TenzaOne Whitepaper

Part 2: Cooperative DAO

DAO-Governed Carbon Projects Cooperative & Investment Community

A DAO-Governed Carbon Projects Cooperative

Cooperative arrangements to certify and market the emission reductions or renewable energy generation from similar products.

- **Shared Certification**: Businesses within a cooperative can collectively certify their projects under VCS standards.
- **Economies of Scale**: By pooling resources and projects, cooperatives can negotiate lower certification fees and streamline administrative processes.
- **Market Representation**: Cooperatives can represent a unified front in the carbon market, potentially attracting more buyers and achieving better market prices for their certified credits.

A Dual Purpose DAO

The DAO structure serves dual purposes: managing investment decisions through token holders and coordinating cooperative activities like project approvals and certification. This Integration allows for synergies between investment decisions and cooperative operations, fostering alignment between financial goals and sustainability objectives.

Considerations for DAO Structure in Cooperative:

- **Separate but Connected Governance**: Integrating cooperative governance within the existing DAO structure can streamline operations and governance processes, potentially reducing administrative overhead.
- **Legal and Regulatory Compliance:** Ensure that the DAO structure complies with legal and regulatory requirements for cooperatives, blockchain entities, and investment activities in relevant jurisdictions as well as defining DAO contractual agreements and membership terms across stakeholders.
- **Operational Efficiency and Transparency:** Using smart contracts on the blockchain to automate processes and maintain audit trails and transparent reporting mechanisms to uphold accountability.

DAO Governance

Project investment control and decisions 100% controlled and governed by Investors in the TenzaDAO Decentralized Autonomous Organization, in community with Project Owners and Project Developers, presents opportunities for investment pooling on a set of curated and assessed impact projects.

TenzaOne DAO Delivers

- **Diverse opportunities**: access to Impactful ESG Investments at Group and Project Levels: curated investment opportunities via TenzaDAO Governance or direct B2B/P2P models.
- **Alignment** with your values to contribute to a sustainable future;

- **Visible governance** and Decision-making via the DAO structure and policies
- **Risk-mitigating** project monitoring, enabled by publicly-accessible DePIN-connected solutions tracked via the blockchain
- **Risk-free** financial transactions
- **Potential for Returns:** ESG projects can offer competitive financial returns alongside their positive impact.

Overall, the TenzaOne solution empowers investors to leverage their existing holdings to create a more impactful portfolio while potentially achieving strong financial returns.

Solutions to Elemental Problems

Tenza Solutions solves two major problems within the fight against climate change:

1. **Lack of Transparency and Efficiency in Carbon Offsetting:** The current carbon trading market can be opaque and inefficient. Traditional methods often lack transparency in project verification and data tracking, leading to concerns about greenwashing. Tenza addresses this by leveraging blockchain technology to create a secure and transparent trading platform for carbon credits.

2. **Limited Connection Between Project Developers, Businesses and Investors:** Businesses seeking to offset their emissions and investors looking to support and enable such businesses and projects often struggle to find high-quality carbon projects.

Project developers, on the other hand, may face challenges in accessing a broad pool of potential buyers for their carbon credits. Tenza bridges this gap by connecting these two parties on a single platform, facilitating efficient carbon credit trading.

Value Propositions

- **Focus on Transparency & Trust:** Highlight blockchain-based security and the data-driven insights from your AI tool. Show how this fosters trust and avoids greenwashing compared to competitors.
- **Demonstrable Quality & Impact:** Showcase the high-quality carbon credits from our vetted project developers and emphasize the positive environmental impact.
- **Bespoke Solutions:** Cater to specific industry needs and carbon reduction goals, unlike generic platforms.
- **Faster Development & Verification:** Emphasize how our AI tool streamlines project design and verification, saving them time and resources.
- **Wider Buyer Network:** Position yourself as a gateway to a diverse pool of carbon credit buyers on our platform.
- **Enhanced Project Credibility:** Highlight how your platform ensures transparent data and verification processes, increasing project credibility.

We will create a robust governance framework leveraging blockchain capabilities, enhances transparency, efficiency, and stakeholder participation in cooperative activities within a decentralized ecosystem.
The Governance Framework, to be developed, will define how decisions within the cooperative DAO will be made. This includes voting mechanisms, proposal submission, and governance token distribution among members with transparency in decision-making processes and access to relevant information for all members of the cooperative DAO.

DAO Membership and Participation

Membership and access to the DAO and TenzaOne communities will follow this basic structure:

- **Token Holders**: DAO members who hold governance tokens can participate in decision-making regarding cooperative activities, such as project approvals, financial management, and strategic direction.
- **Cooperative Members**: Ensure that cooperative members, who may be project owners or participants, have a clear pathway to participate in DAO governance. This may involve dual membership or token allocation mechanisms.

Tiered Membership Structure in the Tenza DAO

The Tenza DAO will implement a tiered membership structure to ensure fair community involvement, empowerment, transparency, innovation, and direct influence. This structure will enhance the overall functionality and effectiveness of the organization while enabling differentiation between participation in the Project Credits Cooperative and the Investment arms of the DAO.

Membership Tiers and Governance

1. Differentiated Participation Areas:
    - Smart contracts will govern distinct areas of influence and involvement.
    - Wallet addresses will delineate participation in specific DAO functions.
2. Community Involvement:
    - Multiple membership levels will facilitate broader community participation.
    - Decision-making processes will closely align with the collective interests of the organization.
3. Empowerment and Flexibility:
    - All membership tiers will have input in the DAO's direction and decisions.
    - This approach will foster empowerment and create a more flexible operational environment.

