# ElectroDemocracy Token (EDT) Protocol Whitepaper

— **Analysis of Decentralized Economic Architecture in the Post-General Artificial** Intelligence Era Based on Thermodynamic Value Standard Version Number: V-Final (2025 Extended Academic Edition) Release Date: December 2025 Document Classification: Public Keywords: Thermodynamic Value Theory, Biophysical Economics, Decentralized Physical Infrastructure Network (DePIN), Algorithmic Monetary Policy, Controlled Nuclear Fusion, General Artificial Intelligence (AGI)

## Abstract

The ElectroDemocracy Token (EDT) Protocol proposes a decentralised economic architecture designed for the post-AGI era, grounded in thermodynamic value theory and biophysical economics. Facing the dual singularity of AGI-induced labour obsolescence and the breakthrough of controlled nuclear fusion, the traditional value paradigm—rooted in the labour theory of value—faces an ontological collapse. According to the World Economic Forum's 2025 Future of Jobs Report, AGI is projected to disrupt 22% of global jobs by 2030. Meanwhile, the McKinsey Global Institute estimates that two-thirds of jobs in the United States are exposed to AI automation risk, potentially requiring the retraining or transition of up to 12 million workers. At the same time, investment in the fusion industry exceeded US$2.64 billion in 2025 (Fusion Industry Association), with commercialisation expected by the mid-2030s, transforming energy from a scarce natural resource into a quasi-unlimited industrial commodity.

EDT establishes a Decentralised Physical Infrastructure Network (DePIN) framework that anchors value absolutely to energy (kWh), enforcing a closed value loop: decentralised asset ownership via DAO, mandatory machine-to-machine (M2M) payments for AI energy consumption, and automated universal basic income (UBI) redistribution. A dual-token model—EDT-M for governance and deflationary value capture (fixed total supply of 20 billion tokens, governed by an 85/15 fund allocation rule) and EDT-U as a thermodynamically stable energy unit—guarantees entropy-constrained monetary policy. Key innovations include the Smart Energy Gateway (SEG) with TEE/PUF hardware security for physical enforcement, and Proof of Physical Work (PoPW) for verifiable energy production.

Deployed on Solana to enable high-throughput M2M settlement, EDT mitigates AGI-driven inequality through energy sovereignty, repositioning humanity as the guardian of the machine economy. The roadmap spans from the 2025 genesis phase to the 2035 fusion endgame, with strict compliance to the EU's MiCA regulation.

# 1. Introduction: Civilizational Paradigm Shift Under the Dual Singularity

## 1.1 Macro-Historical Context: The Critical Point of Non-Linear Convergence

Human civilisation stands at an unprecedented historical crossroads, defined by the non-linear convergence of two epoch-making technological singularities: the exponential rise of silicon-based intelligence and the critical breakthrough in controlled nuclear fusion energy. The parallel development of these two domains is no longer mere technological iteration; it represents a fundamental dismantling of the foundational global economic logic established since the First Industrial Revolution—namely, "capital + labour = output".

First, the rapid evolution of Artificial General Intelligence (AGI) is triggering a structural collapse of global labour markets. According to in-depth analyses from the World Economic Forum (WEF) and the McKinsey Global Institute (MGI), as the marginal production costs of large language models (LLMs) and agentic workflows approach zero, the traditional Labour Theory of Value—the classical economic axiom that human labour is the primary source of value creation—faces complete invalidation[1]. When GPT-n series models can perform legal analysis, medical diagnosis, and code writing in milliseconds at near-zero cost, the market exchange value of human intellectual labour will inevitably be radically diluted, or even reduced to zero, by computational capital.

Second, energy production is currently in a historic transition window from fossil fuels to controlled nuclear fusion. According to the 2025 technology roadmaps of the U.S. Department of Energy (DOE) and the International Atomic Energy Agency (IAEA), with the commercial deployment of compact fusion reactors, energy is expected by the mid-2030s to undergo a qualitative transformation: from a geographically constrained scarce natural resource (e.g., oil and coal) to a quasi-unlimited industrial commodity dependent on technological capital investment[2].

