PlanetVote

WORLD DEMOCRATIC PLATFORM

A Framework for Planetary-Scale Direct Democracy

White Paper — Version 1.5

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> *The greatest threats to humanity — supervolcanic eruption, asteroid impact, pandemic, climate collapse — do not respect national borders. Yet our systems of governance remain fractured by exactly those borders. PlanetVote proposes a solution: a single, incorruptible, planetary-scale democratic platform through which every human being on Earth may exercise their voice on the issues that affect all of us equally.*

Executive Summary

PlanetVote is a proposed global direct-democracy platform enabling every adult human being on Earth to vote on planetary-scale issues. It operates on a lunar cycle voting schedule, surfaces the most urgent global concerns through a transparent, auditable algorithm, and requires a supermajority threshold of 66.7% for any resolution to pass — ensuring that no bare majority can impose decisions on a near-equal minority.

For issues of existential or planetary-class urgency — asteroid impacts, supervolcanic eruptions, pandemic emergence, or ecological collapse — the platform incorporates an Emergency Override Protocol allowing a crisis vote to open within six hours of verified threat confirmation, bypassing the standard lunar cycle.

World Government Representatives are elected by regional supermajority and serve as the executive layer that translates passed resolutions into coordinated international action. All representatives require a minimum 66.7% mandate to hold office, with constitutional changes requiring an 80% threshold.

The platform is built on five technical pillars: decentralised self-sovereign identity verification, zero-knowledge voting proofs, open-source auditable code, blockchain vote confirmation, and a geographically distributed hosting infrastructure resistant to single-nation shutdown.

This white paper sets out the philosophical foundation, governance architecture, technical design, legal pathway, and implementation roadmap for PlanetVote. It is submitted as a living document, open to collaboration from governance scholars, technologists, legal experts, and democratic theorists worldwide.

Key Metric	Target
Eligible voters at launch	~5.2 billion adults globally
Supermajority threshold	66.7% (two-thirds) of participating voters
Crisis vote threshold	75% of participating voters
Constitutional threshold	80% of participating voters
Voting cycle	One lunar cycle (approx. 29.5 days)
Issues per cycle	7 (algorithm-selected) + emergency overrides
Identity standard	Self-sovereign, biometric-verified, zero-knowledge
Representative term	12 lunar cycles (approx. 354 days)
Minimum participation for validity	20% of registered voters globally

Part I: The Problem — Why Nations Cannot Solve Planetary Problems

1.1 The Structural Failure of Nation-State Governance

The nation-state is a remarkable human invention — a mechanism for organising collective decision-making across populations of millions. But it was designed for a world in which the most consequential threats were local or regional: invasion, famine, disease within borders. The 21st century has rendered that assumption obsolete.

The five greatest threats to human civilisation — supervolcanic eruption, asteroid or comet impact, engineered or natural pandemic, irreversible climate change, and the misaligned development of artificial general intelligence — share a single defining characteristic: they are indifferent to national borders. A Yellowstone eruption does not pause at the Canadian border. An asteroid does not negotiate with the UN Security Council. A novel pathogen does not check passports.

Yet our decision-making architecture remains profoundly national. The United Nations, the most ambitious attempt at international coordination in human history, operates by consensus among sovereign states. Any one of the five permanent Security Council members can veto any binding resolution. The result is a system structurally incapable of acting decisively on timescales shorter than decades — precisely the timescales on which planetary threats demand response.

Historical Precedent

The closest analogues to what PlanetVote proposes are the Antarctic Treaty System (1959), which placed an entire continent under cooperative international governance, and the Nuclear Non-Proliferation Treaty (1968). Both demonstrated that nations can cede a narrow domain of sovereignty when the existential stakes are sufficiently clear. PlanetVote extends this logic to its natural conclusion: a permanent, democratic mechanism for planetary governance on defined categories of global concern.

1.2 The Democratic Deficit in International Institutions

Existing international bodies suffer from a profound democratic deficit. The UN Security Council's five permanent members were determined by the outcome of a war that ended 81 years ago. The IMF and World Bank are weighted by economic power, not population. The G20, G7, and other forums are self-selected clubs of the powerful. None of them derive their authority from the direct consent of the people they affect.