4. Transparency and Trust:
    - The Tenza DAO will operate on a decentralized blockchain network.
    - Immutable blockchain records will promote transparency and trust among members.
5. Innovation and Profit Sharing:
    - Membership tiers will drive innovation by allowing proposal submissions for improvements.
    - The DAO will implement mechanisms for equitable profit sharing or dividends distribution.
6. Direct Influence:
    - Members across tiers will directly influence the DAO's products or services.
    - This ensures alignment with diverse member needs and preferences.

Decision-Making Processes

1. Voting Mechanisms:
    - Voting power will correlate with membership tiers and $TNZE token holdings.
    - This tiered approach will influence proposal outcomes and strategic decisions.
2. Decentralization Spectrum:
    - The Tenza DAO will implement a balanced approach to decentralization.
    - Some decisions will be made collectively, while others may be delegated to representative agents.
3. Coordination Efficiency:
    - The DAO will implement strategies to mitigate coordination costs in decentralized decision-making.
    - These strategies will address challenges such as low voter turnout and expertise coordination.
4. Feedback and Incentive Systems:
    - Robust feedback mechanisms will be implemented to encourage participation.
    - Incentive systems will reward active engagement and valuable contributions.

Implementation and Benefits

1. Smart Contract Integration:
    - Membership tiers and associated rights will be encoded in smart contracts.
    - This ensures transparent and automatic enforcement of membership privileges.
2. Dynamic Tier Adjustment:

- The DAO will implement mechanisms for members to progress through tiers based on participation and contributions.

3. Specialized Governance Tokens:
    - Different governance tokens may be issued for specific DAO functions (e.g., Project Credits Cooperative, Investment Arms).
4. Cross-Tier Collaboration:
    - The DAO will encourage collaboration between tiers to leverage diverse expertise and perspectives.
5. Tier-Specific Proposals:
    - Certain proposal types may be restricted to or prioritized for specific membership tiers.
6. Transparent Tier Criteria:
    - Clear, publicly available criteria for each membership tier will be maintained.

By implementing this tiered membership structure, the Tenza DAO will create a more inclusive, dynamic, and effective governance model. This approach will balance the benefits of broad participation with the need for specialized expertise in decision-making, ultimately driving the DAO's success and sustainable growth.

Smart Contract Control

Smart contracts represent self-executing contracts with the terms of the agreement embedded into code. They are fundamental components of blockchain technology, offering high levels of automation, transparency and efficiency. Within the Tenza ecosystem, particularly Climatenza, smart contracts play a pivotal role in the energy trading marketplace.

With the added benefits and control points enabled by DePIN (Decentralized Physical Infrastructure Networks) into Climatenza, smart contract applications are enabled to automatically conduct transactions, agreements, and processes without requiring a centralized authority or intermediary. This translates to several tangible benefits for the clients and investors of Tenza.

Benefits of Blockchain Verification (DEPIN) for Cooperative Approvals

Using blockchain technology including DEPIN, for verification purposes can enhance the likelihood of projects from different industries and natures being approved as groups for cooperative purposes for the following reasons:

1. Transparency and Trust:
    - **Immutable Records**: Blockchain provides a secure and transparent way to record and verify transactions and data related to emissions reductions or renewable energy generation. This transparency builds trust among cooperative members and external stakeholders.

2. Unified Verification Standards:
    - **Standardization**: Blockchain verification can establish unified standards for documenting and verifying emission reductions or energy efficiency improvements across diverse projects. This standardization helps streamline the approval process for cooperative arrangements.
3. Cross-Industry Compatibility:
    - **Interoperability**: Blockchain technology can facilitate interoperability between different types of projects and industries. It allows for the integration of diverse data sources and verification methods, enabling projects from various sectors to collaborate within a cooperative framework.
4. Enhanced Efficiency and Cost Savings:
    - **Reduced Administrative Burden**: Automation and smart contracts enabled by blockchain can reduce administrative costs and complexities associated with certification and verification processes. This efficiency makes cooperative arrangements more economically viable for small businesses.
5. Market Recognition and Acceptance:
    - **Credibility**: Utilizing blockchain for verification enhances the credibility of certified credits or RECs in the carbon market. It provides auditable proof of emission reductions or renewable energy generation, which is essential for attracting buyers and investors.

Considerations for Cooperative Approvals:

- **Regulatory Compliance**: Ensure that cooperative arrangements comply with regulatory requirements and standards relevant to carbon markets and sustainability certifications.
- **Data Integrity and Security**: Implement robust data management practices to maintain the integrity and security of blockchain-based verification systems.
- **Collaborative Governance**: Establish clear governance frameworks within cooperatives to manage data sharing, decision-making, and accountability among members.

By leveraging blockchain verification through DEPIN or similar technologies, businesses can enhance the likelihood of diverse projects being approved as cooperative groups. This approach not only fosters collaboration across different industries and project types but also improves efficiency, transparency, and market acceptance in the voluntary carbon market.