In-depth analysis: The International Energy Agency (IEA) predicts in its Electricity 2026 report that, driven by AI data centre demand, global electricity demand will experience the fastest growth since World War II between 2026 and 2030. A single ChatGPT query consumes approximately 100 times more energy than a traditional Google search. This exponential hunger for energy stands in stark contrast to AGI's zero-marginal-cost productivity, forming the core contradiction of the future economy: compute is infinite, but energy is finite.

## 1.2 Strategic Positioning and Core Mission: The Reconstruction of Energy Sovereignty

The ElectroDemocracy Token (EDT) emerges precisely in response to this moment. Its core strategic positioning is not merely to issue a cryptocurrency, but to construct a global energy settlement and distribution protocol tailored for the "post-labour era". EDT is committed to building a Decentralised Physical Infrastructure Network (DePIN) that, through blockchain technology, redefines ownership, allocation, and settlement rights over energy production capacity, establishing an absolute value-exchange system anchored to "energy (Joule/kWh)"[4].

The EDT Protocol resolves the most fundamental survival paradox of the AGI era: when machines no longer need human labour, how do humans retain the right to survive and develop? The answer lies in controlling the lifeblood of machines—energy.

EDT constructs a mandatory closed value loop consisting of three interlocking components:

Demand-side rigid payment: In an automated economy, AI agents, data centres, and robotic clusters—the primary energy consumers—must pay in the value units defined by the EDT Protocol to obtain electricity services.

Supply-side sovereign ownership: Through a Decentralised Autonomous Organisation (DAO), the protocol aggregates global capital to progressively acquire and hold critical energy assets (transitioning from photovoltaics to fusion), ensuring humanity retains control over the physical "on/off switch" of the machine economy.

Distribution-side automated transfer: Energy revenues are automatically converted via smart contracts into Universal Basic Income (UBI) and redistributed to every biometrically verified human account, realising an algorithmic fiscal logic of "machines paying taxes to humans".

# 2. Theoretical Foundation: From Neoclassical Economics to Biophysical Economics

To construct an economic system capable of surviving long-term civilizational cycles, we must break free from the framework of traditional neoclassical economics and instead examine the essence of value from the perspective of biophysical economics.

## 2.1 The Ontological Crisis of the Labour Theory of Value in the AGI Era

Since Adam Smith and David Ricardo, mainstream economic theory has generally held that the value of a commodity is largely determined by the socially necessary labour time required to produce it. The emergence of AGI, however, shatters this foundational assumption. When intelligent agents can complete complex cognitive tasks in milliseconds at near-zero marginal cost, the market value of human intellectual labour will be radically diluted—or even reduced to zero.

Under such conditions, the traditional social contract of "labour in exchange for survival resources" will leave hundreds of millions, if not billions, of people without income, even as societal productive capacity explodes. This contradiction between "overproduction" and "collapse of purchasing power" constitutes an endogenous crisis that conventional fiat monetary systems are structurally incapable of resolving. Attempting to sustain fiat-based Universal Basic Income (UBI) through unlimited quantitative easing (money printing) in the absence of corresponding human labour output would inevitably trigger hyper-depreciation of purchasing power and runaway inflation.

## 2.2 The Entropy Law and Economic Process: The Legacy of Nicholas Georgescu-Roegen

The theoretical cornerstone of the EDT Protocol is deeply inspired by the renowned economist Nicholas Georgescu-Roegen. In his magnum opus The Entropy Law and the Economic Process, he famously stated:

"The economic process is not merely a matter of production and consumption; fundamentally, it is a physical process of transforming low-entropy (useful energy and materials) into high-entropy (waste heat and garbage)."

He argued that the ultimate limit on human economic activity is not capital accumulation, but the availability of low-entropy energy resources. When money becomes detached from the energy constraints of the physical world, it devolves into a pure numerical game, ultimately resulting in inflation and asset bubbles.

