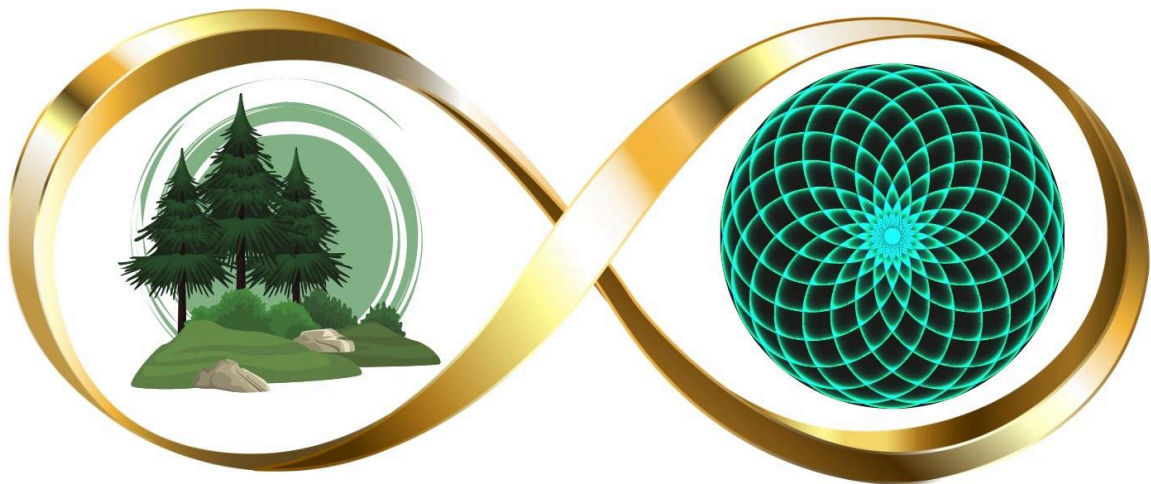


SANEconomy

Sustainable. All-Considerate. Numinous. Evolutionary

A Meta-Systemic Approach



A Voice for Nature and Human Wellness

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¹ eNas is a pseudonym, in Aramaic it means "Kind and Happy Companion".

SANEconomy

Preamble:

SANE is optimistic at its core. It imagines a society which has successfully transitioned to a state that prioritizes environmental stewardship, decentralized economies, beauty, advanced eco-architecture, and vibrant, diverse communities living in harmony with nature and technology.

SANE believes that we have everything we need today to build a world that enables humans to thrive, nature to regenerate, and that provides simple abundance for all.

In order to create this world, SANE believes that we need to build a new type of economy (not capitalism, not socialism and not communism), an economy that gives a voice to nature and human wellness, an economy that incentivizes all of us to build this world, many of us know and can imagine is possible.

SANE is, therefore, multimodal and meta-systemic. It offers a solution that can scale and replicate, and in doing so, could impact our world greatly. It starts with pilot projects inside of "Special Economic Zones". SANE is bioregionally based, emerging from the ground up. It is grassroots at its core, while also supported by a global community and by technologies that are foundational to the shift we are currently undertaking as a human family.

Ultimately, SANE seeks to empower communities to become more and more resilient by offering them tools and technologies to support their independence, wellbeing and freedom.

What is SANE not? SANE is not a carbon project and it is not a "Green Colonialism" project*. It is rooted in decentralization, empowerment of communities and bioregional resiliency, and does not seek to reinforce colonial power dynamics. SANE believes that the current carbon market is ultimately a way to continue the centralization of both power and economic wealth, and will eventually need to be transcended in our search for global solutions. In addition, the current limited focus on quantifiable metrics like greenhouse gas emissions rather than a broader focus on complex, systemic issues such as ecosystem fragmentation, biodiversity loss and the broader human-nature interface ends up missing the mark.

*Footnote: "Green colonialism" refers to situations where environmental initiatives, led by wealthier or more powerful nations or organizations, can perpetuate colonialist dynamics or exploit local communities and resources in the name of environmental conservation or carbon offset projects. The decision-making processes surrounding carbon projects are often dominated by external actors, such as governments, corporations, or international NGOs, who sometimes do not consider or respect the rights and needs of local communities. Carbon offset projects often require vast areas of land for activities like reforestation, afforestation, or biofuel production. This can lead to "land grabbing," where local communities are displaced or lose access to their lands and resources without consent. Carbon projects can have unintended cultural and ecological impacts. For example, monoculture tree plantations

established for carbon offset purposes lack biodiversity and fail to provide the same ecological functions as natural forests.

Introduction:

In order for humanity to move to a new level of care and integrity, we need an effective economic system, as well as supportive tools and structures that allow people from all walks of life to participate in shifting our world to an all-considerate place.

Money has become the greatest shaper of our modern world. Every time we spend money, every time we make a transaction, every time we create a product or service, we impact both our collective problems and/or their solutions. **Essentially, “economy” underlies and affects all human systems.**

Our current economic system is based on the goal of accumulating things and/or fiat for the indefinite future, essentially, making us dependent on **unending growth**. It does not consider the obvious: focusing on constant growth on a finite planet eventually leads to major disruptions of the very ecosystem that supports the economy, and in consequence, leads to the failure of the economic system itself.

Anyone studying our current economy from a systemic perspective quickly realizes that it is impossible **to shift our world to a more sustainable state without changing the actual foundational assumptions of our current economic system**. Indeed, it has become unequivocally clear: money cannot remain disassociated from earth resources; our consumption cannot continue unabated. Never-ending printing of fiat currency and/ or continual rates of growth in overall economic activities based on our current economic system is handing humanity the ammunition to finish the job of causing complete collapse of the biosphere.