Growth and Evolution of Project Aggregation Initiatives

The TenzaOne DAO will foster the development and expansion of cooperative and aggregation initiatives within its ecosystem, enabling efficient participation in carbon markets for projects of all sizes. This approach will evolve through several key stages:

1. Initial formation of partnerships among like-minded projects
2. Strategic expansion through internal growth and external additions
3. Leveraging economies of scale and increased efficiency
4. Ensuring long-term sustainability and scaling impact
5. Adapting to regulatory changes and market dynamics

By implementing these strategies, the TenzaOne DAO will create a robust and adaptable ecosystem for cooperative and aggregation initiatives, driving significant collective impact while ensuring long-term sustainability and success in the carbon market.

1. Initial Formation and Collaboration

1.1. Foundational Partnerships:

- **Formation of Initial Groups**: Facilitate the creation of initial cooperative groups among compatible projects.
- **Smart Contract Governance**: Implement smart contracts to govern these partnerships, ensuring transparency and fairness.
- **Shared Resources**: Provide early adopters with shared resources and collective market positioning benefits.

1.2. Alignment of Sustainability Goals:

- **Project Matching**: Match projects based on aligned carbon reduction or sequestration objectives.
- **Common Metrics**: Establish a framework for common sustainability metrics and targets.
- **Performance Reviews**: Conduct regular sustainability performance reviews to maintain goal alignment.

1.3. Blockchain-Based Cost-Sharing:

- **Equitable Distribution**: Implement protocols for equitable distribution of shared expenses (e.g., certification, verification).
- **Tokenized System**: Develop a tokenized system for cost allocation among cooperative members.
- **Automated Cost Distribution**: Automate cost distribution via smart contracts based on project size and resource utilization.

2. Expansion Through Project Addition

2.1. Strategic Membership Growth:

- **Outreach Program**: Implement an outreach program to attract diverse projects to existing cooperatives.

- **Tiered Membership**: Establish a tiered membership structure accommodating various project sizes and maturity levels.
- **Referral Incentives**: Create incentive mechanisms rewarding existing members for successful referrals.

2.2. Portfolio Diversification:

- **Classification System**: Develop a classification system for projects (technology, industry, geographic location).
- **Balanced Growth Strategy**: Implement a balanced growth strategy ensuring diversification across multiple dimensions.
- **Specialized Platforms**: Create sub-cooperatives or specialized aggregation platforms for niche project categories.

2.3. Streamlined Onboarding:

- **Blockchain-Based System**: Establish a blockchain-based onboarding system for new projects.
- **Onboarding Materials**: Develop comprehensive onboarding materials and training programs.
- **Peer Mentorship**: Implement a peer mentorship program pairing new projects with experienced members.

3. Leveraging Economies of Scale and Efficiency

3.1. Cost Reduction Strategies:

- **Bulk Purchasing Agreements**: Develop bulk purchasing agreements for common project needs.
- **Shared Administrative Services**: Implement shared administrative services powered by blockchain and smart contracts.
- **Resource Pool**: Create a DAO-wide resource pool for specialized expertise and consulting services.

3.2. Enhanced Market Access:

- **Centralized Trading Platform**: Establish a centralized trading platform for cooperative-generated carbon credits.
- **Strategic Partnerships**: Develop strategic partnerships with major carbon credit buyers and exchanges.
- **Reputation System**: Implement a reputation system showcasing the collective impact and quality of cooperative projects.

3.3. Operational Efficiency:

- **AI-Driven Tools**: Deploy AI-driven project management tools to optimize resource allocation.
- **Blockchain Tracking**: Implement blockchain-based tracking systems for real-time monitoring of project progress.

- **Standardized Processes**: Develop standardized templates and processes for common cooperative activities.

4. Ensuring Long-Term Sustainability and Impact

4.1. Scaling Impact Measurement:

- **Impact Dashboard**: Create a comprehensive impact dashboard aggregating data from all cooperative projects.
- **Predictive Models**: Develop predictive models to forecast long-term environmental impact of collective efforts.
- **Tokenized Rewards**: Implement a tokenized impact reward system to incentivize continuous improvement.

4.2. Innovation and Knowledge Sharing:

- **Decentralized Knowledge Base**: Establish a decentralized knowledge base for best practices and innovative solutions.
- **Virtual Innovation Summits**: Create regular virtual innovation summits for cooperative members.
- **Grant Program**: Develop a grant program to fund collaborative research and development initiatives.

4.3. Continuous Improvement:

- **Peer Review System**: Implement a peer review system for ongoing project evaluation and enhancement.
- **AI Optimization Tools**: Develop AI-powered optimization tools for project performance and efficiency.
- **Feedback Loop**: Create a continuous feedback loop between project implementation and DAO governance decisions.

5. Regulatory and Market Adaptation

5.1. Regulatory Compliance Framework:

- **Regulatory Watch Group**: Establish a dedicated regulatory watch group within the DAO.
- **Adaptive Smart Contracts**: Develop adaptive smart contracts to quickly implement regulatory changes across projects.
- **Compliance Scoring**: Create a compliance scoring system to ensure high standards of regulatory adherence.

5.2. Market Trend Analysis:

- **Data Analytics**: Implement advanced data analytics to track and predict carbon market trends.
- **Real-Time Pricing Model**: Develop a real-time pricing model for cooperative-generated carbon credits.

- **Market Opportunity Alerts**: Create a market opportunity alert system to capitalize on favorable conditions.