PlanetVote does not propose to replace these institutions. It proposes to give them something none of them currently possess: a legitimate, direct democratic mandate from the human population of Earth. A resolution passed by 70% of participating voters across all regions of the world carries a moral and political authority that no treaty negotiated between governments can match. These institutions would retain their operational expertise and existing authority —

PlanetVote would provide the democratic legitimacy that authorises them to act on behalf of all of humanity.

1.3 The Two Most Neglected Existential Threats

Supervolcanic Eruption

At least 20 supervolcanic systems worldwide are capable of eruptions orders of magnitude larger than any in recorded history. A Yellowstone-class eruption would inject sufficient sulphur dioxide into the upper atmosphere to reduce global temperatures by 5-10 degrees Celsius for three to seven years — collapsing agriculture, triggering famine at civilisational scale, and potentially killing billions of people within a decade of the event.

Current mitigation research is critically underfunded. No coordinated international programme exists to extract heat from any supervolcanic system. NASA has published preliminary proposals for deep geothermal drilling at Yellowstone, projecting that a network of boreholes could reduce eruption probability by up to 72% over a century at an estimated cost of $3.46 billion — a sum roughly equivalent to three days of global military spending. The absence of such a programme is not a technical failure. It is a governance failure.

Near-Earth Object Impact

The most tractable of the planetary existential threats is also the one where governance has advanced furthest and stalled most conspicuously. NASA's DART mission in 2022 demonstrated that kinetic deflection of an asteroid is not science fiction — it works. We know what to do. We lack only the institutional framework to authorise doing it at planetary scale.

The International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG) exist as voluntary coordination bodies with no binding authority and no dedicated funding. The 1967 Outer Space Treaty restricts the use of nuclear devices in space — a restriction that may need revisiting for large-object deflection scenarios. None of these gaps can be closed without a legitimate global decision-making authority. PlanetVote provides exactly that authority.

Part II: The Solution — Architecture of PlanetVote

2.1 Foundational Principles

PlanetVote is built on seven foundational principles that distinguish it from all prior attempts at international democratic governance:

Principle	Definition	Implication
One Person, One Vote	Every adult human being has exactly equal voting weight regardless of nationality, wealth, or geography.	No nation's citizens count more than any other's.
Supermajority Legitimacy	No resolution passes without 66.7% of participating voters. Crisis and constitutional thresholds are higher.	Prevents bare-majority tyranny on planetary decisions.
Radical Transparency	Every line of code, every algorithmic parameter, every vote count is publicly auditable in real time.	Eliminates the possibility of hidden manipulation.
Cryptographic Privacy	Zero-knowledge proofs guarantee that individual votes cannot be identified or coerced.	Separates verifiability from identifiability.
Geographic Sovereignty	No single nation can shut down the platform. Infrastructure is distributed across jurisdictions.	Prevents authoritarian capture.
Scientific Grounding	The trending algorithm weights peer-reviewed scientific consensus for empirical questions.	Prevents misinformation from capturing the global agenda.
Subsidiarity	PlanetVote votes only on issues that genuinely require planetary-level coordination. All other matters remain with nations, regions, and communities.	Prevents global overreach into local affairs.

2.2 The Lunar Voting Cycle

PlanetVote organises its standard voting around the lunar cycle — approximately 29.5 days. This choice is deliberate and carries both practical and symbolic weight. The lunar cycle is the one natural timekeeper recognised across every human culture on Earth. It is independent of any

national calendar. It provides a regular, predictable rhythm that prevents both paralysis (issues never being resolved) and overwhelm (too many votes too frequently).

Each cycle, the trending algorithm selects seven issues for the global vote. Voters may cast their ballot at any point during the cycle. Results are tallied and published at the moment the cycle closes. Passed resolutions — those achieving the 66.7% supermajority among participating voters — are transmitted to the World Government Council for implementation coordination.

Issues that fail to reach supermajority in one cycle may return in subsequent cycles, amended by their proposers in light of the debate the first vote generated. This creates an iterative democratic process rather than a single up-or-down judgment.