If we truly want to transform the world for the better, we need to reimagine our economic system from the roots up and consider how a new framework can be tied directly, and in a sustainable manner, to our earth systems. **This effort involves creating a more comprehensive accounting system that considers and accurately reflects true wealth and resilience, namely human wellness and ecosystem health**. This new system places the stewardship of the commons as a foundational requirement, and is centered on interlinked and decentralized regenerative bioregional economies. For this to happen, we need to shift toward a biomimetic economy. Biomimicry as a design principle emulates the models, systems, and elements of nature for the purpose of solving complex human problems. An economy based on biomimicry is one that has a direct and beneficial relationship to nature. Capturing sunlight and turning it into energy is an act of biomimicry; the process of extraction required to build solar panels is not (yet). Currently the only way to get value from, for example, a seal pup, is, tragically, to kill it. **In our present economy a living seal in the ocean has no economic value**. The same is the case with an old-growth tree, a watershed providing clean water, bees pollinating our food sources, or the sun shining. So, in order to build a biomimetic economy, we need an economic system that can do the following six things:

1. Provides us with feedback loops from the biosphere, giving a voice to the earth;
2. Is designed and aligned with earth’s actual biocapacity;
3. Contains incentive structures that protect and regenerate the biosphere;

4. Considers human wellness as part of the equation;
5. Is simple to understand and easy to use; and
6. Creates a bridge from our current economic system to this new parallel system.

Welcome to the SANEconomy!

To build a SANEconomy, certain tools are required. With Web3, blockchain technology, the advance in computational power, alongside our deeper understanding of human psychology, as well as consciousness and happiness indexes coming online, we now have for the first time in our human history, the necessary tools to create an avenue for this new economy.

Below we will explain the key elements of the SANEconomy ecosystem that are designed to address the above. The SANEconomy emerges from the ground up, in bioregions around the world where collectives of humans are dedicated to building the new world we all know is possible. It also emerges with the help of technologies offering the tools required for a new meta-system to evolve. **The SANEconomy is made up of nine co-arising aspects, which are all intertwined and function as a meta-engine.** Here we will provide an overview of each and show how, when they come together, the SANEconomy becomes possible. The nine elements are:

1. SANE Mutual Credit system
2. Regenerative Economic Zones (REZ)
3. The Token (\$SANE)
4. NUNA Algorithm
5. Proposals
6. Tokenomics
7. Smart Contracts
8. Micro-loan organizations
9. Monitoring - Reporting - Verification - Impact Assessment

1. SANE Mutual Credit system

A mutual credit system is a form of economic exchange system whereby participants lend and borrow credits from each other, instead of exchanging conventional money. The credits represent IOUs that can be redeemed for goods and/or services within the network.

The SANE mutual credit system builds on this by creating a community-driven financial network that employs an alternative currency based on the stable value of a local product. This system enables individuals to exchange goods and services without traditional currency, using mutual credits which represent a fraction of the chosen item's value.

This system is key to the grassroots, bottom-up component of a SANEconomy emerging, it acts both as a decentralized bioregional economic driver but also plays a key role in the tokenomics of the overall SANEconomy. (More on this in Section 5).

The mutual credit system is directly tied to the market value of the most common and stable locally made item within a bioregion. This item is made of 100% local materials, and 100% of the production comes from the local bioregion. In the lower Andes, for example, a red brick could be used. If the price of a brick is historically quite stable, a brick can serve as a benchmark for the value of goods and services. The credits within the system would then be tied to the fluctuation of the brick price index.

Let's say Person A offers a massage service to Person B and asks for 7 bricks in return. If Person B agrees that the massage is worth the value of 7 bricks, the two parties conduct a transaction. To do this, Persons A and B would enter the agreed-upon number (7 in this case) into a mutual credit application on their respective cell phones. By bringing their phones together, a sound plays to confirm the transaction. If they are not in the same physical location, a verification system for acceptance of the transaction is introduced, and the application adjusts their credit totals accordingly, making the process user-friendly and immediate. No physical exchange of money occurs. The transaction is purely digital, and the mutual credits are simply accounting entries that reflect the debt and credit in the system.

In essence, Person A's account would be credited with 7 bricks' worth of mutual credit, while Person B's account would be debited by the same amount. This exchange is based on the mutual trust that the credits represent a real value that can be redeemed for goods or services within the community at any time.

As the market price of the brick changes, the value of the mutual credits would adjust in tandem, ensuring that the credits remain representative of a consistent value over time.

This mutual credit system relies on a community of users who agree to accept the mutual credit as a valid form of exchange for goods and services, creating a closed-loop economy that is somewhat insulated from the fluctuations of the broader money market.

To ensure that no participant accumulates significant debt, the system's algorithm actively searches for cycles of exchanges that can neutralize outstanding balances. For instance, if Person A provides a service to Person B, and Person B to Person C, and then Person C to Person A, with all services valued equally, the algorithm nullifies their debts, bringing each account to a zero balance.

This new mutual credit system fosters a self-balancing economy where value is exchanged based on trust and mutual agreement, insulated from the volatility of global markets. It champions local production, strengthens community bonds, and promotes economic sustainability.

2. Time Stamp

To encourage active participation and prevent perpetual debt, the system imposes a time limit for each transaction to be settled by the algorithm. If a participant accrues a debt by receiving a service (such as the above-mentioned massage valued at 7 bricks) and does not offer their own equivalent service or goods within 60 days, they are considered in default of their debt. This mechanism incentivizes participants to engage in the system, and contribute their own services or goods to balance or negate their debt before the deadline.

The system's sophisticated algorithm prioritizes transactions that settle debts approaching the 60-day limit. It actively seeks out exchanges that can balance the most urgent debts, fostering a dynamic and fluid economy where services and goods circulate efficiently, and credit does not remain stagnant.

Through the SANE mutual credit system, community reliance on traditional currency is reduced, local production is supported, and economic activity is stimulated within a framework of trust and mutual accountability. The system is designed to be scalable, handling thousands of users and transactions, and ensuring that participation is both a necessity for and a responsibility of all members.