5.3. Strategic Positioning:

- **Regular Strategy Reviews**: Regularly review and adjust the cooperative's market strategy based on evolving trends.
- **Targeted Marketing Campaigns**: Develop targeted marketing campaigns highlighting the unique value proposition.
- **Flexible Credit Allocation**: Create a flexible credit allocation system to optimize sales strategies across market segments

DAO Decision-Making, Governance and Span of Control

Considerations for Cooperative Decision-Making:

- **Transparency and Accountability**: Maintain transparency in decision-making processes and outcomes to foster trust and accountability among cooperative members.
- **Conflict Resolution**: Establish mechanisms for resolving conflicts, disputes, and disagreements among members in a fair and constructive manner.
- **Educational Opportunities**: Provide opportunities for cooperative members to access education, training, and resources to enhance their understanding of cooperative governance and operations.
- **Separation of Rights:** As part of its formalisation, the DAO itself will determine and subsequently approve the separations between Investors and Project Owners or their Developer representatives.

1. Strategic Direction and Planning:

- **Business Strategy**: Members may participate in defining long-term goals, business strategies, and sustainability objectives for the cooperative.
- **Market Positioning**: Decisions on market positioning, product/service offerings, and expansion plans may involve input and approval from cooperative members.

2. Operational Management:

- **Operational Policies**: Establishing operational policies, procedures, and best practices to ensure efficiency and compliance with regulatory requirements.
- **Risk Management**: Assessing and managing risks associated with cooperative activities, investments, and project operations.

3. Financial Management:

- **Budgeting and Financial Planning**: Approving annual budgets, financial forecasts, and resource allocation strategies to support cooperative initiatives.
- **Investment Decisions**: Evaluating and deciding on investment opportunities, funding sources, and capital expenditures that align with cooperative goals.

4. Project Approval and Oversight:

- **Project Selection**: Reviewing and approving new projects or initiatives proposed by cooperative members or external stakeholders.
- **Monitoring and Evaluation**: Overseeing project implementation, monitoring progress, and evaluating outcomes against predefined performance metrics.

5. Governance and Membership:

- **Membership Criteria**: Establishing criteria for membership admission, rights, responsibilities, and benefits.
- **Board Elections**: Participating in elections or voting processes to select cooperative board members or leadership roles.

6. Stakeholder Relations:

- **External Relations**: Engaging with external stakeholders such as regulators, customers, suppliers, and community members to build relationships and enhance cooperative reputation.
- **Social Responsibility**: Making decisions regarding corporate social responsibility initiatives, community engagement, and sustainable practices.

7. Compliance and Legal Matters:

- **Regulatory Compliance**: Ensuring compliance with local, national, and international laws, regulations, and standards applicable to cooperative operations.
- **Legal Contracts**: Reviewing and approving contracts, agreements, and legal documents that impact cooperative activities and obligations.

Quadratic Voting in the Tenza DAO

The Tenza DAO will implement an innovative quadratic voting mechanism to ensure equitable and decentralized governance. This system will effectively balance the influence of all token holders while preserving stake-weighted representation and ensure a fair, efficient, and truly decentralized governance process which accurately reflects the will of its community while safeguarding against centralization risks.

Voting Mechanism

The Tenza DAO will utilize a governance token-based voting system, where voting power is derived from holdings of the $TNZE token. The quadratic voting mechanism will work as follows:

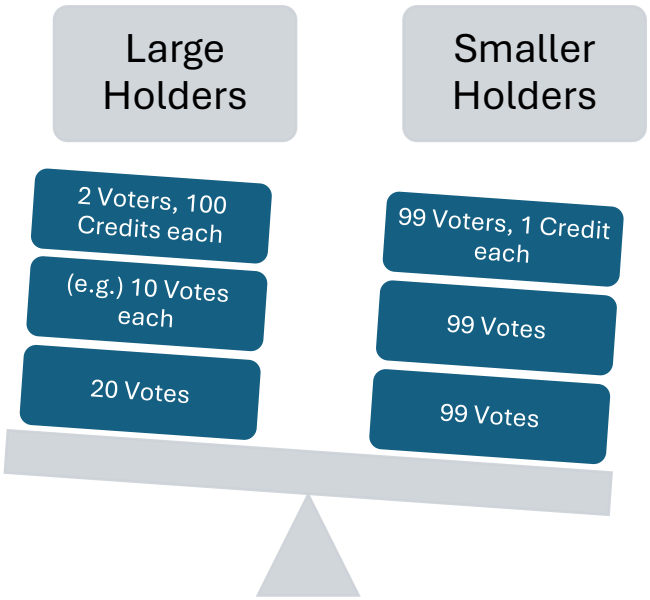
1. **Voting Power Calculation**: Each $TNZE holder's voting power will be calculated as a function of their token holdings, using a square root formula to ensure a more equitable distribution of influence.
2. **Quadratic Cost**: The cost of casting votes will increase quadratically with the number of votes cast on a single proposal. This scaling mechanism ensures that as participants allocate more votes to a single issue, the cost increases at a faster rate than linear growth.

This quadratic scaling will limit the ability of large token holders to dominate the decision-making process while still recognizing their stake in the ecosystem.

Implementation

The Tenza DAO will deploy a smart contract on the blockchain to manage the quadratic voting process. Key components will include:

1. **Token Snapshot**: A snapshot of $TNZE holdings will be taken at a predetermined block height before each voting period.
2. **Voting Power Calculation**: The smart contract will calculate each holder's voting credits based on a formula that takes into account their $TNZE holdings at the snapshot.
3. **Proposal Creation**: $TNZE holders meeting a minimum threshold can create governance proposals.
4. **Vote Casting**: Participants will cast votes on proposals by allocating their voting credits according to the quadratic cost function.
5. **Result Tallying**: Upon conclusion of the voting period, the smart contract will automatically tally votes and determine winning proposals based on the total credits allocated.