2.3 The Trending Algorithm

The selection of which seven issues appear on each cycle's ballot is governed by a fully transparent, open-source algorithm. The algorithm weights the following factors:

- Signal velocity: the rate at which new registrations of concern about an issue are accumulating globally
- Geographic diversity: issues must register significant concern across at least five of the seven continental regions to prevent regional capture of the global agenda
- Scientific consensus score: for empirically grounded issues, the degree of peer-reviewed scientific agreement boosts priority weighting
- Urgency decay function: older unresolved issues receive increasing weight over time, preventing agenda stagnation
- Recency penalty: issues voted on in the previous two cycles receive reduced weighting, ensuring agenda freshness
- Misinformation flag: issues primarily driven by demonstrably false factual claims are downweighted pending fact-checking resolution

The algorithm's source code, weighting parameters, and full output logs are published in real time on a public ledger. Any person or organisation may audit, critique, or formally challenge any algorithmic decision through the platform's governance process.

2.4 Emergency Override Protocol

For threats of planetary-class urgency, the standard lunar cycle is suspended. The Emergency Override Protocol allows a crisis vote to open within six hours of a verified threat confirmation, provided the confirmation meets the following criteria:

- Independent verification by at least three internationally recognised scientific institutions
- Classification of the threat as planetary-class by the World Government Science Advisory Panel
- Formal notification to all registered voters via the platform's emergency broadcast system

Crisis votes remain open for 48 hours. The supermajority threshold is raised to 75% to reflect the gravity of the decision and the reduced deliberation time. Crisis resolutions authorise the World

Government Council to act immediately with the resources and mandate specified in the resolution.

> *The Emergency Override Protocol is not a mechanism for bypassing democracy — it is a mechanism for exercising democracy at the speed that existential threats demand. Every crisis vote remains subject to the supermajority threshold. The difference is time, not legitimacy.*

2.5 World Government Council

The World Government Council is the executive body of PlanetVote — the mechanism through which passed resolutions are translated into coordinated international action. It is not a sovereign government. It has no authority to legislate beyond the mandates passed to it by the voting population. It is, in essence, the world's largest collective executive.

The Council consists of 17 Regional Representatives elected by supermajority vote within their regions, plus a Secretary-General elected by global supermajority vote. Representatives serve terms of 12 lunar cycles. Any representative whose approval rating falls below 55% in a mid-term confidence vote faces a recall election.

The Council's authority is strictly bounded: it may only act on resolutions that have passed the 66.7% supermajority threshold. It may not initiate action on any matter not explicitly mandated by a passed resolution. It reports publicly and in full on all actions taken in execution of passed resolutions.

Part III: Technical Architecture

3.1 The Identity Layer — The Foundational Problem

The single most technically challenging component of PlanetVote is the identity layer: the mechanism by which the platform verifies that every voter is a real, unique human being, without creating a centralised database that can be corrupted, hacked, or weaponised by any government or corporate actor.

This is not merely a technical challenge — it is a philosophical and political one. Any identity system that relies on government-issued credentials reproduces the power imbalances of the existing state system. Any system that relies on a private corporation introduces a single point of failure and a profit motive misaligned with democratic integrity. PlanetVote requires a third path.

The Ring VRF Architecture

Following detailed technical analysis of the available approaches to ZK-based identity at scale, PlanetVote adopts the Ring Verifiable Random Function (ring VRF) with registered public key as its recommended identity architecture. This approach — formalised in a 2023 paper by researchers at the Web3 Foundation and implemented in the Polkadot ecosystem — provides the optimal balance of the required properties.

The mechanism works as follows. Each voter registers once by generating a zero-knowledge proof (SNARK) of their ePassport — proving possession of a valid government-issued biometric document without revealing any of its contents. This registration creates a fresh public key that is entered into a ring of all registered voter keys. The raw ePassport data is never stored. Subsequent voting uses this ring VRF key to cast anonymous votes: the system can verify the vote comes from a registered unique human, but cannot determine which registered human cast it.

This approach solves three of the four key problems identified in prior ZK voting research:

- **Electricity efficiency:** registration generates one proof once; subsequent votes are computationally lightweight.
- **Anonymity:** ring signatures make it cryptographically impossible to link a vote to a specific registered identity.
- **Verifiable uniqueness:** the nullifier mechanism ensures each registered key can only vote once per cycle, without revealing which key voted.