The EDT Protocol is a direct practical response to this insight: we anchor the value of money directly to the generation and delivery of low-entropy energy (electricity).

## 2.3 The Thermodynamic Standard

Building on the above theoretical foundation, the EDT project advances a core proposition: in a machine-dominated economy, energy is the only hard constraint.

No matter how AGI algorithms evolve or how virtual-world assets inflate, their underlying operation must consume physical electricity (kWh). Compute is, in essence, the informational expression of energy. Therefore, energy constitutes the base-layer currency of future economic activity.

The advantages of the Thermodynamic Standard are:

Physical Objectivity: The work performed by 1 kWh of energy is a physical constant. It does not depend on central bank interest-rate decisions or geopolitical credit. It is a universal cosmic constant.

Inelastic Demand: For AI systems, loss of power equals death. Whoever controls the allocation of electricity controls the right to tax AI.

Value Conservation and Inflation Resistance: Unlike fiat currencies that can be issued without limit, energy production is constrained by physical infrastructure and technological capital, giving it inherent anti-inflationary properties. Every EDT-U token is backed by real, verifiable physical work potential.

# 3. Solution and Ecosystem Architecture

## 3.1 Core Paradigm: The Energy-Anchored Closed Value Loop

The EDT solution constructs a mandatory value-transfer closed loop composed of three tightly interlocked gears, designed to resolve the distributional challenge of "machines produce, humans consume":

1.Decentralised Asset Holding (Supply Side): Through a DAO structure, the protocol aggregates global retail capital to invest in and own critical energy infrastructure (initially photovoltaics, with fusion as the endgame). This breaks the monopoly of energy giants over production capacity.

2.Mandatory Payment (Demand Side): Any computing facility connected to the EDT network must use EDT-U as the sole settlement currency. If an AI agent's wallet lacks sufficient EDT-U, the Smart Energy Gateway (SEG) will physically interrupt power supply at the hardware level.

3.Universal Distribution (Redistribution Side): Energy revenues are automatically converted by smart contracts into Universal Basic Income (UBI) and distributed to biometrically verified human users. This establishes an algorithmic "survival tax" paid by machines.

## 3.2 Supply Side: Distributed Asset Ownership and Capacity Lock-in

Rather than attempting to own the entire power grid from day one, the EDT Protocol adopts a concentric-circle expansion strategy:

- Tactical Beachhead: Prioritise locking in distributed solar PV and energy storage facilities located around AI computing centres. AI data centres have extremely high requirements for power stability and possess strong payment capacity, making them ideal early customers.
- Asset Ownership Structure: EDT employs NFT-based proof of asset rights. Every physical power station (or fractional share thereof) is minted as an on-chain NFT and co-owned by DAO members. This ensures both liquidity of the assets and full transparency of ownership.

## 3.3 Demand Side: Mandatory Payment Protocol for the Algorithmic Economy

To accommodate the payment habits of AI agents, the EDT Protocol implements dedicated machine-to-machine (M2M) payment interfaces:

- **Streaming Payment**: Leveraging Solana's high TPS, AI systems can pay electricity fees **per second** rather than monthly settlement. This micro-payment model dramatically reduces credit risk.
- **Smart-Contract Automated Bidding**: AI agents can automatically select low-price valley periods for charging or high-intensity model training based on real-time electricity pricing, thereby optimising energy allocation efficiency across the entire network.

# 4. Physical Enforcement Layer: Full-Stack, In-House DePIN Architecture

To fully embody the principle of "code is law, hardware is enforcement", EDT refuses to remain a purely software-layer project. Instead, it penetrates deep into the physical layer through independently developed core hardware components.

## 4.1 Smart Energy Gateway (SEG) Technical Specifications

The Smart Energy Gateway (SEG) is the physical tentacle of the EDT network. It is far more than a mere electricity meter—it is a bank-grade secure settlement terminal.