Indicative Voting Structure

Enhanced Features

To further improve the voting system, the Tenza DAO will implement:

1. **Dynamic Voting Periods**: The duration of voting periods will adjust based on the proposal's importance and community engagement.

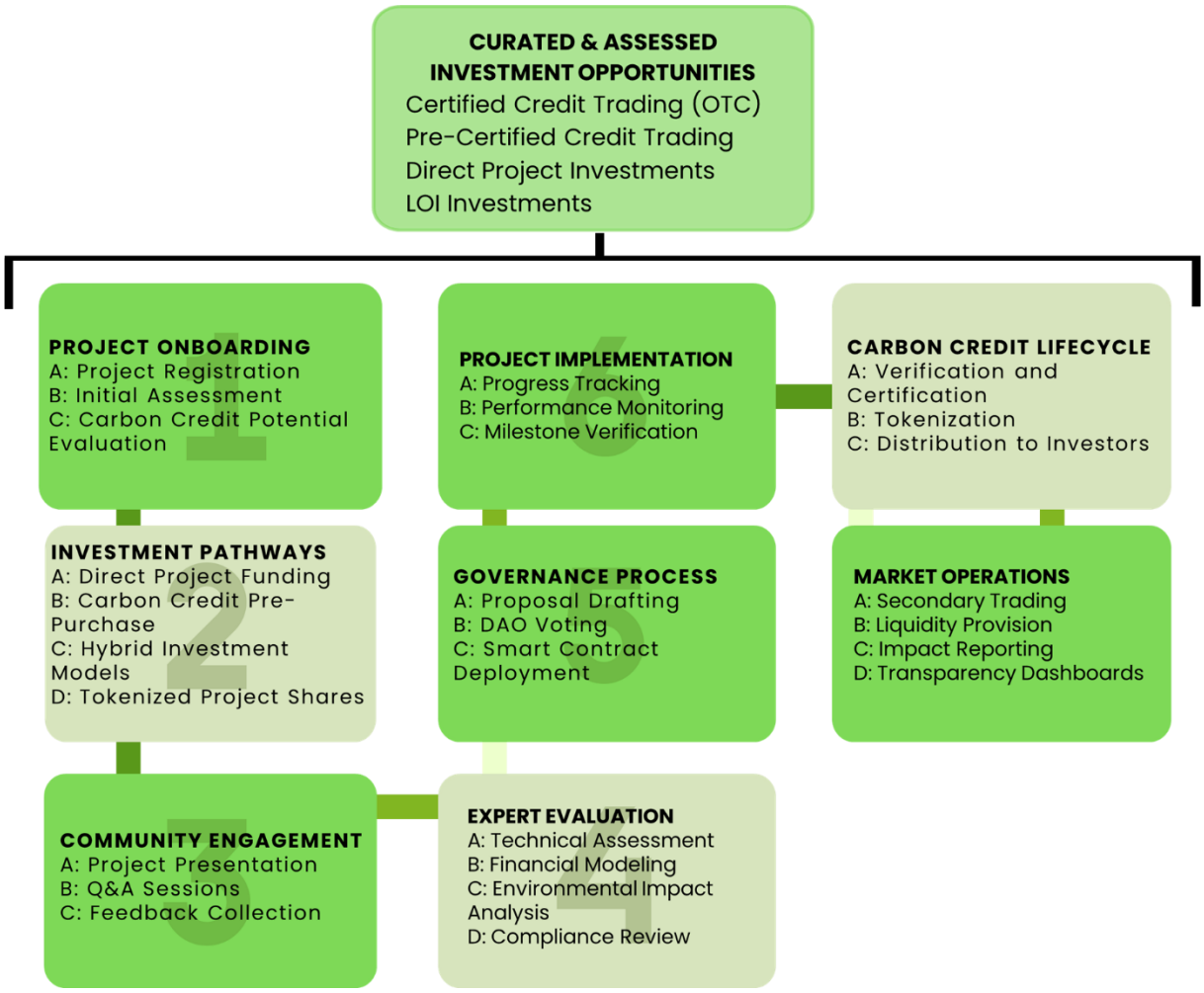
2. **Proposal Categorization**: Proposals will be categorized (e.g., protocol upgrades, treasury allocation, parameter changes), with different voting thresholds for each category.
3. **Delegation Mechanism**: $TNZE holders will have the option to delegate their voting power to trusted community members or subject matter experts, enhancing informed decision-making.
4. **Transparent Voting Analytics**: Real-time analytics on voting patterns, token distribution, and outcomes will be made available to all participants, fostering a culture of transparency and informed governance.