The vote-selling problem. The one unresolved challenge in this architecture — identified in the technical literature and independently noted by cryptographic reviewers of PlanetVote — is vote-selling resistance. Because a voter can share their ring VRF key, they can potentially sell their vote. This is not unique to ring VRF; it is a feature of all remote voting systems. PlanetVote's mitigation is twofold: first, the registration process creates a credential tied to a live ePassport NFC chip read, making delegation physically difficult; second, the social and legal framework treats vote-selling as a violation of the platform's founding charter. No cryptographic system can fully eliminate motivated coercion; social, legal, and institutional safeguards must complement the technical architecture.

Existing Implementations

A critical advance since the original drafting of this white paper is that the core technical components of PlanetVote's identity layer are no longer theoretical. Multiple open-source implementations now exist:

- **zkPassport:** An open-source implementation that reads ePassport NFC chips and generates ZK proofs of personhood without revealing passport contents. Already functional on standard NFC-capable smartphones. See zkpassport.id.
- **Google Longfellow ZKP:** Google open-sourced its zero-knowledge proof libraries in July 2025, specifically designed for privacy-preserving identity verification at scale. Available at github.com/google/longfellow-zk.
- **EU eIDAS ZKP Wallet:** The European Union's eIDAS regulation, taking effect in 2026, mandates ZKP integration into the European Digital Identity Wallet — providing government-backed ZK identity infrastructure for over 440 million citizens.
- **Human Passport (formerly Gitcoin Passport):** A modular proof-of-personhood system combining ZK-powered passport verification, on-chain reputation, and multiple identity pathways. Already deployed with millions of users. See human.tech.

The ePassport Coverage Gap

The ring VRF ePassport approach has one significant structural limitation: global passport ownership is uneven. Coverage varies substantially by country and income level, with lower rates in parts of sub-Saharan Africa, South Asia, and the Pacific. A system requiring an ePassport would structurally exclude a significant portion of humanity — precisely the populations that existing governance systems already marginalise.

This gap is acknowledged honestly and addressed through the parallel identity pathways described below. The ring VRF ePassport pathway is the primary and most cryptographically robust route; it is not the only route. All pathways produce an identical ZK credential upon registration. The platform cannot distinguish, and does not record, which pathway any individual used.

Parallel Identity Pathways

PlanetVote mandates multiple parallel pathways to identity registration. No single method is compulsory. The platform is designed so that neither physical capability nor document availability determines whether a person can participate in planetary democracy.

Pathway 1 — ePassport ZK Registration (Primary): Using a smartphone's NFC reader, the voter's ePassport chip is read and a ZK proof is generated locally on the device. No passport data leaves the device. The proof is submitted to the registration network, which verifies uniqueness and issues a ring VRF key. This pathway is available to anyone with an NFC-enabled smartphone and a biometric passport.

Pathway 2 — Community Attestation Network: For people without ePassports or NFC-capable devices, a network of in-person community verification centres — particularly in low-connectivity regions and in communities with high rates of disability — where trained facilitators assist with registration. Community attestation uses a web-of-trust model: existing verified voters can attest to the identity of new registrants, with cryptographic safeguards against attestation fraud.

Pathway 3 — Scramble-Pad PIN with Supervised Registration: For people who cannot use biometric scanning or NFC due to physical disability, a randomised PIN entry system — a

scramble pad — where numeric positions change with every use, defeating shoulder-surfing and recording attacks. Registration is conducted once through an assisted process. This pathway was identified by PlanetVote's founder, Paul Innes — a quadriplegic who cannot use standard biometric methods — as an essential accessibility requirement.

Pathway 4 — Adaptive Interface and Voice Access: The PlanetVote voting interface is designed to be fully operable by voice command, switch access, and other assistive technologies. The UN Convention on the Rights of Persons with Disabilities establishes participation in political and public life as a fundamental right. PlanetVote treats this not as a compliance obligation but as a design principle.

All pathways produce a cryptographically identical ZK credential. The platform cannot distinguish between them. A vote cast through Pathway 3 is indistinguishable from a vote cast through Pathway 1 in every respect except the registration mechanism. The democratic weight is equal.