- Trusted Execution Environment (TEE): Each SEG integrates an ARM TrustZone or equivalent Secure Element. All captured data (voltage, current, phase) is signed with a private key at the point of measurement. Even if a hacker physically disassembles the device, forging generation data is impossible.
- Physical Unclonable Function (PUF): A unique device fingerprint is generated from microscopic manufacturing variations in the chip, preventing device cloning and Sybil attacks.
- Physical Relay Control: The SEG contains a high-power relay directly controlled by on-chain smart contracts. Power is only supplied once the blockchain confirms receipt of token payment—the relay remains open otherwise.

## 4.2 Proof of Physical Work (PoPW)

The EDT network verifies every node's contribution through the Proof of Physical Work (PoPW) consensus mechanism.

- Multi-Dimensional Data Validation: The SEG uploads not only kWh totals but also grid-quality telemetry (voltage fluctuations, frequency response, etc.). The oracle network cross-references data from geographically adjacent nodes and uses statistical models to filter outliers, ensuring data authenticity.
- Anti-Cheating Mechanism: If a node registered as a 5 kW residential solar installation reports 50 kW of generation at night, the oracle network automatically flags it as fraud. This triggers a smart-contract slashing event, confiscating the offender's staked tokens.

## 4.3 Global Unified Energy Value Network: Decoupling Electrons from Value

Blockchain technology breaks the geographical limitations of physical grids. While electricity transmission suffers resistive losses, the transmission of energy value is lossless.

- Invisible Value Teleportation: Energy value (minted as EDT-U) generated by a solar farm in the Sahara Desert can be transferred and sold in milliseconds to a data centre inside the Arctic Circle.
- Global Energy Arbitrage: This mechanism effectively flattens global energy price disparities, allowing energy-rich but economically underdeveloped regions to achieve fair wealth distribution by exporting "entropy-reduction capacity" to the world's AI infrastructure.

# 5. Blockchain Settlement Layer and Technology Selection

Given the high-frequency transaction nature of a global smart grid (where AI agents may conduct multiple micro-bids for charging per second), EDT has selected Solana as the settlement layer. This decision is driven purely by technical rationality, not market hype.

## 5.1 Why Solana: Technical Superiority of Sealevel and Turbine

- Sealevel (Parallel Smart-Contract Runtime): Traditional blockchains (e.g., Ethereum) are single-threaded and can process only one transaction at a time. In contrast, real-world grid transactions are massively parallel (charging in Tokyo does not interfere with charging in New York). Solana's Sealevel engine enables tens of thousands of smart contracts to execute in parallel, delivering a theoretical throughput of 65,000+ TPS—more than sufficient to support concurrent data uploads from millions of SEG devices worldwide[6].
- Turbine (Block Propagation Protocol): Inspired by BitTorrent, Turbine shards block data into small packets and fans them out across the validator network for rapid dissemination. This is critical for DePIN networks, as it allows low-bandwidth hardware nodes distributed across the planet to remain perfectly synchronised[8].

## 5.2 The Critical Role of Proof of History (PoH) in Energy Billing

Electricity trading is extremely time-sensitive. Peak-valley pricing means the same kWh can have radically different values depending on the exact moment it is delivered.

- Trusted Time Source: Traditional blockchains rely on local node clocks, which are prone to drift or manipulation. Solana's Proof of History generates a cryptographically verifiable, immutable global time sequence.
- Replay-Attack Prevention: PoH stamps every energy transaction with a nanosecond-precision timestamp, effectively preventing attackers from replaying old transaction data to fraudulently claim electricity payments[9].

## 5.3 Oracle Network: Decentralised Physical-State Auditing

EDT requires not only price oracles but genuine physical-state oracles. We adopt customised Chainlink adapters combined with ZK-SNARKs (zero-knowledge proofs) to prove, on-chain and in a privacy-preserving manner (without revealing specific consumption patterns), the actual generation and consumption of electricity.