Advantages

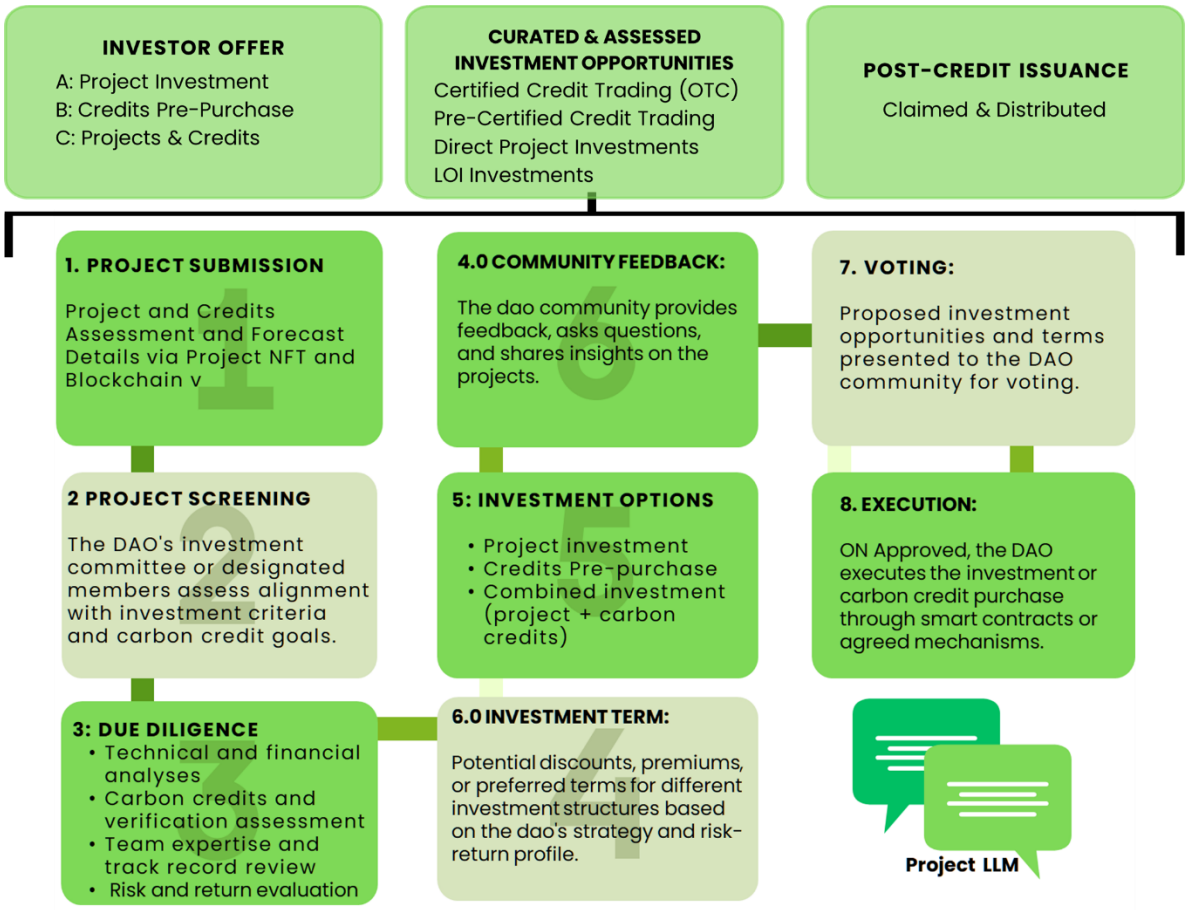
The quadratic voting system in the Tenza DAO will offer several benefits:

1. **Whale Influence Mitigation**: Large token holders' voting power will be effectively capped, preventing undue influence on governance decisions.
2. **Stake-Weighted Representation**: While limiting whale dominance, the system will still recognize larger stakeholders' proportional investment by allowing them more votes than smaller holders.
3. **Preference Intensity Expression**: Voters will have the ability to allocate more credits to proposals they strongly support, reflecting the intensity of their preferences.
4. **Sybil Attack Resistance**: The quadratic cost function and token-based voting power calculation will make it prohibitively expensive to gain significant voting power through multiple fake identities.

DAO Cooperative Assessment & Selection Process Overview



DAO Investment Assessment & Selection Process Overview



Annex A: DAO Cooperative Assessment & Selection Detail

- **DAO Constitution**: Develop a constitution or whitepaper that outlines the DAO's objectives, governance structure, decision-making processes, and rules for member participation.
- **Voting Mechanism**: Implement a decentralized voting system using governance tokens. Token holders can vote on key decisions such as project approvals, funding allocations, and operational strategies.
- **Smart Contracts**: Use smart contracts to automate processes such as project submissions, voting, fund disbursement, and reward distribution.

1.0 Membership and Participation:

- **Investor Members**: Individuals or entities who invest in the DAO by purchasing governance tokens.
- **Project Contributors**: Entities that propose and implement projects. They can also earn tokens based on project performance and contributions.

2.0 Project Aggregation and Cost Reduction:

Project Aggregation:

- **Pooling Projects**: Aggregate smaller projects to form larger project groups. For instance, multiple small-scale solar installations or agricultural projects can be grouped together.
- **Standardized Reporting**: Use standardized templates for project documentation to streamline the submission and review process.

Cost Sharing and Reduction:

- **Shared Verification Costs**: Spread the costs of project validation, verification, and certification across multiple projects within the group.
- **Bulk Discounts**: Negotiate bulk discounts with third-party verifiers and certification bodies.

3. Blockchain and DEPIN Integration:

Blockchain Verification:

- **Immutable Records**: Use blockchain to record project data, verification results, and transaction histories. This ensures transparency and immutability.
- **Tokenized Credits**: Convert verified carbon credits or RECs into tradable tokens on the blockchain.

DEPIN Applications:

- **Physical Asset Tokenization**: Tokenize physical infrastructure assets (e.g., renewable energy installations) and integrate them into the DEPIN framework.