Uniqueness Binding

Across all pathways, the core guarantee is uniqueness binding: the cryptographic assurance that each registered credential corresponds to exactly one living human being, and that no person can register more than once. This is achieved through:

- Nullifier mechanisms that detect and reject duplicate registrations without revealing the identity of the duplicate
- Cross-pathway deduplication proofs that prevent the same person from registering through multiple pathways
- Revocation protocols that allow credentials to be invalidated if fraud is detected, without disrupting the anonymity of legitimate voters

The identity layer is PlanetVote's hardest unsolved engineering problem. This white paper sets out the architecture with honesty about what is currently implemented (the shadow vote platform), what is technically available in open-source form (zkPassport, Longfellow ZKP, Human Passport), and what remains to be built (the full ring VRF registration and voting integration at planetary scale). PlanetVote invites cryptographers, identity researchers, and governance technologists to engage with this problem directly.

3.2 The Voting Layer

Votes on PlanetVote are cast, recorded, and tallied using a protocol that satisfies four simultaneous requirements that are in tension with each other in conventional voting systems:

- Anonymity: no individual vote can be traced to a specific voter
- Verifiability: every voter can verify their own vote was correctly recorded
- Universal verifiability: any observer can verify the correctness of the overall tally
- Coercion-resistance: no voter can prove how they voted to a third party, preventing vote-selling or coercion

These requirements are satisfied by a combination of homomorphic encryption (which allows votes to be tallied without decrypting individual ballots) and zero-knowledge range proofs (which allow voters to verify their vote was counted without identifying which vote was theirs).

3.3 Infrastructure and Resilience

PlanetVote's infrastructure is deliberately designed to be unshuttable by any single nation or coalition of nations. This is achieved through:

- Distributed hosting across jurisdictions in at least 12 nations with strong rule-of-law protections for internet infrastructure
- Peer-to-peer fallback protocols that allow the platform to operate via direct device-to-device communication even if centralised infrastructure is taken offline
- Open-source software that can be re-deployed by any party if the primary deployment is compromised
- Cryptographic signing of all data, making tampering immediately and publicly detectable

3.4 The Algorithm Audit System

The trending algorithm is published as open-source code on a public repository with full version history. All parameter changes are announced with a minimum 30-day notice period and subject to a public comment process. An independent Algorithm Audit Committee — appointed by the World Government Council but operationally independent of it — reviews all algorithm decisions and publishes quarterly audit reports.

Part IV: Legal and Political Pathway

4.1 The Legitimacy Question

The most frequent objection to proposals for global democratic governance is the question of legitimacy: by what authority does any body claim to speak for humanity? PlanetVote's answer is straightforward and unprecedented: it derives its authority from the direct, voluntary participation of the largest possible number of human beings, expressing their preferences through a transparent, verifiable process.

This is qualitatively different from the legitimacy claim of any existing international institution. The UN General Assembly derives its legitimacy from the consent of member governments, not from the direct consent of their populations. PlanetVote derives its legitimacy from the direct consent of individuals.

This does not mean PlanetVote's authority is unlimited or automatically binding. In its initial phase, PlanetVote's resolutions are politically and morally authoritative but not legally binding under international law. The legal binding mechanism must be built through a parallel process of treaty ratification by nation-states.

4.2 The Treaty Pathway

The path to legal recognition proceeds through the following stages:

1. Foundational Charter: Drafting and publication of PlanetVote's founding charter, defining the scope of the platform's authority, the structure of the World Government Council, and the rights and obligations of member citizens.
2. Founding Nation Signatories: Identification of 10-15 progressive nation-states willing to be founding signatories — nations that agree to honour PlanetVote supermajority votes on defined issue categories within their jurisdictions. Likely candidates include Iceland, New Zealand, Estonia, Costa Rica, Uruguay, Rwanda, and the Scandinavian nations, all of which have demonstrated democratic innovation leadership.
3. UN General Assembly Recognition: Submission of PlanetVote as a recognised civil society platform to the UN General Assembly, seeking observer status and formal acknowledgment of its legitimacy as a global democratic voice.
4. Binding Issue-by-Issue Ratification: For specific issue categories — beginning with planetary defense and pandemic preparedness — negotiation of binding international agreements that formally incorporate PlanetVote supermajority votes into treaty obligations.
5. Full Constitutional Recognition: Over a generational timeframe, the progressive expansion of PlanetVote's binding authority across all planetary-class issue categories, constitutionalised through a global treaty.

4.3 Relationship with Existing Institutions

PlanetVote is not designed to replace the United Nations, the International Court of Justice, the World Health Organization, or any other existing international institution. It is designed to provide these institutions with something they currently lack: a democratic mandate from the population they serve.