# 6. Tokenomics

EDT adopts a Dual-Token Architecture to simultaneously satisfy the conflicting requirements of governance/value-accrual and transactional stability while enforcing thermodynamic consistency.

## 6.1 Design Philosophy of the Dual-Token Model

A single-token model cannot optimally serve both "asset appreciation" and "payment stability." We therefore separate them:

- EDT-M (Minds): Absorbs network volatility and long-term value growth; functions as the investment vehicle.
- EDT-U (Units): Maintains strict physical stability; serves as the inviolable unit of account and medium of exchange.

## 6.2 EDT-M: Governance Sovereignty, Value Capture, and Deflationary Model

- Positioning: Asset token, deflationary, governance token. Represents fractional ownership of the DAO treasury (ultimately fusion power plants).
- Total Supply: 20 billion tokens (20,000,000,000), hard-coded permanent cap, immutable in the smart contract.
- Real Yield Value-Capture Mechanisms:
    - Dividend Rights: 5% of all energy-transaction fees are automatically distributed to staked EDT-M holders.
    - Buyback & Burn: 1% of protocol revenue is used to market-buy and permanently burn EDT-M. As network usage grows, circulating supply continuously shrinks, driving per-token value appreciation.

## 6.3 EDT-U: Thermodynamically Pegged Energy Stablecoin

- **Positioning: Payment token, utility token, stablecoin.**
- **Pegging Logic: 1 EDT-U ≡ 1 kWh – a permanent, physics-enforced exchange rate.**
- **Elastic Supply Mechanism: No fixed cap. Supply is dynamically governed by a Proof-of-Reserve algorithm.**
    - **Minting: 1 EDT-U is minted only when the physical network (verified by SEG hardware) proves generation of 1 kWh of clean electricity. This strictly follows the thermodynamic principle: energy first, money second.**
    - **Burning/Recycling: When AI consumers pay for electricity, the corresponding EDT-U is burned or recycled back into the reserve pool.**

## 6.4 Initial Distribution & Radical Fund Transparency (85/15 Rule)

To resolve the "credibility-vs-survival" paradox at launch, we impose morally binding fund-use restrictions.

| Allocation Category | Percentage | Amount (billion tokens) | Vesting & Release Schedule | Purpose |
|---|---|---|---|---|
| Global UBI Reserve Pool | 50% | 10 | Locked long-term, linear release over >20 years | Incentivise global biometric verification and build the UBI network |
| Fair Launch & Liquidity | 35% | 7 | 100% unlocked at TGE | Fair community sale + DEX liquidity (LP tokens permanently burned) |
| Genesis Airdrop | 5% | 1 | One-time release at TGE | Reward to "EDT Genesis Pass" NFT holders |
| Ecosystem & Hardware Fund | 5% | 1 | Managed via DAO multi-sig | Hardware subsidies, CEX listing fees, etc. |
| Core Team | 5% | 1 | 12-month cliff + 36-month linear vesting | Long-term alignment of core contributors |

**85/15 Dynamic Transparency Rule (applies to "EDT Genesis Pass" NFT sale proceeds)**:

- **85%** → Hardware Trust Account, **exclusively** usable for SEG R&D and manufacturing (PCB, tooling, chip procurement).
- **15%** → Necessary ecosystem cold-start (community, marketing, legal).
- **The Wager (Betting Agreement)**: If a production-grade SEG engineering sample is not delivered within 12 months, all remaining funds in the Hardware Trust Account are automatically refunded to Genesis Pass NFT holders.

# 7. Strategic Roadmap & Execution Plan

EDT has formulated a pragmatic roadmap that progresses from "soft launch" to "hard landing," clearly implementing the concentric-circle expansion strategy: start with AI energy as the singularity, then leverage it to capture global energy.

