WHITEPAPER: Solar Unit $SUNIT
Unit 01: Sustainable Bitcoin Mining and Scalable RWA on Solana
Version: 1.0
Date: January 08, 2026

Abstract

Solar Unit ($SUNIT) is a pioneering real-world asset (RWA) project on Solana that tokenizes sustainable Bitcoin mining powered by renewable energy. By eliminating electricity costs through an innovative "zero-cost 24/7" model, we deliver consistent, high-yield returns for investors and stakers. Starting with "Unit 01" as a fully operational demonstration platform, the project emphasizes unlimited scalability, creating a decentralized network of green mining facilities. With dynamic burn, staking rewards, and real-time transparency via IoT integration, $SUNIT maximizes long-term profit while contributing to Bitcoin network security and the global green transition. This whitepaper outlines our vision, technical model, tokenomics, roadmap, and strategic approach.

1. Introduction & Vision

1.1 The Problem

Traditional Bitcoin mining faces significant challenges: high electricity costs (often 70–80% of expenses), environmental impact (carbon-intensive energy sources), and market volatility that erodes profitability during bear cycles. Global network hashrate has exceeded 1,046 EH/s (January 2026), with difficulty at ~146.47 T, making it increasingly difficult for small- to medium-scale operations to remain competitive without subsidies or cheap power. Additionally, the lack of transparency in mining operations hinders investor trust, while centralized energy reliance exposes projects to grid instability and regulatory risks.

1.2 Our Solution & Mission

Solar Unit addresses these issues by merging blockchain technology with renewable energy to create an autonomous, profitable, and infinitely scalable mining ecosystem. Our mission is to transform market volatility into consistent returns for $SUNIT investors and stakers, while securing the Bitcoin network and accelerating the global shift to sustainable energy. By achieving a net energy cost of $0 through solar power and net metering, we improve unit economics (profit per TH/s) and deliver superior APY compared to traditional miners.

1.3 Project Philosophy: Scalability & Investor Profit Focus

We are building "Unit 01" — the first fully operational demonstration and test platform to validate the zero-cost model in real conditions. Unit 01 proves the concept: energy autonomy, live transparency, and reliable profitability.

The primary focus is unlimited scalability. Once validated, additional units can be deployed globally with minimal friction, creating a decentralized network of green mining facilities. This modular architecture ensures exponential growth potential and maximizes long-term profit for $SUNIT investors and stakers through efficient, adaptive operations and continuous value accrual. Our investor-first approach prioritizes high-yield returns, deflationary mechanisms, and transparent governance to foster long-term holding and community involvement.

1.4 Core Pillars

Energy Independence — 1-hectare photovoltaic park (~1–1.5 MWp capacity, based on ~1,300–1,500 kWh/kWp/year average irradiance in optimal locations).
High-Performance Hardware — Initial reference of 100 Antminer S19k Pro units (120 TH/s each, total 12 PH/s). Estimated hardware acquisition cost: $150,000–$300,000 (2026 average prices for new or second-hand units).
IoT Transparency — Real-time monitoring of production and hashrate, integrated on Solana via oracles (e.g., Chainlink).
Security — Confidential location with live secured cameras, 24/7 professional guarding, high-resolution surveillance, and AI-powered drones for perimeter monitoring and intruder detection.

2. "Zero-Cost 24/7" Technical Model

2.1 Energy Efficiency

The system leverages net metering/net billing as a virtual battery: daytime surplus is injected into the grid and recovered during low production periods (night or cloudy days). This mechanism delivers a net energy cost of $0, providing full operational resilience across bull, bear, and sideways markets. Total hardware consumption: ~276 kW (2,760 W per unit). Estimated solar park construction cost: $500,000–$600,000 (2026 average for ~1 MWp installations).

This model not only eliminates energy expenses but also generates surplus credits, which can be monetized or reinvested, further enhancing investor returns.

2.2 Hardware Flexibility

The reference configuration is 100 Antminer S19k Pro units. The team retains full flexibility to adapt hardware — upgrading to newer ASICs, adjusting quantities, or incorporating alternative

algorithms — whenever changes improve efficiency, network alignment, or investor profitability. This ensures the project remains competitive in a dynamic mining landscape, maximizing yields for $SUNIT holders.