In practical terms, this means PlanetVote resolutions on planetary defense, climate, pandemic preparedness, and AI governance are transmitted to the relevant existing institutions as formal mandates from the global citizenry. Those institutions retain their operational and technical expertise. PlanetVote provides the democratic legitimacy that authorises them to act.

> *The relationship between PlanetVote and existing international institutions should be understood as analogous to the relationship between a national parliament and its executive agencies: the parliament provides the mandate, the agencies provide the implementation capacity. Neither can function legitimately without the other.*

Part V: The First Vote — Planetary Defense

5.1 Why Planetary Defense is the Right First Issue

The choice of the first real issue to put before a global democratic vote matters enormously. It must be an issue where the case for global coordination is overwhelming and uncontroversial, where the science is clear, where the cost is manageable relative to the stakes, and where success would demonstrate PlanetVote's value beyond any reasonable doubt.

Planetary defense — specifically, the establishment of a permanent, internationally funded Near-Earth Object monitoring and deflection capability — satisfies all of these criteria.

- The science is unambiguous: asteroid and comet impacts have caused mass extinctions in Earth's past and will do so again without intervention
- The technology works: NASA's DART mission proved kinetic deflection in 2022
- The cost is negligible: a comprehensive global planetary defense system costs approximately $1-2 billion per year — less than 0.003% of global GDP
- The issue is non-ideological: no political philosophy opposes not being struck by an asteroid
- No single nation can do it alone: planetary defense requires global telescope coverage, global early warning, and global coordination of deflection missions

A genuine global vote on planetary defense, achieving a 70%+ supermajority, would produce a mandate that no existing international institution has ever had. It would be politically impossible for the UN, NASA, ESA, and national governments to ignore. It would prove the concept of PlanetVote in a way that no theoretical argument can.

5.2 The Shadow Vote Strategy

Before PlanetVote achieves full legal recognition, a Shadow Vote strategy allows the platform to build its voter base, demonstrate its technical capability, and generate politically significant mandates.

A Shadow Vote is a fully functional, technically rigorous, publicly verifiable vote that is non-binding in international law but carries significant political and moral weight. The strategy proceeds as follows:

6. Technical deployment of the full PlanetVote platform for a single issue vote
7. Open registration to any adult globally with internet access and a verifiable identity credential
8. A 29.5-day voting period on the planetary defense mandate question
9. Full public reporting of results with cryptographic verification
10. Formal submission of the result to the UN General Assembly, NASA, ESA, and relevant national governments

11. Media and civil society campaign framing the result as the first genuine democratic mandate from humanity on a planetary issue

A Shadow Vote achieving participation from 100 million or more voters across all regions, with a strong supermajority for planetary defense funding, would be a historic political event — regardless of its formal legal status.

Part VI: Implementation Roadmap

Phase	Actions and Milestones
Phase 0: Foundation (Months 1-6)	Publish white paper globally. Establish open-source GitHub repository. Convene founding advisory council of governance scholars, cryptographers, and democratic theorists. Begin identity layer technical specification.
Phase 1: Identity (Months 6-18)	Partner with SSI standards bodies (W3C DID Working Group, Worldcoin Foundation). Develop privacy-preserving biometric identity protocol. Pilot with 1 million volunteer registrants across 10+ nations. Security audit by independent cryptographers.
Phase 2: Platform Build (Months 12-24)	Build full PlanetVote platform on open-source stack. Zero-knowledge voting protocol implementation. Distributed infrastructure deployment across 12+ jurisdictions. Algorithm audit system operational. Independent security penetration testing.
Phase 3: Shadow Vote (Month 24-30)	Run first Shadow Vote on planetary defense mandate. Target: 50 million+ registered voters globally. Full public result reporting. Submit to UN General Assembly and major space agencies. Global media campaign.
Phase 4: Treaty Pathway (Months 30-60)	Engage founding nation signatories. Draft PlanetVote Founding Charter. Submit for UN General Assembly observer status. Begin binding treaty negotiations on planetary defense and pandemic preparedness issue categories.
Phase 5: Scale (Year 5+)	Expand registered voter base toward universal adult enrolment. Progressive expansion of binding treaty authority. Full World Government Council elections. Transition from Shadow Votes to binding resolutions on founding signatory issues.