3. User Rating

By incorporating both user-generated ratings and an algorithmic rating system a multifaceted approach to maintaining trust and encouraging responsible participation is ensured.

User Generated Ratings: After each transaction, participants rate each other based on the quality of the goods or services exchanged, punctuality, and overall experience. This subjective feedback reflects personal interactions and satisfaction levels, similar to reviews on platforms such as Airbnb.

Algorithmic Rating: In parallel, an algorithmic rating system monitors and evaluates each participant's financial behavior within the system. Key metrics for this objective rating include:

- **Debt Ratio:** The proportion of credits a user owes (debt) compared to the credits they've earned.
- **Debt Age:** The amount of time a debt has remained unpaid, with particular attention to debts nearing or surpassing the 60-day limit.
- **Default Frequency:** How often a user has failed to settle their debts within the allotted time frame.
- **Transaction Frequency:** The regularity with which a user engages in transactions, contributing to the liquidity and health of the credit system.

The algorithmic rating adjusts a participant's overall score, with higher penalties for defaults and prolonged debts. This automated rating provides a critical balance to the subjective user reviews, by focusing purely on objective data to assess a member's reliability within the system.

This dual rating system serves to:

1. Incentivize timely repayment and active participation, as the ratings directly affect a member's reputation.
2. Deter defaults and passive behavior, as a poor algorithmic rating could limit a user's ability to engage in future transactions.
3. Enhance trustworthiness, with the community having access to both personal and data-driven insight on each participant before engaging in a transaction.

This combined rating system is a powerful tool for self-regulation, encouraging positive accountable behavior, and providing a clear and transparent basis for trust within the community. It ensures that

while personal relations and subjective experiences are valued, the overall integrity of the system is upheld by objective, data-driven assessments.

4. The Ledger

The SANE mutual credit system is a ledger-based system that is scalable and can handle a large number of users, facilitating complex chains of transactions using advanced data analysis and optimization techniques. All users host their personal ledger and own their data. Transaction history is, therefore, always available to users in order to comply with local financial regulations, ensuring transparency and legality.

The ledger includes the following features:

- 1. Transparency and Record Keeping:** Participants have access to a fully decentralized, private, and encrypted personal ledger that contains a comprehensive record of their transactions. This ledger includes the date, the amount of mutual credit exchanged, and the equivalent value in bricks or respective local currency at the time of the transaction.
- 2. Real-time Updating:** The ledger is updated in real time, ensuring that participants have access to their most recent transaction data at any time.
- 3. Customization:** Users are able to select specific date ranges or types of transactions when viewing their ledger, allowing for greater control over the data they wish to view or report.
- 4. Education and Support:** Since mutual credit systems are relatively uncommon, the app provides educational resources on how transactions within the system translate into local currency values and how they should be reported according to local laws.
- 5. Structure:** The ledger does not reside on the app; it is part of an open source structure (see zero.tech).

By including such a ledger feature, the mutual credit system not only provides transparency and trust among its users, but also helps to ensure that users can meet their legal obligations in terms of financial reporting and taxation.

5. Citizenship

To participate in this mutual credit system, individuals will need to attain the status of 'citizenship'. Since mutual credit exchanges happen at the bioregional scale and are often done face-to-face, the need for "citizenship" may seem less important. This mutual credit system is, however, designed to scale from bioregion to bioregion, and for bioregions to network and eventually trade with each other. Thus, a fully decentralized system that authenticates users as "real humans" is critical to the success of any new digitally based system of trade and communication. Citizenship gives users control over their data and ledger (see part 4). Users host the ledger themselves, and the ledgers do not reside in a central location.

6. Value Acknowledgement Credit (VAC)

In order to make the SANE mutual credit system more equitable and to acknowledge contributions typically undervalued by conventional economies, a "Value Acknowledgement Credit" (VAC) is introduced. VAC operates alongside the regular mutual credit transactions, and is specifically designed to recognize and reward activities beneficial to the commons, which are often unpaid, such as parenting, elderly care, volunteer work, and environmental stewardship. Here's how the VAC functions within the system:

1. **Credit Issuance:** Individuals engaged in qualifying activities receive VACs as a form of societal compensation for their contributions.
2. **Community Validation:** The community drives what types of activities qualify for VACs, using a democratic voting system within the app to ensure that the credits accurately reflect collectively held values and priorities.
3. **Integration with Mutual Credits:** VACs are convertible to standard mutual credits at a rate of 1 to 1, using the "chosen item" index (in this case "the brick"). This allows recipients to use VAC within the broader mutual credit marketplace.
4. **Sustainability:** To ensure that the system remains balanced and sustainable, the issuance of VACs are algorithmically regulated based on the size of the community, the demand for mutual credits, and the economic activity within the system.
5. **Encouraging Participation:** Awarding VACs for community-valued activities encourages more people to participate in these activities, strengthening the social fabric and providing economic support to those who contribute to ecological and social wealth in non-commercial ways.

This approach recognizes the value of all forms of work and promotes a more caring, respectful and cohesive society, one that supports the functioning of the mutual credit system by bringing forward a diverse range of participants and services.

7. Incentives for Ecological Health and Human Wellness

By incorporating a mechanism for collective projects which are both backed by citizen votes and also by an innovative algorithm (called NUNA - see section 4)) designed to measure and identify actions that significantly benefit both the community and the bioregion, and furthermore, by incentivizing these chosen projects with additional mutual credits, a layer of community-driven development and participation is added to the system.

This novel approach to value measurement within the SANE mutual credit system, is structured as follows:

a) Project Proposal and Approval

- Members propose projects they believe will enhance the bioregion, be it through environmental, infrastructural, or social improvements.
- NUNA assesses the proposals based on the desired future condition for the bioregion.