- **Data Integration**: Use IoT devices to gather real-time data from physical assets, which is then verified and recorded on the blockchain.

4. Regenerative Finance (ReFi) Model:

Funding and Investment:

- **Token Sales**: Raise funds by selling governance tokens to investors who are interested in supporting regenerative projects.
- **Revenue Sharing**: Implement a revenue-sharing model where project revenues are distributed to DAO members based on their token holdings.

Incentives and Rewards:

- **Performance-Based Rewards**: Reward project contributors and investors based on project performance metrics such as emission reductions or energy generation.
- **Staking and Yield Farming**: Introduce staking mechanisms where investors can earn additional tokens by locking their tokens in the DAO for a specified period.

5. Operational Workflow:

Project Proposal Submission:

- Project contributors submit proposals detailing their project scope, expected impact, and funding requirements.
- Proposals are recorded on the blockchain for transparency.

DAO Voting and Approval:

- DAO members review proposals and vote on which projects to approve for funding.
- Smart contracts execute the funding based on voting outcomes.

Project Implementation:

- Approved projects are implemented, and real-time data is collected using IoT devices.
- Data is recorded on the blockchain for ongoing monitoring and verification.

Verification and Certification:

- Aggregated projects undergo third-party verification and certification.
- Verification results are recorded on the blockchain, and verified credits are tokenized.

Trading and Revenue Distribution:

- Tokenized credits are traded on the TenzaOne platform or other compatible marketplaces.
- Revenues from credit sales are distributed to DAO members based on their token holdings.

Annex B: DAO Investment Assessment & Selection Detail

The Tenza DAO will implement a rigorous and transparent process for assessing and selecting investment opportunities in carbon credit projects. This process will leverage the collective intelligence of the DAO community while ensuring thorough due diligence and alignment with the organization's goals. In Phase 1, the resulting investment instruments are structured as ERC-1155 Project Digital Assets (PDAs), with a planned transition to ERC-3643 in Phase 2 post-licensing.

1. Project Submission

Projects will be submitted through a standardized process, utilizing blockchain technology and NFTs (ERC-1155 for all PDA Editions in Phase 1) to capture and verify essential details:

1.1. Project NFT Creation (ERC-1155)

- Each project will be represented by a unique ERC-1155 Master NFT on the blockchain containing metadata including project description, location, and carbon credit potential.
- Smart contracts will ensure that only verified project developers can mint these NFTs.

1.2. Blockchain Integration

- All project data will be stored on a public blockchain for transparency. Immutable records will prevent tampering and ensure data integrity.
- Real-time updates to project status and milestones will be reflected in the blockchain.

1.3. Standardized Submission Form

- A comprehensive form will capture all necessary project details. Required fields will include technical specifications, financial projections, and team credentials.
- Automated validation will ensure all required information is provided before submission.

2. Project Screening

The DAO's investment committee, comprised of elected members with relevant expertise, will conduct an initial screening:2.1. Investment Criteria Alignment:

- Projects will be evaluated against predefined investment criteria.
- Criteria will include factors such as project size, technology readiness, and geographic location.
- A scoring system will be used to quantify alignment with DAO objectives.

2.2. Carbon Credit Potential Assessment:

- Evaluation of the project's carbon credit generation capacity.
- Analysis of the chosen carbon credit methodology and its market acceptance.

- Assessment of the project's additionality and permanence of carbon reductions.

2.3. Initial Risk Evaluation:

- Identification of key project risks (technical, financial, regulatory).
- Preliminary assessment of the project's risk mitigation strategies.
- Categorization of projects into risk tiers for further evaluation.

3. Due Diligence

A comprehensive due diligence process will be conducted for projects passing the initial screening:3.1. Technical Analysis:

- In-depth review of the project's carbon reduction or sequestration technologies.
- Verification of emission reduction calculations and methodologies.
- Assessment of technology scalability and long-term viability.

3.2. Financial Modeling:

- Development of detailed financial projections for the project.
- Sensitivity analysis to assess the impact of key variables on project returns.
- Evaluation of the project's capital structure and funding requirements.

3.3. Carbon Credit Verification:

- Review of the project's chosen carbon credit standard and certification process.
- Assessment of the project's monitoring, reporting, and verification (MRV) plan.
- Evaluation of potential risks in the carbon credit issuance process.
- Assessment of the suitability for creating ERC-1155 based financial instruments (Editions 4.x & 5.x) in Phase 1.
- Consideration for future (Phase 2) transition of these instruments to ERC-3643 for enhanced compliance.

3.4. Team Assessment:

- Thorough background checks on key project team members.
- Evaluation of the team's experience in carbon project development and management.
- Assessment of the team's capacity to execute the project successfully.

4. Investment Term Structuring

The investment committee will propose terms tailored to each project, leading to the creation of ERC-1155 compliant Financial Instrument PDAs in Phase 1:

4.1. Investment Structure Design:

- Development of customized investment structures (equity, debt, hybrid).
- Consideration of innovative mechanisms like tokenized carbon credit futures.
- Structuring of investment tranches with varying risk-return profiles.

4.2. Risk-Return Profile Analysis:

Development of customized investment structures (equity, debt, hybrid), where the resulting tradable asset will be an ERC-1155 token (Edition 4.x or 5.x), potentially

fractionalized with linked ERC-20s. Consideration of innovative mechanisms like tokenized carbon credit futures represented via ERC-1155 in this phase. Structuring of investment tranches with varying risk-return profiles, represented by ERC-1155 tokens.