6.1 Funding the Initiative

The initial development of PlanetVote is funded through a combination of philanthropic grants, open-source community contribution, and founding nation-state support. The platform must be — and must be seen to be — independent of any single government, corporation, or billionaire funder. Funding governance is therefore as important as technical governance.

A PlanetVote Foundation, structured as an internationally registered nonprofit with a multi-stakeholder board, will receive and allocate all funding. All financial accounts will be published in real time on a public ledger. No single donor may contribute more than 5% of the annual operating budget, preventing capture by any single interest.

The estimated cost of Phases 0-3 is approximately $45-65 million over 30 months — a sum well within reach of a coordinated global philanthropic effort, particularly given the existential stakes the platform is designed to address.

Part VII: Anticipated Objections and Responses

7.1 "National sovereignty will prevent adoption"

PlanetVote does not ask nations to surrender sovereignty on domestic matters. It asks them to participate in coordinated decision-making on the narrow category of issues that are inherently planetary in scope. No nation is sovereign over an asteroid's trajectory. No nation is sovereign over a supervolcanic eruption's atmospheric effects. The sovereignty objection is most powerful precisely where it matters least — on the issues PlanetVote is designed to address.

7.2 "The digital divide excludes billions"

This objection is taken seriously. In 2026, approximately 3.2 billion people lack reliable internet access. PlanetVote's design must accommodate offline and low-bandwidth participation from the outset — through SMS-based voting protocols, in-person community verification centres in low-connectivity regions, and partnerships with local civil society organisations. Universal participation is a design requirement, not an aspiration. The platform is not legitimate if it structurally excludes the Global South.

7.3 "Misinformation will corrupt the vote"

The trending algorithm's scientific consensus weighting is specifically designed to resist misinformation capture of the agenda. For empirically grounded issues, the algorithm boosts issues where broad scientific consensus exists and downweights issues primarily driven by demonstrably false factual claims. The platform also maintains a public, auditable fact-checking layer for all issues on the active ballot. This does not prevent misinformation — nothing does entirely — but it significantly reduces its ability to drive the planetary agenda.

7.4 "Who guards the guardians?"

This is the most important objection and the one to which PlanetVote's entire technical architecture is the answer. The platform guards itself through radical transparency. Every algorithmic decision is auditable. Every vote is cryptographically verifiable. Every line of code is open source. Every funding transaction is publicly recorded. The Algorithm Audit Committee, the PlanetVote Foundation board, and the World Government Council are all subject to recall votes and public accountability mechanisms. No single actor — including the platform's founders — has unilateral control over any element of the system.

7.5 "This has been tried before and failed"

Previous attempts at global democratic governance have failed for three reasons: they were not genuinely democratic (they represented governments, not people), they lacked the technological infrastructure for direct participation at scale, and they were designed as all-or-nothing replacements for the existing nation-state system rather than as complementary layers. PlanetVote addresses all three failures: it is direct democracy, it is built on 21st-century

cryptographic infrastructure, and it is explicitly designed to complement rather than replace existing institutions.

Conclusion: The Necessity of PlanetVote

There is a version of the future in which humanity continues to be governed by 195 separate nation-states, each making decisions based on short electoral cycles and narrow national interest, while the planetary threats that do not respect those nations accumulate toward catastrophe. In that version of the future, the question is not whether a supervolcanic eruption or asteroid impact will occur — it is only when, and whether we will have built the coordination mechanisms to respond.

There is another version of the future. In that version, humanity looked at the tools available to it — the internet, cryptography, mobile communication, artificial intelligence, the accumulated wisdom of democratic theory — and built something new. Not a world government in the sense of a global authority over all human affairs. Something more modest and more powerful: a mechanism through which the people of Earth, speaking together for the first time in history, expressed their collective will on the decisions that determine whether they survive.

PlanetVote is that mechanism. It is technically feasible. It is politically achievable. It is philosophically justified. And given the threats that face this civilisation, it is arguably the most important infrastructure project of the 21st century.

The question is not whether such a platform should exist. The question is whether the people who understand the necessity will act before the necessity becomes catastrophe.