- Through the app, all participants within the mutual credit system can also vote on these projects, and NUNA integrates community input into the selection process.
- Recognizing the dynamic nature of community needs and ecological health, NUNA is developed iteratively. It evolves through continuous learning from real-world applications and community feedback.
- By identifying and quantifying valuable actions, NUNA guides community members towards activities that have a positive impact.
- As the SANE mutual credit ecosystem grows and evolves, NUNA adapts, incorporating new data and insights to refine its value measurements. This adaptive approach ensures that the system remains responsive to the changing needs of the community and the planet.
- The development and refinement of NUNA is conducted with a commitment to transparency, allowing community members to understand how actions are valued and to contribute to the ongoing improvement of the system.

b) Project Delivery:

Within this framework, approved projects are understood as elements of the 'desired future conditions' of the bioregion, reflecting the collective aspirations of the citizens. Each project is visualized in its completed state, symbolizing a shared goal. To turn this vision into reality, a process of reverse engineering is employed, breaking down the 'completed' state into its fundamental components of required actions and materials. This method provides a tractable roadmap for successful execution. The following outlines how this approach is integrated within the mutual credit system:

- **Project visualization:** The inception of each approved project is marked by a detailed envisioning of the desired outcome. This vision could be as varied as envisioning a pristine lake, the reforestation of ten acres of land, the rejuvenation of a community center, or the establishment of a network of urban gardens.
- **Deconstructing into components:** Project Managers dissect the overarching vision into distinct, actionable elements, akin to how an artist deconstructs a painting into individual strokes, colors, and themes. This detailed breakdown may encompass a variety of tasks, ranging from planting trees and conducting educational classes to constructing pathways or transporting materials such as gravel to a work site.
- **Actionable items:** Every facet of the project is transformed into distinct, tangible tasks. This compilation serves as a comprehensive menu of activities from which participants can select and engage.
- **Resources identification:** In tandem with outlining actions, physical resources needed are outlined for distributors to choose from..
- **Community involvement and task selection:** Community members engage with the system via the app, where they can view the detailed list of tasks and required resources. Based on their unique skills, interests, or available resources, they commit to contributing to specific components of the project via smart contracts.

- **Monitoring and adjusting:** The App diligently tracks task completion and resource utilization, offering real-time insights into the project's progress. This monitoring allows for timely adjustments, ensuring completion of the envisioned project.
- **Dynamic response:** As the project evolves, the list of actions and resources is updated to reflect current needs and completed components.
- **Emergent completion:** As individual tasks are completed and components come together, the community witnesses the gradual materialization of their envisioned future.

Through this structured and simultaneously flexible approach, the SANE mutual credit system enables citizens to collaboratively construct their collective future, piece by piece, incentivizing each action toward their desired future along the way. This is a dynamic process that values every contribution, big or small, as essential to the community's desired future.

c) Community Engagement:

The selected projects and its benefit to the community act as an effective incentive for members to engage in community projects, fostering a sense of collaboration and collective responsibility. This ensures that community resources are channeled into projects with widespread support .

This approach also empowers citizens to directly influence the development and prioritization of initiatives within their bioregion. It fosters a proactive community spirit, whereby participants are not just passive consumers; rather, they are active contributors to the collective well-being and future of their bioregion.

After project completion, the community assesses impact and success, providing a feedback loop that informs future project planning.

8. Onboarding for Success

Despite their long-standing history, attempts at Mutual Credit Systems have seen limited success in the last few decades. This stems primarily from challenges presented in the scaling of the onboarding process, a process crucial to the success of a mutual credit system for several key reasons:

1. **Network effect:** The value of a mutual credit system increases with the number of participants. More participants equal a broader range of goods and services, which in turn attract more users, generating a virtuous cycle of growth.
2. **Liquidity:** A larger pool of participants ensures that more transactions can occur without the need for conventional money. This liquidity is essential for the system to function effectively as an alternative to traditional currency.
3. **Balancing credits and debts:** With more participants in the system, there are more opportunities to match needs and offerings, allowing credits and debts to circulate and balance out more efficiently and effectively.
4. **Economic resilience:** A diverse and extensive network of participants leads to a more resilient system that can withstand individual failures or economic downturns.

5. **Community impact:** The system's success is tied to its acceptance and use within a community. Significant onboarding ensures that the system can have a meaningful impact on the local economy and society.
6. **Trust and reputation:** A critical mass of users helps establish a sense of trust and credibility, which is essential for any new economic system to gain traction.

Without a strong initial and ongoing onboarding process, a mutual credit system risks remaining marginal and underutilized, failing to achieve the critical mass necessary for it to be a viable alternative to conventional monetary systems. The SANE mutual credit system addresses this on-boarding challenge by integrating blockchain as a bridge to mutual credit.

9. Blockchain Token as Bridge to Mutual Credit System

The concept of a transitional token is fundamental to the SANE economic model, serving as the connective tissue between traditional economic systems and this mutual credit framework. The rationale for this bridging mechanism is multifaceted.

To effectively scale onboarding and ensure the success of mutual credit systems, a strategic approach is essential. The SANE method employs a proven multi-stakeholder strategy. This involves establishing collectively agreed-upon future goals within a bioregion and translating these into tangible, impactful projects on the ground. Such initiatives are bolstered by a global community that acknowledges the importance of thriving decentralized economies.

Utilizing a blockchain token (\$SANE) as a tool for onboarding to the mutual credit system represents a groundbreaking and innovative approach that harnesses the strengths of blockchain technology's core attributes — transparency, security, and extensive reach — to support and energize a localized economy. The token acts as an ambassador for the bioregion's economic experiment, raising awareness, and attracting international attention and support.

The purchase of tokens by global investors introduces external capital into the system, providing liquidity. These investors are not just financial contributors; they are committed advocates who resonate with the principles of bioregional and decentralized economies.

Token holders worldwide are also rewarded for the success of bioregional initiatives, wallets that held tokens until completion receive reward tokens. Tokens once allocated to a bioregion for projects are burnt and swapt for mutual credits. See Section 5 of this paper for more details.