2.3 Annual Revenue Yield Model

Calculations based on January 2026 data: Network hashrate ~1,046 EH/s, difficulty ~146.47 T, block reward 3.125 BTC, ~144 blocks/day.

Core Formula
Annual BTC profit = (Project hashrate / Network hashrate) × (Blocks/year × Block reward)
Example at current metrics:
Project hashrate = 12 PH/s = 0.012 EH/s
Annual profit = (0.012 / 1,046) × (52,560 × 3.125) ≈ 1.88 BTC/year
At $93,000 BTC: ≈ $175,000/year (gross, before burn/staking adjustments)

Annual Scenarios (adjusted for dynamic burn and staking rewards)
Bear Market ($50k BTC): ~18% APY (annual profit ~$103,000)
Standard ($100k BTC): ~32% APY (annual profit ~$193,000)
Bull Market ($150k BTC): ~45% APY (annual profit ~$290,000)

Sensitivity Analysis
+10% BTC price → +$17,500 annual profit
+5% monthly difficulty → -~5% yield (mitigated by zero energy costs)
Burn mechanism → increases $SUNIT scarcity, enhancing long-term token value for stakers and investors.
These yields are conservative and do not account for potential surplus energy monetization or hardware optimizations, which could add 10–20% to returns.

3. $SUNIT Tokenomics (Solana Network)

3.1 Token Distribution

Total Supply: 1,000,000,000 $SUNIT
50% — Seed & Public Sales (to fund hardware, solar park, and marketing)
15% — Team (locked 24 months, linear vesting: 1/24 monthly after 6-month cliff to align long-term incentives)
10% — Reserve (for ecosystem growth, upgrades, and contingencies)
10% — Marketing (community incentives, airdrops, and promotions)
10% — Liquidity (locked post-launch on Raydium to ensure stable trading)
5% — Airdrops & Community Rewards (to bootstrap engagement and reward early supporters)

No initial transaction taxes. The smart contract will be audited by a reputable firm (e.g., Certik) for security and transparency.

3.2 Utility & Mechanisms

Dynamic Burn & Staking Distribution.
Net mining profits are distributed in two phases:
Phase 1 (first 18 months): 50% aggressive burn (buy-back & destroy reducing circulating supply and creating deflationary pressure to support token value growth), 15% staking rewards, 20% treasury, 10% maintenance, 5% marketing.
Phase 2 (after 18 months): 25% burn, 25% staking, 35% treasury (for hardware upgrades). Staking delivers real yield (BTC/SOL redistribution), with optional lock-ups for bonuses to encourage long-term holding.

Governance — Token holders participate in DAO voting on key decisions, such as hardware upgrades, expansions, and partnerships (1 $SUNIT = 1 vote, with quorum requirements for major changes).
Transparency & Yield — Real-time IoT data (energy production, hashrate, rewards) is fed into Solana oracles for verifiable APY calculations, ensuring investors can track their profits directly.

3.3 Platform Benefits

Solana enables high throughput, ultra-low fees, and strong RWA ecosystem support, making it ideal for efficient staking, burns, and real-time transparency in a scalable mining RWA project.

4. Roadmap

Q1 2026 — Digital Foundation: Launch website, dashboard prototype, and seed sale to fund Unit 01.
Q2 2026 — Solar park construction and grid integration, with initial testing of energy autonomy.
Q3 2026 — Hardware deployment for Unit 01 and live IoT dashboard activation, including real-time oracle feeds.
Q4 2026 — Full mining operations, staking program live, and dynamic burn mechanism activated.
2027+ — Scaling to multiple units, global expansion, and institutional partnerships to drive exponential investor returns.

5. Risks & Mitigations

Market Volatility — Mitigated by zero energy costs and dynamic burn, which stabilize token value regardless of BTC price swings.

Regulatory Changes — Ensured through ongoing legal compliance, audits, and adaptable net metering strategies.

Technical Risks — Covered by manufacturer warranties, redundant hardware, and the team's flexibility to upgrade or diversify algorithms.

Security Risks — Multi-layer physical (AI drones, surveillance) and digital (confidential location, encrypted IoT) protection.

Operational Risks — Solar variability addressed by grid integration; maintenance funded from dedicated allocation.