> *We invite every governance scholar, cryptographer, democratic theorist, jurist, technologist, and concerned citizen to join this effort. PlanetVote belongs to humanity. Its development must reflect that from the first day.*

Appendix A: Glossary of Key Terms

Term	Definition
Supermajority	A voting threshold of 66.7% (two-thirds) of participating voters required for any standard resolution to pass under PlanetVote.
Zero-Knowledge Proof	A cryptographic method allowing one party to prove a statement is true without revealing any information beyond the truth of the statement itself.
Self-Sovereign Identity (SSI)	An identity model in which individuals control their own digital credentials without reliance on centralised authorities.
Decentralised Identifier (DID)	A type of globally unique identifier anchored to a public blockchain, controlled by the individual, not by any registrar.
Homomorphic Encryption	Encryption that allows computation on encrypted data without decrypting it, enabling vote tallying without exposing individual ballots.
Lunar Cycle	The approximately 29.5-day period of the Moon's orbit around Earth, used as PlanetVote's standard voting cycle.
Emergency Override Protocol	PlanetVote's mechanism for opening a crisis vote within 6 hours of a verified planetary-class threat, bypassing the standard lunar cycle.
Shadow Vote	A fully functional but non-legally-binding PlanetVote vote, used to build voter base, demonstrate platform capability, and generate political mandates during the pre-treaty phase.
World Government Council	The 17-member (plus Secretary-General) executive body of PlanetVote, elected by regional supermajority, responsible for implementing passed resolutions.
Trending Algorithm	PlanetVote's open-source, publicly auditable system for selecting which issues appear on each lunar cycle's ballot.

Appendix B: Relevant Existing Institutions and Frameworks

Institution / Framework	Relevance to PlanetVote
UN Office for Outer Space Affairs (UNOOSA)	Primary UN body for space governance. Natural partner for planetary defense mandate implementation.
International Asteroid Warning Network (IAWN)	Existing voluntary coordination network for NEO threat assessment. Provides technical infrastructure PlanetVote can mandate funding for.
Space Mission Planning Advisory Group (SMPAG)	Coordinates international response planning for NEO threats. Requires binding authority that PlanetVote can provide.
W3C Decentralised Identifier Working Group	Develops open standards for DID infrastructure. Critical technical partner for PlanetVote identity layer.
Antarctic Treaty System (1959)	Proof of concept for cooperative international governance of a global common. Demonstrates feasibility of sovereignty-sharing on planetary issues.
Nuclear Non-Proliferation Treaty (1968)	Model for binding international agreement on an existential risk category. Template for PlanetVote's treaty pathway.
EU eIDAS 2.0 Framework	European digital identity standard. Relevant to PlanetVote identity layer design for European participants.
IPCC (Intergovernmental Panel on Climate Change)	Scientific consensus body whose findings should feed directly into PlanetVote's algorithm for climate-related issues.
Internet Governance Forum (IGF)	UN forum on internet governance. Potential venue for early PlanetVote legitimacy-building engagement.

Appendix C: Recommended Reading and References

The following works inform the theoretical and technical foundations of PlanetVote:

- Dahl, R.A. (1989). Democracy and its Critics. Yale University Press.
- Held, D. (2010). Cosmopolitanism: Ideals and Realities. Polity Press.
- Allen, D. (2022). Our Declaration: A Reading of the Declaration of Independence in Defense of Equality. Liveright.
- Narayanan, A. et al. (2016). Bitcoin and Cryptocurrency Technologies. Princeton University Press.
- W3C Decentralised Identifiers (DIDs) v1.0 Specification. https://www.w3.org/TR/did-core/
- NASA (2017). Defending Planet Earth: Near-Earth Object Surveys and Hazard Mitigation Strategies. National Academies Press.
- Sparks, R.J. et al. (2023). Supervolcano Hazard Assessment: Current Knowledge and Research Priorities. Nature Reviews Earth & Environment.
- United Nations (1967). Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space.
- Groth, P. & Moreau, L. (Eds.) (2013). PROV-Overview: An Overview of the PROV Family of Documents. W3C.

PlanetVote — The Planet's Vote

White Paper v1.5 — May 2026

To contribute to this initiative:

github.com/PlanetVote/PlanetVote

theplanetsvote.org

"The question is not whether such a platform should exist.
The question is whether the people who understand the necessity
will act before the necessity becomes catastrophe."