## 7.1 Phase I: Genesis & Consensus [2025 Q4 – 2026 Q1]

**Core Objective**: Secure bootstrap capital and establish early community trust.

**Key Milestones**:

- Release the V-Final Whitepaper.
- Issue the limited-edition "EDT Genesis Pass" NFT (10,000 units only).
- Launch DAO voting system (Snapshot), empowering the community to decide the exact TGE date.
- Strict execution of the 85/15 fund rule; immediately initiate SEG hardware R&D.

## 7.2 Phase II: Token & Physical Network Rollout [2026 Q2 – 2026 Q4]

**Core Objective:** Achieve real "virtual-to-physical" integration and verify the closed-loop system.

- **Key Milestones:**
  - Token Generation Event (TGE): EDT-M launches on Raydium, liquidity mining begins, initial LP tokens permanently burned.
  - Mass production of SEG gateways: Use seed funds to manufacture and ship devices to Genesis Pass holders.
  - Mainnet Beta launch: First wave of distributed solar installations go live, real electricity data on-chain, triggering the first global UBI distribution.

## 7.3 Phase III: Tactical Beachhead – Capture AI Energy [2027 – 2030]

**Strategic Pivot**: Officially adopt the "AI Energy First" doctrine.

**Market Logic**: AI data centres are largely price-insensitive but extremely sensitive to power reliability and green-energy certificates (RECs). EDT leverages blockchain-verified green power to penetrate this high-margin segment.

**Tactical Goals**:

- Secure **20% of global AI compute energy supply**.
- Establish **EDT-U as the de facto standard settlement unit** for AI agents.
- Use outsized profits from the AI segment to fund massive DAO-led buybacks of physical solar and wind assets.

### 7.4 Phase IV: The Fusion Endgame [2030 – 2035+]

Strategic Vision: As controlled fusion achieves commercial viability[3], EDT deploys accumulated capital reserves into strategic investments in fusion reactors, achieving 100% backing by quasi-unlimited clean energy and fulfilling the ultimate objective of locking in 20% of global energy production capacity.

# 8. Governance Structure and Decentralisation Evolution

To mitigate single-point-of-failure risks and regulatory pressures, EDT adopts a Distributed Architect Council (DAC) model.

## 8.1 Distributed Architect Council (DAC)

DAO Initiator: Operates under a pseudonym (e.g., “Z-Protocol”), positioned as the “protocol architect” and “code contributor” rather than a corporate owner. This legally frames the project as public infrastructure, reducing personal regulatory exposure.
Technical Steering Committee (TSC): A semi-anonymous council comprising experts in cryptography and thermodynamics to distribute decision-making burdens.

## 8.2 Progressive Decentralisation Path

Bootstrap Phase: Core team leads development to ensure execution efficiency.
Hybrid Phase: Introduces “time-weighted voting” mechanism—longer token lock-up periods yield higher voting weights, preventing short-term speculative capital from hijacking project direction.
DAO Phase: Ultimately achieves “code is law,” with the DAO fully assuming control over protocol parameter adjustments and treasury expenditures.

## 8.3 Legal Isolation and Censorship-Resistant Architecture

Foundation: Established in an offshore jurisdiction (e.g., Panama, Switzerland) for fund custody.

Operational Entity (OpCo): Hardware manufacturing outsourced to independent third parties; the DAO only signs procurement agreements. This architecture ensures that even if the hardware company faces regulatory scrutiny, the on-chain protocol itself remains unaffected.

# 9. Legal Compliance, Risk Disclosure, and Disclaimer

## 9.1 EU MiCA Regulation Adaptability Analysis

EDT places high importance on the evolving global regulatory landscape, particularly the EU's Markets in Crypto-Assets (MiCA) regulation.

- EDT-U as an Asset-Referenced Token (ART): Given that EDT-U is pegged to physical energy, its legal attributes align with MiCA's definition of an "asset-referenced token." We will apply for the necessary Electronic Money Institution (EMI) license or partner with licensed entities to ensure compliant issuance.
- EDT-M as a Utility Token: EDT-M primarily serves as a governance token and network validation incentive. We will strictly design its dividend mechanism in accordance with the Howey Test standards (based on proof-of-work rather than mere holding) to reduce the risk of being classified as a security[11].

