PrimeLayer

PrimeLayer v1.0 - BTCFi Without Compromise

Bluepaper v1.0 - Executive Summary

Why PrimeLayer exists

In a hyper-bitcoinized world, Bitcoin serves as the global balance sheet: final settlement, pristine collateral, neutral money. But today, many people are using Bitcoin merely as a store of value, leaving hundreds of billions of dollars sitting on the sidelines. What is missing is a way to put that money to work without 1) selling BTC and/or handing keys to custodians and 2) sacrificing BTC's most compelling feature: its unrivaled security.

PrimeLayer is designed to fill that void. It is a Bitcoin-anchored, zkEVM Layer 2 that combines Bitcoin's settlement assurances with programmable yield and lightning fast transaction speeds. We anchor via merge-mined tags instead of routine, heavy postings to Bitcoin blockspace, ensuring scalability and sustainability while still fully utilizing Bitcoin's security. We provide a trust-minimized BTC bridge and a conservative, over-collateralized, BTC-backed stablecoin. On top sits a dual vote escrow system for Bitcoin holders and PrimeLayer holders, plus a bribe marketplace that directs emissions and fee share to wherever they can create the most value. The result is low fees, high throughput, and holder-first economics designed to be sustainable into the forever future.

Key Terms

- **HV (Hardware Validator)** - Validator with attested hardware that sequences transactions, proposes blocks, and participates in builder and attester committees.
- **NV (Network Validator)** - Validator that performs verification, economic finality, and governance committee work. Votes in governance via ve-positions.
- **PBTC -** PrimeLayer's native wrapped-Bitcoin token.
- **veBTC (Vote-escrowed Bitcoin)** - Governance token earned by locking PBTC.
- **pUSD** - An overcollateralized, BTC-backed stablecoin.
- **PRML** - PrimeLayer's native token.
- **vePRML (Vote-escrowed PRML)** - Governance token earned by locking PRML.
- **DEX (Decentralized Exchange)** - PrimeLayer integrates a DEX directly at the protocol layer, participating as a first class citizen in protocol economics.
- **DAO (Decentralized Autonomous Organization)** - PrimeLayer's DAO is bound by immutable, protocol-level rules and policies. Within those bounds, PBTC and PRML holders participate in a bi-cameral governance that actively manages protocol liquidity and monetary policy to ensure protocol health and maximize rewards for all participants.
- **Gauge** - A DAO governed voting pool tied to specific, protocol-native economic and liquidity rails. Token holders can vote on gauges to steer emissions and revenue to

various protocol-governed programs. Users can allocate votes to a single gauge or across multiple gauges to maximize yield and control inflation and builder incentives.

- **Bucket A** - Liquidity pool and BTC-facing gauges; governance of these gauges is shared 50/50 between veBTC and vePRML voters.
- **Bucket B** - Economic and monetary policy gauges such as validator rewards, infrastructure programs, buybacks or burns, grants, and treasury; these gauges are governed 100% by vePRML voters.

Why PrimeLayer's approach outcompetes

- **Bitcoin native security without fee shocks.** Merge mined anchoring avoids frequent L1 fee wars while preserving escalation to Bitcoin for truth.
- **zkEVM performance with ETH-grade UX.** High throughput, low fees, and familiar tools attract builders and users.
- **Capital and infrastructure alignment.** veBTC and vePRML co-govern value flows. Bribe markets and the HV fee marketplace pay for the outcomes that grow revenue, like liquidity depth and validator quality.
- **Self-sustaining, with a gradual transition from emissions to revenues as the primary driver of value.** As activity compounds, the BTC Vault and buybacks and burns gradually replace emissions, funding yield from real fees rather than dilution.

First principles

- **BTC holders win first and last.** Users bridge to PBTC non-custodially, and mint pUSD at conservative collateral ratios with 0% interest – unlike current custodial solutions, which charge 10%+ and come with significant counter-party and centralization risks. In return, BTC participants earn two streams of yield:

  - **Emission yield in the form of PRML tokens –** released via liquidity gauges that participants help steer into liquidity pools in exchange for bribes by voting with veBTC, creating even greater returns

  - **Real BTC yield from the BTC Vault –** once protocol revenues reach the activation threshold, participants get to keep BTC exposure, vote with veBTC, and earn bribes for informed voting – and if participants bind to a Hardware Validator they also benefit from slower vote power decay.