Tokens can also be converted into mutual credits through a swap mechanism, facilitating their use within each bioregion. This conversion process offers a gateway for external investors and enthusiasts to engage with local economies, either through indirect participation or by supporting individuals who wish to be directly involved.

Initiating the system in a select number of bioregions allows for a controlled and measured approach to experimentation and refinement. The successes and insights gained from these initial implementations will then guide the expansion process into additional bioregions.

By funding projects that benefit the entire region through token allocation, local engagement and participation increase. As more and more citizens become directly or indirectly involved in projects, a growing number of residents are incentivized to become part of this new emerging economy. This pivotal step results in a robust pool of goods and services within the system, creating the essential momentum necessary for success.

In the event that 1 to 3 bioregions achieve genuine success in this endeavor, they will set a new standard for decentralized economies. Such a milestone would pave the way for broader scaling and significant global impact. This progress could catalyze a flywheel effect, playing a substantial role in positively transforming our world.

2. Regenerative Economic Zones (REZ)

Key to the success of a new economy that would be able to scale and replicate is the establishment of a new type of Special Economic Zone (SEZ), one that we call a Regenerative Economic Zone (REZ).

SEZs are geographically designated areas of a country where the business and trade laws differ from the rest of the country. SEZs are typically established with the aim of attracting foreign investments, increasing trade balance, boosting employment rates, and enhancing economic growth. More recently, the focus of SEZs has been slowly shifting towards not only economic efficiency, but also environmental sustainability and human well-being.

SEZs offer a variety of incentives to businesses, including tax exemptions, lower tariffs, and simplified administrative procedures. Traditionally, these zones have been pivotal in transforming national economies by fostering an environment conducive to foreign direct investment (FDI) and rapid industrialization. They serve as "test beds" for the application of new policies and approaches without affecting the broader economy.

SEZs are uniquely positioned to serve as enclaves of innovation. By offering regulatory flexibility, they provide the perfect ground for testing pioneering technologies, business models, and strategies. This experimental freedom can lead to breakthroughs in various sectors. If a SEZ were to be created that focussed on a new economic frame, it would also offer the ability to work with multiple tenders, which would open up the field for grounding blockchain and mutual credits into decentralized economies at scale.

With increasing global awareness about the importance of developing a new human-nature interface economy and with the equally great potential for SEZs to evolve and begin to encapsulate models that prioritize human and ecosystem health. Utilizing this tool to evolve SEZ and transmute them into REZ, may be one of the most powerful pathways to transform our world.

A REZ would allow for the creation of SANEconomy Pilot Projects within specific bioregions that are supported by a collection of humans and organizations who understand that our world is in need of new models to support the transition we are currently undergoing as a human family. Each bioregion that wants to implement the SANEconomy will explicitly be seeking SEZ status for a win/win relationship with local, provincial, and national governments.

Onboarding entire bioregions allows for demonstration at scale of the SANEconomy, with its compelling capacity to implement Regenerative Finance. With both our current economic system and our ecological systems on the brink, we believe that there is no time like the present for this to begin unfolding.

REZs have the potential to lead the way in structuring new economies that are robust, sustainable, and health-oriented. By aligning new economic incentives with environmental and health goals, REZs can catalyze the transition towards a sustainable future. As nations increasingly focus on sustainable goals, REZs can play a pivotal role in harmonizing decentralized economic growth with the imperative of preserving human and ecological health.

We are currently working in a few bioregions in North America and South America. Within two bioregions, we own and/or lease extensive acreage and have move-in ready infrastructure for close to 100 people. Additionally, through partnerships in the North-American bioregion, we have a 99-year lease on thousands of acres. These bioregions were specifically chosen for their readiness for such a project, their existing capacities, and their location (using a complex set of 108 discernment criteria). In South-America we have an agreement to implement the SANEconomy on over 2,000,000 acres of the Amazon.

3. The Token - \$SANE

We Are Reclaiming "ECONOMY". It belongs to EVERYONE.

SANE is building the first bioregional token ecosystem: A global network of bioregions building a financial infrastructure as a public utility.

We are creating a bioregional on-boarding framework and toolkit to access a new parallel economy, which is based on incentive structures that support regeneration of the planet, thereby accelerating the transition to an economic future that allows humans and the planet to thrive.

We are also building a bridge from today's economy to the future of "economy" by utilizing an ERC20 token: \$SANE.

Token Holders are individuals across the planet who support the SANE vision. SANE will require a "proof of humanity" for token holders wishing to participate and vote on token allocation inside the ecosystem. Once the proof of humanity is established this unlocks "SANE citizenship" for residents of the virtual SANE Nation:

SANE Citizenship:

1. Gives access to the **SANE App**: a Web3, secure, decentralized, censorship-resistant and community-owned platform that facilitates bioregional conversation, cross-bioregion exchange, and unlocks a messenger chat feature.
2. The **SANE App** also enables payment, purchases and transfers globally using the \$SANE token, other digital assets and traditional currencies.
3. Gives capacity to influence on-the-ground actions in selected bioregions.
4. Citizenship holders are part of a global community of “Saners” and receive access to community-only events and courses.

Three Ways that \$SANE Holders are rewarded:

A. : Staking for the FUTURE

\$SANE holders are rewarded for completion of proposals within SANE bioregions. Every time a proposal is approved by a DAO, all addresses holding \$SANE are algorithmically recorded. When a proposal is completed on the ground, a second time stamp of \$SANE holders is recorded. Each wallet that held \$SANE for the duration of the proposal (till completion) is rewarded. Rewards are distributed in the form of \$SANE tokens directly into the wallets of holders. Once the SANE ecosystem of bioregions is fully deployed, we can imagine hundreds of such projects happening simultaneously, and wallets being rewarded with completions of proposals regularly.

