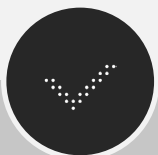
Embracing Transparent Sustainability that Works



veritree leverages **unique blockchain features to enhance transparency and trust in reforestation efforts**. It works with local tree planting partners, creating **jobs for regional communities** and ensuring **continuous data collection** during the lifecycle of each restorative project. This data—**gathered via both ground monitoring and sensors** that register inputs like tree size, air quality, or soil characteristics—is then **verified before publishing it onto the blockchain**.

For the [Cardano Forest](#) initiative, veritree and the Cardano Foundation conducted a global initial tree offering (ITO) to fundraise the planting of **1 million mangrove trees in Kenya**. Donors received fungible tokens that represented a physical tree and were exchangeable for an NFT commemorating each specific tree donation.

Using JSON, an international data communication standard, veritree creates **verifiable, immutable records of physical tree-planting events**. This allows for easy verification of the planting site data by third parties, **increasing trust** in the legitimacy of digital assets and **enabling the monitoring of each tree's location, species, and eventual impact**. Additionally, Cardano's multi-asset ledger, large metadata capacity, and predictable transaction fees streamline the creation and management of digital assets associated with reforestation projects, making the process more accessible and cost-effective.



- Tokenization enables tree monitoring and transparency
- Digital tree tokens enhance user engagement
- Predictable transaction costs support scalability
- Large metadata capacity facilitates outcome tracking

Solution Walkthrough

01.



Descriptive utility token
Includes a large amount of interactive metadata describing the number of trees to plant, the purpose, the parties involved in the restoration initiative, and forthcoming steps.

02.



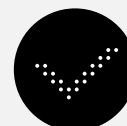
Planting Physical events take place with involved parties collecting and aggregating data off-chain via a cloud-synced mobile app.

03.



Registration Data collected via the mobile app is inscribed and validated on the Cardano blockchain, becoming permanent, immutable, traceable, and available to everyone.

04.



Verified reforestation Donors redeem NFTs that provide an immutable receipt and donation record with the tree's on-site coordinates verifying the plantation.

05.



Follow-up tracking veritree leverages JSON metadata together with Cardano's advanced storage to create data records linked to specific points in time, enhancing transparency and trust.

Results

Blockchain for Authenticated SDG and ESG



Greenwashing prevention

Establishing trust with consumers by leveraging blockchain's immutable, transparent, and trackable records.



Tangible results

Sustainability efforts are effectively validated and monitored in real-time by any interested party.



Increased user engagement

Empowering collective action by bridging individual and corporate sustainability efforts.



Accessible sustainability solutions

Using blockchain to streamline the establishment of verifiable enterprise solutions.



Economic empowerment

Creating jobs amidst local communities and equipping them with updated skills.



CARDANO

Advantages



Competitive capabilities

Low requirements to implement an advanced sustainability solution with predictable costs proportional to the resources used.



Advanced storage efficiency

Metadata records can include multiple information of different types and a single transaction holds a significant amount of data.



Interactive information

Easy for machines to read on-chain data and simple for both users and regulatory entities to interact with the records.

Contact Us



Cardano Foundation

The Cardano Foundation is an independent, Swiss-based not-for-profit advancing Cardano as a public digital infrastructure across a wide range of industries.

www.cardanofoundation.org

Sources

¹ <https://www.sciencedaily.com/releases/2022/11/221114095347.htm>

² <https://www.science.org/doi/10.1126/science.adh2610>

³ <https://www.fortunebusinessinsights.com/amp/industry-reports/carbon-capture-and-sequestration-market-100819>

⁴ <https://www.sphericalinsights.com/reports/ecological-restoration-market>

^{5,6,7} <https://www.bcg.com/publications/2022/building-blocks-of-corporate-sustainability-agenda>