- **PRML holders and validators own the rails.** Users lock PRML tokens in exchange for vePRML tokens, which carry the right to vote on the management of emissions allocations, the initiation of buybacks or burns, and the sizing of infrastructure budgets, such as the builders' fund. Hardware Validators receive a dedicated, per-block emission slice, proposer and attester rewards, reduced vote decay while actively serving, and can tap an HV fee marketplace by collecting a revenue share from veBTC binders. Network

PrimeLayer

Validators earn through governance and finality buckets with validator floors that stabilize security across market cycles.

- **The economy is circular.** Fees generated from liquidation fees, network participants using the bridge or DEX, and the minting or redemption of pUSD all accrue to the DAO. Governed shares route to the BTC Vault and to buyback or burn. Over time, the system shifts from the bulk of earned yield coming from emissions to revenue funded incentives.

The flywheel that pays you

1. BTC becomes PBTC through non-custodial bridging.
2. PBTC is used to mint pUSD, deepening liquidity.
3. Economic activity drives fees across PBTC bridge in/out fees, DEX activity, pUSD mints and redeems and liquidations.
4. Votes determine where value is routed. Voters holding veBTC and vePRML direct emissions and fee share to the pools, validators, and programs that they believe produce the most net utility, reinforced by a transparent bribe marketplace.
5. Participants that lock tokens for a longer period of time and renew those lockups earn greater voting power and revenue share. EIP1559 deflationary economics guarantees the more the system is used, the more fees get burned – creating a sustainable economy and a first of its kind vote-escrow-based protocol.
6. Fees become yield. The BTC Vault streams real BTC to PBTC providers when active, and buybacks or burns reduce PRML net inflation.
7. The loop compounds. Better yield attracts more BTC and builders, deepening liquidity, tightening pegs, increasing usage, and increasing fees.

Illustrative emissions and yield forecast

Hypothetical only. Assumes an Ethereum-like adoption curve and steady market conditions. Actual results will vary. Ranges are annualized. Bribes are third-party incentives and not protocol guaranteed.

Stakeholder APY ranges by phase. Totals are annualized APY ranges. Breakdown shows indicative composition. HV marketplace bonuses are additive.

Stakeholder	Bootstrap total APY	Bootstrap breakdown	Growth total APY	Growth breakdown	Self-sustaining total APY	Self-sustaining breakdown
PBTC LPs in PBTC-pUSD gauges	18-35%	16-30% PRML emissions, 0-3% BTC Vault, 2-5% bribes	12-24%	8-16% PRML emissions, 2-6% BTC Vault, 2-6% bribes	6-14%	2-6% PRML emissions, 4-10% BTC Vault, 0-4% bribes
veBTC voters unbound	4-10%	0-2% indirect emissions, 4-8% bribes,	3-8%	0-2% indirect emissions, 3-6% bribes,	2-6%	0-1% indirect emissions, 2-5% bribes,

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Stakeholder	Bootstrap total APY	Bootstrap breakdown	Growth total APY	Growth breakdown	Self-sustaining total APY	Self-sustaining breakdown
		0% BTC Vault direct		0% BTC Vault direct		0% BTC Vault direct
veBTC voters bound to an HV	7-16%	0-2% indirect emissions, 4-8% bribes, 3-6% HV marketplace bonus, optional BTC Vault via voted gauge 0-2%	6-14%	0-2% indirect emissions, 3-7% bribes, 3-5% HV marketplace bonus, BTC Vault via voted gauge 1-3%	4-10%	0-1% indirect emissions, 2-5% bribes, 2-4% HV marketplace bonus, BTC Vault via voted gauge 1-3%
vePRML lockers non-validator	8-18%	5-12% emissions Bucket B, 3-6% buyback-burn value proxy	6-14%	3-8% emissions, 3-6% buyback-burn proxy	4-10%	1-4% emissions, 3-6% buyback-burn proxy
Hardware Validators HV	22-38%	14-22% per-block emissions + proposer-attester, 3-6% fee uplifts, 5-10% HV marketplace bonus	18-32%	10-18% emissions + proposer-attester, 3-6% fee uplifts, 5-8% HV marketplace bonus	12-24%	6-12% emissions + proposer-attester, 3-6% fee uplifts, 3-6% HV marketplace bonus
Network Validators NV	10-20%	8-16% emissions Bucket B, 2-4% fee uplifts	8-16%	6-12% emissions, 2-4% fee uplifts	6-12%	4-8% emissions, 2-4% fee uplifts
Builders and protocols using grants-gauges	20-60% effective incentive on eligible spend	Matching programs, liquidity co-incentives, audit-data credits, bribe co-funding	12-36%	Same mechanisms, scaled by performance	6-18%	Same mechanisms, post-scale optimization