B. Burnt Mechanism

When proposals are approved inside the \$SANE token ecosystem and tokens are allocated to bioregional projects, all allocated tokens are burnt, meaning they are permanently removed from circulation. This reduces the total supply of tokens, creating a deflationary pressure on the token's value over time.

The tokens that are burned are then transmuted into mutual credits. These mutual credits are issued to the local community in exchange for project participation through investment, labor or goods. Essentially, the act of investing in bioregional projects and/or \$SANE contributes to the availability of mutual credits in the local economy.

By converting tokens into mutual credits, the local community gains access to a form of currency that can be used for local transactions, thereby stimulating economic activity within the community. This availability of mutual credits can support local businesses, trade, and investment in other local initiatives beyond SANE bioregional projects.

The deflationary nature of the token encourages early investment, as the value of the token is expected to increase over time due to the decreasing supply (36% of total token supply are slated to be eventually burnt). This incentivizes investors to participate in bioregional projects, knowing that their investment not only contributes to the project's success but also benefits the local community through the issuance of mutual credits.

The system also fosters community engagement by directly involving local residents in the bioregional projects and providing them with a tangible incentive in the form of mutual credits.

Blockchain technology is then used to transparently record the token burning process, the issuance of mutual credits, and the utilization of funds for bioregional projects. This ensures accountability and trust among participants in the system.

By combining token burning with the issuance of mutual credits for local investment, this system creates a unique economic model that incentivizes both global investment in biodiversity projects and local economic development, ultimately fostering environmental conservation and community resilience.

C. NUNA* Rewards system:

A whole niche economy is created around the NUNA* algorithm (*See Section 4 below for details on NUNA) . Every contributor who inputs a plug-in to the algorithm is rewarded in \$SANE tokens. You need to be a SANE citizen (proof of humanity) to insert a plug-in to NUNA.

Essentially SANE is a toolkit for bioregions to kickstart their new bioregional economy.

\$SANE is also the bridge to the Mutual Credit Systems that gets deployed in bioregions.

The SANE token (\$SANE), which is an ERC20 token, plays a key role in servicing this economy: it acts as the mode of exchange between bioregions, as well as a mode of exchange from \$SANE to traditional currencies during on-ramp periods.

SANE Foundation DAOs (Economy, Nature, and Culture DAOs - See Section 10) have allocations, which are released and burnt through the acceptance of proposals that further the mission of SANE. Each DAO has clear roles and responsibilities in the development of the infrastructure of the overall ecosystem (See Section 11). Each DAO can also make value-aligned strategic investments (which return value to the Foundation) and strategic philanthropic grants to further the mission of SANE.

4. NUNA AI -V1

In order to incentivize actions that actually value nature and human wellness, we need new models for measuring true wealth: a new balance sheet and accounting system that provides us with direct feedback from the biosphere.

Traditional capitalism has never included the largest assets, those that form the foundation of all economic activities and really, all of life, namely *Ecosystems Health and Services* as part of its balance sheet. NUNA (**N**eural **U**nderstanding of **N**atural **A**ssets) includes these foundational assets, as well as a *Human Wellness Index* as part of its assessment tools, enabling **an economy that considers both qualitative and quantitative data**. By contrast, current tools of assessment for economic health completely avoid what is ultimately foundational to a SANEconomy. The GDP, for example, does not account for unpaid work (such as a mother taking care of her child) or for natural resources asset value,

nor does it consider embedded services in nature such as the creation of oxygen. In fact, it sees a war, an oil spill, or a wildfire that destroys a town as a great boost to the economy. With such biased and limited accounting tools, our incentive structures for choice making perpetuate the world we currently inhabit.

NUNA not only accounts for values such as potable water coming from a healthy watershed. It also considers the cost of ecosystem degradation, noise pollution and water pollution among others in its accounting process. The incentive structure is built in for regeneration, for increasing biospheric health and human wellness.

SANE believes that **valuing natural capital assets and their complexity of services, and linking these to incentive structures, choice making and a human wellness index is a central challenge of our time.** As mentioned above, we now have the tools at our disposal to begin this process. NUNA aims to be this meta-engine, achieving results that, over-time, will be defensible within a SANEconomy market dynamics.

Essentially NUNA aims to be **the voice of nature and human wellness:** a feedback mechanism built at the core of the SANEconomy. **Our approach is data driven, open sourced, and constantly evolving.** NUNA is designed to function at the bioregional scale with replicable processes to be used throughout the world. Eventually, it can be implemented at the nation scale, and ultimately, at a global scale.

NUNA marks a pivotal moment in the realm of AI-driven regenerative project assessment. NUNA is a groundbreaking artificial intelligence system designed to evaluate proposals for regenerative projects through the lens of their impact on both human and ecosystem health.

One of NUNA's most powerful proposed features is its capacity to sort through proposals based on their potential impact, enabling stakeholders to prioritize projects that align with the overarching goals of human and ecosystem health. By leveraging advanced algorithms and vast datasets, NUNA provides decision-makers with invaluable insights into the potential consequences of various project implementations, empowering them to make informed choices that promote regenerative practices.

However, NUNA's true innovation will lie in its ability to chart a path towards a desired future condition. By analyzing existing conditions and extrapolating future trends, NUNA can identify actionable steps to bridge the gap between the present reality and the envisioned future. Whether it involves restoring degraded ecosystems, enhancing community well-being, or mitigating environmental risks, NUNA offers tailored strategies tailored to each project's unique context.

The foundation of NUNA lies in comprehensive data acquisition across diverse domains (within a predefined bioregion, usually one that follows natural watershed and human settlement boundaries), including environmental science, public health, economics, and sociology. This step involves gathering structured and unstructured data from sources such as scientific literature, government databases, and community surveys. The data is curated to ensure quality, relevance, and representativeness, forming a robust knowledge base for NUNA's inference processes.