- Quantitative analysis of expected returns under different scenarios.
- Risk assessment and proposed mitigation strategies for each investment option.
- Comparison of risk-adjusted returns across different investment structures.

4.3. DAO Member Benefit Alignment:

- Design of investment terms that align with DAO member interests.
- Consideration of special provisions for DAO members (e.g., priority access to purchase ERC-1155 tokens).
- Development of mechanisms for ongoing DAO involvement in project governance.

5. Community Feedback and Deliberation

The DAO will facilitate an open forum for community engagement:

5.1. Project Presentation:

- Comprehensive project briefings made available to all DAO members.
- Live Q&A sessions with project developers and the investment committee.
- Virtual site visits or detailed video presentations of the project.

5.2. Community Discussion Platform:

- Dedicated forums for each project proposal on the DAO's governance platform.
- Structured channels for technical, financial, and impact-related discussions.
- Integration of expert opinion solicitation from relevant DAO members.

5.3. Proposal Refinement:

- Iterative process to incorporate community feedback into investment proposals for ERC-1155 instruments.
- Regular updates to the community on changes made based on their input.
- Final review period before the proposal moves to the voting stage.

6. Quadratic Voting Process

The final investment decision will be made through a quadratic voting mechanism:

6.1. Voting Credit Allocation:

- Distribution of voting credits to DAO members based on their $TNZE holdings (once implemented in Phase 2).
    - In Phase 1, governance mechanisms will rely on other forms of participation or preliminary token representations.
- Implementation of a quadratic cost function for vote allocation.
- Clear guidelines on the voting process and credit usage.

6.2. Multi-Project Voting:

- Simultaneous voting on multiple investment opportunities.
- Ability for members to spread their voting credits across different projects.

- Real-time visualization of voting trends and outcomes.

6.3. Result Analysis:

- Comprehensive analysis of voting results, including vote distribution and member participation.
- Transparent reporting of the final decision and its rationale.
- Post-voting period for result verification and any necessary dispute resolution.

7. Smart Contract Execution (Phase 1: ERC-1155)

Upon approval, the investment will be executed through smart contracts:

7.1. Automated Fund Disbursement & ERC-1155 Token Issuance:

- Creation of project-specific smart contracts for fund management. Issuance of ERC-1155 Financial Instrument PDAs (Edition 4.x or 5.x) to investors upon fund receipt, according to the agreed terms.
- Coding of milestone-based release conditions into the smart contract.
- Integration with the DAO's treasury for seamless fund transfers

7.2. Carbon Credit Integration:

- Smart contract linkage to carbon credit issuance and verification processes.
- Automated distribution of benefits (e.g., proceeds from credit sales, royalty payments) to holders of the ERC-1155 Financial Instrument PDAs (or their fractional ERC-20s).
- Real-time tracking of carbon credit generation (underlying asset) and retirement

7.3. Performance Monitoring:

- Implementation of on-chain reporting mechanisms for key project metrics.
- Regular automated updates on project progress and carbon impact.
- Smart contract-triggered alerts for significant deviations from projections.

By implementing this comprehensive and decentralized investment assessment and selection process, the Tenza DAO will ensure that its Phase 1 investments in carbon credit projects (via ERC-1155 instruments) are financially sound and aligned with its mission. The planned transition to ERC-3643 in Phase 2 for these financial instruments will involve adapting this process to incorporate the specific compliance requirements of that standard, such as identity verification and on-chain permissions, once regulatory licensing is secured.

Annex C: Indicative Project & Credits Certification Costs

Cooperative Cost Efficiency Through Programme of Activities (PoA)

TenzaOne's cooperative structure leverages VCS Programme of Activities (PoA) framework to achieve maximum economies of scale by registering multiple projects under a single umbrella structure.

PoA Structure: Initial Setup

Fee Component	**Total Cost (EUR)**	**Cost Per Project (25)**
PoA Framework Setup	€35,000	€1,400
Initial Validation	€50,000	€2,000
Registry Setup	€2,500	€100
Total Setup	**€87,500**	**€3,500**

Annual Operating Costs

Fee Component	**Total Cost (EUR)**	**Cost Per Project (25)**
Account Maintenance	€2,500	€100
Coordinated Verification	€40,000	€1,600
Verification Review	€15,000	€600
Credit Issuance	€50,000	€2,000
Transaction Fees	€5,000	€200
Total Annual	**€112,500**	**€4,500**

5-Year Financial Analysis

Project Size	**Cost/Credit**	**5-Year Revenue**	**5-Year Cost**	**Net Benefit**
1k tonnes	€0.95-€4.88	€42,500	€26,000	€16,500+

Project Size	Cost/Credit	5-Year Revenue	5-Year Cost	Net Benefit
5k tonnes	€0.95-€4.88	€212,500	€26,000	€186,500+
10k tonnes	€0.95-€4.88	€425,000	€26,000	€399,000+

Key advantages:

- 77-81% cost reduction vs. individual certification
- Viable for projects as small as 1,000 tonnes CO_2e
- Streamlined verification through VVB sampling across portfolio
- Single documentation set for multiple projects

This analysis clearly shows why smaller projects need cooperative structures to be viable, as the fixed costs make independent certification prohibitively expensive for 1k tonne projects.

TenzaOne's platform then enables these viable projects to access forward financing through its Phase 1 ERC-1155 based investment instruments (with a future plan to transition these to ERC-3643 in Phase 2).