## 9.2 In-Depth Disclosure of Core Risk Factors

- Hardware Supply Chain Risk: Chip shortages or logistics disruptions could delay SEG deliveries. This represents the greatest tangible risk for physical DePIN projects.
- Technology Pathway Risk: If commercial nuclear fusion is delayed (expected by 2035), the project will need to extend its "hybrid energy anchoring" phase.
- Oracle Attack Risk: Despite multi-layer verification, physical data on-chain remains theoretically vulnerable to collusion by malicious nodes. We mitigate this through the Chainlink decentralised oracle network and staking slash mechanisms.

## 9.3 Legal Disclaimer

This whitepaper is for informational purposes only and does not constitute investment advice, a securities offering, or an invitation to purchase. Cryptocurrency assets are high-risk investments, and token value may fall to zero. Participants assume all financial risks at their own discretion.

# Appendix: Key Data and Technical Indicators Comparison Table

## Table 1: Global AI Energy Consumption Projections and EDT Capture Targets

| Year | Global AI Energy Demand (TWh) | EDT Target Market Capture Rate (%) | Implied EDT-U Circulating Supply (TWh) | Corresponding Strategic Phase |
|---|---|---|---|---|
| 2026 | 85 TWh | 0.01% | 0.0085 TWh | Phase I/II (Pilot) |
| 2028 | 130 TWh | 1.00% | 1.3 TWh | Phase III (Tactical Beachhead) |
| 2030 | 250 TWh | 5.00% | 12.5 TWh | Phase III (Scale-Up) |

| | | | | |
|---|---|---|---|---|
| 2035 | 500+ TWh | 20.00% | 100+ TWh | Phase IV (Fusion Endgame) |

Power to the People. Literally.
(ElectroDemocracy DAO, 2025)

**References**


1. EDT 初版.docx
2. Energy Department Announces Fusion Science and Technology Roadmap to Accelerate Commercial Fusion Power
https://www.energy.gov/articles/energy-department-announces-fusion-science-and-technology-roadmap-accelerate-commercial
3. Fusion Energy in 2025: Six Global Trends to Watch
https://www.iaea.org/newscenter/news/fusion-energy-in-2025-six-global-trends-to-watch
4. Is the world ready for the transformational power of fusion
https://www.weforum.org/stories/2025/01/fusion-energy-future/
5. Why Every Major DePIN Project is Migrating to Solana — And What This Reveals About the Infrastructure Requirements That Will Define Web3's Physical Future - Medium
https://medium.com/@hrknsinst/why-every-major-depin-project-is-migrating-to-solana-and-what-this-reveals-about-the-a3269ea431a7
6. What we know about energy use at U.S. data centers amid the AI boom
https://www.pewresearch.org/short-reads/2025/10/24/what-we-know-about-energy-use-at-us-data-centers-amid-the-ai-boom/
7. Top 10 Decentralized Physical Infrastructure Networks (DePIN) - Quicknode
https://www.quicknode.com/builders-guide/best/top-10-decentralized-physical-infrastructure-networks
8. Announcing Agent Payments Protocol (AP2) | Google Cloud Blog
https://cloud.google.com/blog/products/ai-machine-learning/announcing-agents-to-payments-ap2-protocol
9. As Use of A.I. Soars, So Does the Energy and Water It Requires - Yale E360
https://e360.yale.edu/features/artificial-intelligence-climate-energy-emissions
10. DePIN Quickstart Guide - Solana
https://solana.com/developers/guides/depin/getting-started
11. June 2025 Crypto Task Force U.S. Securities and Exchange Commission 100 F Street, N.E. Washington, D.C. 20549 Re: Request for Me - SEC.gov
https://www.sec.gov/files/ctf-written-sea-ss-gn-glw-signed-06182025.pdf