Building upon the curated data, machine learning models are developed to enable NUNA to analyze and interpret complex relationships between variables related to human and ecosystem health. Supervised learning techniques are employed to train models on historical data, while unsupervised learning methods facilitate pattern recognition and anomaly detection. Reinforcement learning algorithms are utilized to optimize decision-making processes, enhancing NUNA's ability to recommend effective strategies for regenerative projects.

Inference serves as the cornerstone of NUNA's capacity to envision and reverse-engineer a desired future condition. An inference framework is designed to extrapolate from existing data to forecast future trends and scenarios. This framework incorporates probabilistic reasoning, causal inference, and scenario analysis techniques to generate insights into the potential impacts of different project interventions on human and ecosystem health. By simulating alternative pathways and outcomes, NUNA empowers stakeholders to make informed decisions that align with long-term sustainability goals.

Recognizing the importance of stakeholder engagement in shaping regenerative projects, NUNA integrates mechanisms for capturing diverse perspectives. Natural language processing algorithms enable NUNA to analyze textual inputs from stakeholders, extracting key insights and sentiment analysis to inform decision-making processes.

As a dynamic AI system, NUNA undergoes continuous learning and adaptation to evolving environmental, social, and economic conditions. Feedback loops are established to gather real-world data on the outcomes of implemented projects, allowing NUNA to refine its models and inference processes over time. Additionally, NUNA remains responsive to emerging research findings and policy developments, ensuring its relevance and effectiveness in guiding regenerative practices.

NUNA begins as a collection of data sets that are foundational to the SANEconomy. Plug-ins are incentivized to be built on top of these over time (all future plug-ins that are approved are rewarded with \$SANE tokens, creating a whole niche economy within the SANEconomy).

4b. NUNA AI -V2

In the pursuit of enhancing NUNA's capabilities in envisioning desired future conditions for regenerative projects, NUNA V2 proposes the integration of UNREAL ENGINE introducing a dynamic dimension akin to designing a game with a clear goal. By leveraging the immersive simulation capabilities of UNREAL ENGINE, NUNA can visualize and evaluate various pathways towards achieving desired outcomes, blending choice-making and inference to assess the likelihood of success.

The first step involves integrating UNREAL ENGINE into NUNA's architecture, enabling seamless communication and data exchange between the two platforms. This integration allows NUNA to harness the powerful rendering and simulation capabilities of UNREAL ENGINE to create immersive virtual environments that represent desired future conditions for human and ecosystem health.

Drawing upon insights from stakeholders and expert knowledge, NUNA defines the desired future conditions for regenerative projects. These conditions encompass a holistic vision of sustainability, encompassing factors such as thriving ecosystems, resilient communities, and equitable socio-economic development. UNREAL ENGINE translates these conceptual frameworks into compelling simulations, providing stakeholders with a tangible representation of the end goals.

UNREAL ENGINE enables NUNA to gamify decision-making processes by transforming project assessments into interactive scenarios with clear objectives and outcomes. Stakeholders are presented with a range of choices and interventions, each affecting the trajectory towards the desired future condition. Through real-time feedback and simulation results, stakeholders can explore the consequences of their decisions and adjust their strategies accordingly.

Within the virtual environments created by UNREAL ENGINE, NUNA blends choice-making and inference to assess the likelihood of achieving the desired future condition. Machine learning algorithms analyze the impact of different interventions on key indicators of human and ecosystem health, while probabilistic reasoning techniques evaluate the uncertainty and risk associated with each decision. By synthesizing these insights, NUNA provides stakeholders with actionable recommendations to maximize the probability of success.

As stakeholders interact with the simulated environments, NUNA collects data on their decision-making processes and outcomes. This feedback loop enables iterative optimization and learning, allowing NUNA to refine its models and predictions based on real-world observations. By continuously adapting to changing conditions and incorporating new knowledge, NUNA enhances its capacity to guide regenerative practices towards the desired future condition.

4c. NUNA AI -V3

Ultimately by leveraging its advanced inference capabilities, NUNA becomes capable of analyzing complex interactions between human activities, ecosystem dynamics, and socio-economic factors to identify pathways towards desired future conditions. By quantifying the potential impact of regenerative projects on natural capital assets, NUNA enables stakeholders to prioritize actions that maximize overall value creation. Value here being redefined as an increase in overall ecosystem and human health.

At the heart of this approach lies the concept of assigning economic value to desired future conditions. By monetizing the benefits of clean water, thriving ecosystems, and improved human well-being, we can articulate the tangible worth of sustainability outcomes. This valuation process allows us to quantify the economic value of our future desired condition, providing a clear incentive for investment and action.

Reverse engineering the path to the desired future condition involves breaking down complex sustainability goals into actionable steps. NUNA's analytical prowess eventually enables us to identify the specific interventions and policies needed to enhance natural capital assets over time. Each step is

assigned a value based on its contribution to the overall economic worth of the desired future condition, creating a roadmap for progress.

Tokenization emerges as a powerful mechanism for incentivizing action along this pathway. By tokenizing each step and creating incentives for their implementation, we can align economic interests with sustainability objectives. Stakeholders are rewarded for contributing to the enhancement of natural capital assets, fostering a virtuous cycle of investment and regeneration.

Ultimately, this vision transcends traditional notions of economic growth by redefining prosperity in terms of environmental stewardship and social well-being. By harnessing the combined power of NUNA's intelligence and economic innovation, we can catalyze the emergence of a regenerative economy—one where sustainability is not just a goal, but the foundation of our collective prosperity.

In conclusion, NUNA's integration with innovative economic principles offers a transformative pathway towards a regenerative economy. By assigning value to desired future conditions, reverse engineering the path to achieve them, and incentivizing action through tokenization, we can create an economy that thrives on sustainability. This vision represents a bold step towards a future where economic prosperity is inextricably linked to the health of our planet and communities.