Shared assumptions
- Emission decay corridors respected, validator floors honored.
- BTC Vault activates once rolling protocol revenue clears the bluepaper threshold.
- Fee sources include the bridge, DEX, pUSD mint-redeem process, and liquidations.
- Bribes flow to gauges where voters direct liquidity and utility.

Anchoring and execution

- **Anchoring -** PrimeLayer inherits Bitcoin's security via merge-mined tag anchoring, avoiding frequent fee wars on L1 while maintaining an escalation path to Bitcoin for

disputes.

- **Execution -** A zkEVM delivers Ethereum grade UX and tooling with validity proofs that compress verification, enabling high throughput and low fees without sacrificing decentralization or permissionlessness.

Holder benefit: lower base costs plus higher performance leads to more usage and more protocol fees, which leads to stronger yield and buybacks over time.

Bridge design

- Non-custodial ingress and egress with a dispute path that can escalate to Bitcoin, supported by watchtower windows and conservative operational rules.
- Receipts and verifying keys bind deposits to identities to block invalid exits.

Holder benefit: keep Bitcoin's settlement assurances, minimize the need for trust in third parties, and generate fee revenue that helps fund BTC Vault payouts and deflationary policy levers.

pUSD stability

- Minting only against PBTC at safe collateral ratios with liquidation buffers.
- Risk controls that include auctions, circuit breakers, and redemption logic, plus leverage caps and parameter corridors.
- A protocol-native stability pool is constantly funded by a small slice of emissions and converted to pUSD to act as a backstop for pUSD in times of high BTC price volatility. This allows for pUSD participants to exit the system in a risk-mitigated manner. The PrimeLayer DAO buys PBTC back from users using the stability pool pUSD and holds that PBTC. When BTC's price recovers, the DAO can liquidate the PBTC as needed to further top up the stability pool and generate additional revenue for the DAO. The protocol is designed to both help facilitate and benefit from our fundamental thesis of a hyper-bitcoinized future.

Holder benefit: keep BTC as your base money while unlocking liquidity for trading, payments, and credit, driving usage and fees that can flow back as real BTC and PRML rewards – all while your BTC remains securely in your wallet.

Incentive markets

- **Liquidity gauges and a bribe marketplace.** veBTC and vePRML voters participate equally (50/50) in directing emissions to pools in exchange for earning the LP fees from that pool for a given epoch (pro-rata, based on their vote distribution across various gauges). DApps and builders can offer bribes that compensate voters for directing liquidity flow toward productive venues, creating a strong protocol native launchpad for

B PrimeLayer

new DApps and tokens. LP inventory providers and market makers can also choose to stake their LP NFT to earn emissions and LP fees for a given epoch if they've provided LP inventory to a gauge-voted pool. LP inventory providers that do not stake their LP NFT continue to earn DEX fees only (as normal).

- **HV fee marketplace.**

    - **Opt in binding** - veBTC voters may bind their voting identity to a specific Hardware Validator.
    - **Competition on revenue share** - Each HV can publish a revenue share offer – for example, a percentage of veBTC revenue required for a veBTC user to bind to their HV identity – to increase their revenue. In exchange for accepting this offer and forgoing a portion of the yield they are owed, veBTC users get the benefits of slower voting power decay.
    - **Voter bonuses** - Bound veBTC voters receive the HV revenue share and a slower decay rate on veBTC voting power for as long as the binding is active and the HV remains attested and compliant.
    - **Integrity and portability** - Bindings are voluntary and time-boxed. Voters can rebind after an interval. HV misbehavior or loss of attestation voids the bonus and decay benefit for that epoch.

Why it works: HVs attract durable vote support and amplify their economics beyond the base emissions. veBTC voters capture incremental yield and more persistent influence for aligning with reliable infrastructure. The market discovers fair pricing for validator quality and availability, pushing the network toward better latency, deeper liquidity, and higher throughput, which raises fees and yield for everyone in the long run.

Validators

- Hardware Validators

    - Constitutionally reserved, per-block emissions
    - Proposer and attester rewards
    - Reduced vote decay while actively serving
    - Additional upside via the HV fee marketplace when veBTC voters bind to them

- Network Validators

    - Bucket B funding for governance, proof verification, and finality work
    - Validator floors that protect security through market cycles

Holder benefit: well-funded, high-quality validators lower end-user costs, improve UX, and increase transaction volume, powering the fee engine that funds BTC Vault yield and reducing PRML net inflation over time.

E PrimeLayer

Governance at a high level

- **Two houses with clear scopes.** veBTC co-governs Bucket A with vePRML for liquidity and Vault share. vePRML also steers Bucket B for validators, infrastructure, buyback or burn, grants, and treasury.
- **Bounded levers.** Emission corridors, floors and caps, warm up and escrow on sensitive changes reduce capture risk.
- **Identity aware incentives.** Bribes and HV fee offers pay for productive voting while preserving safety checks and auditability.

Builders and programs

PrimeLayer is built for builders who want speed, low cost, and immediate access to aligned capital.

- **EVM parity.** Ship with familiar tooling and zk-verified settlement.
- **Liquidity on demand.** The bribe marketplace lets protocols attract votes and liquidity when they need it, transparently and with guardrails.
- **Dedicated programs and grants.** Within Bucket B, governance can earmark structured builder grants, matching incentives, audit credits, data credits, and targeted growth funds. These programs are onchain, rules-based, and performance-gated, so builders who deliver features, throughput, and users can scale support over time.
- **Clear path to stickiness.** As protocol fee share rises and emissions taper, productive builders benefit from deeper liquidity, lower slippage, and a larger user base that can be activated with targeted gauges and grants.

Stakeholder playbooks

- **BTC holders**
  - Bridge BTC to PBTC and keep self sovereign assurances.
  - Provide PBTC or pUSD liquidity to earn PRML emissions today.
  - Lock PBTC to receive veBTC and vote on Bucket A allocations, earn bribes, and optionally bind to an HV to receive slower vote decay in exchange for sharing a portion of veBTC revenue with the related HV.
  - As revenue scales and the BTC Vault activates, collect real BTC on top of emissions.

- **PRML holders and validators**
  - Lock PRML to receive vePRML and vote to steer emissions, control validator funding, initiate buybacks or burns, manage the treasury, and collect bribes and DEX fees (shared with LPs).
  - Run HVs to access dedicated per-block emissions, proposer or attester income, reduced vote decay, and additional yield via revenue sharing with veBTC participants through the HV fee marketplace.

- Run NVs to earn governance or finality rewards and maintain strong network safety backed by validator floors.

- **Builders and protocols**
  - Deploy with zkEVM speed and low fees.
  - Use gauges and ethical bribes to bootstrap liquidity with transparency.
  - Apply for governance backed grants and matching programs that scale with milestones and measurable impact.

- **Liquidity providers (LP Inventory):**
  - Stake LP NFT during epochs where votes have directed some emissions to liquidity for pools to earn both emissions *and* fees, creating greater incentives for long-term providers.

The simple pitch

- **If you own BTC.** Bring it in non custodially, keep owning BTC, earn PRML emissions now and real BTC later, vote with veBTC, take bribes, and if you want, bind to a great HV for slower vote decay in exchange for a small revenue share with the HV.
- **If you operate infrastructure.** Run Hardware Validators with a reserved cut of emissions, performance rewards, reduced vote decay, and competition driven upside through the HV fee marketplace.
- **If you hold PRML or build here.** Lock to vePRML, direct the spend that compounds value for holders and users, and ship on zk rails that keep costs low and experiences fast.
- **If you are a Liquidity Provider or Market Maker.** Earn DEX fees for providing liquidity to various DEX pairings. Stake your LP NFT to earn emissions rather and fees during epochs where DEX pairings you've provided liquidity to are voted on through the gauge system.

PrimeLayer ties Bitcoin's settlement assurances to zk-powered programmability and a set of markets that pay the people who provide capital, security, and utility. It turns Bitcoin's monetary premium into sustainable, programmable yield without compromise.