5. Proposals

What differentiates the SANEconomy from many other projects in the Web3 world is that at the center are real actions being taken on the ground. These actions are approved through a process that leads to the creation of a smart contract. **No regenerative actions, no economy. It all begins with Proposals.**

Proposals are created by SANE “Citizens” who live in the bioregion where the project will be undertaken. If approved, a Smart Contract is generated, and tokens are minted from DAO allocations that represent the value of the Proposal. SANE certified/ accredited members from the bioregions where the proposal is located can then take on the Smart Contract and engage in the regenerative action(s) associated with the Proposal. Tokens are released and burnt. Mutual Credits are created and the projects are undertaken.

The SANEconomy (and its assessment of Proposals) looks at long-term sustainability at all layers of community (individual, family, community, and bioregion). It is long-term focussed as opposed to focusing solely on short-term gains, and also considers the long-term ecosystem health of the Commons. The SANEconomy consistently appraises any Proposal (i.e. future economic activities) in regard to whether such a Proposal will serve the Wellness of the Whole, as opposed to just the two parties involved in a transaction.

Proposals kick-start sustainable bioregional economies and are used to bridge from today's economy to a SANEconomy. Once a bioregion's population has been onboarded to SANE, their collective desired future

condition agreed to, and a series of proposals are completed, the mutual credit system becomes more and more the local currency (see section 1).

A Proposal can be as small or big as the proponent feels capable of delivering on. SANE currently operates in two continents, but let's use the North-American (Interior Temperate Rainforest) bioregion as an example.

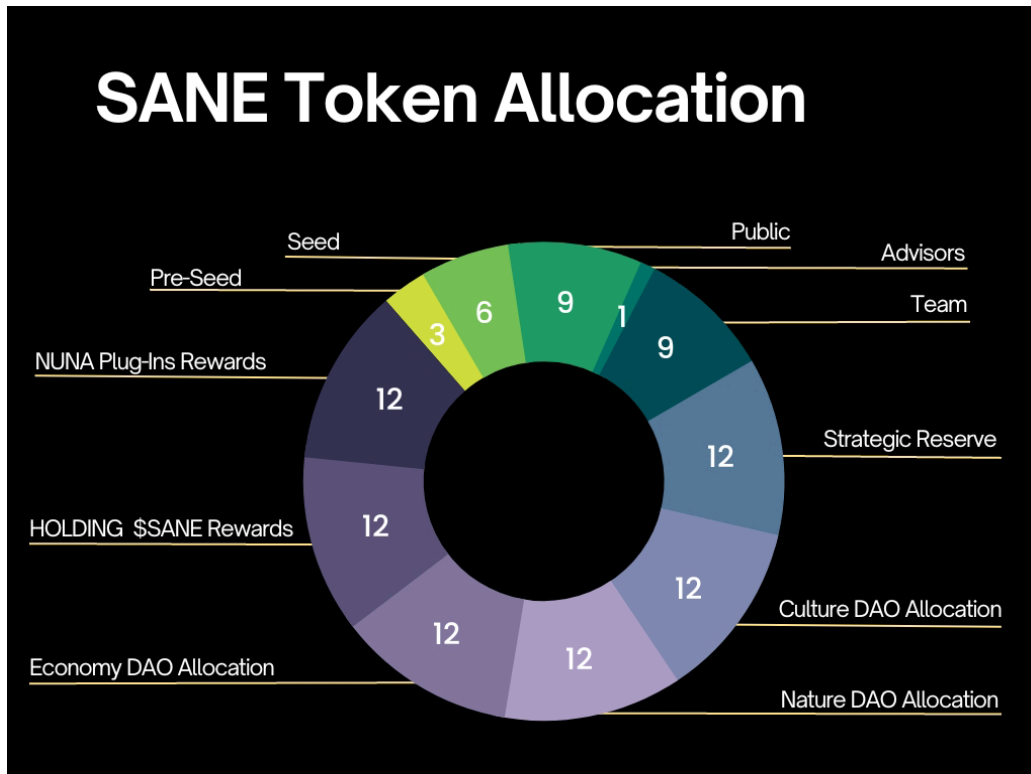
Through partnership agreements, we are currently stewarding 35000 acres of land in a key biospheric ecosystem that the planet benefits from. A proposal can be generated to restore say 500 acres of degraded land due to a wildfire that happened in 2021. \$SANE tokens are burnt that represent the value of the Smart Contract. Mutual Credits are then minted from the Economy DAO token allocation, and the project is undertaken.

At a smaller scale imagine a public park that is hardly used because it is littered with garbage, and the infrastructure is falling apart. Right beside it, children are playing on a heavily trafficked street. We can envision a fully restored park and the value this would bring to the community (e.g. less accidents, higher happiness index for children, less stress for parents, increased beauty which invites families to hang out together, thereby increasing connections, reducing crime and bringing more tourism etc.). This future condition can be proposed and given a value as compared with the current condition. A Smart contract is created, \$SANE tokens are burnt from the Culture DAO token allocation, Mutual Credits are minted, and the project is undertaken.

This approach can be applied at all scales. All economic activities are gradually shifted towards the bioregional creation of a collectively desired future condition that meets basic agreements for overall Health and Wellness.

6. Tokenomics

Funding for SANE roll-out will be raised through a Pre-Seed and a Seed funding round, based on issuance of SANE tokens. \$SANE has a fixed supply of tokens set at 3,693,693,000 tokens.



Pre-Seed:

The Pre-Seed round aims to fund rapid growth of the SANE Team to take full advantage of our current collaborative opportunities with the Shuar Nation of Ecuador and with SIFCo in Canada, and to kick start new, on-the-ground projects in our initial bioregions. A total of 110,810,790 \$SANE will be offered at a price of \$0.02 USD each (Total value of \$2,216,215 USD).

Use of Proceeds: We currently have an agreement with the Shuar Nation of Ecuador for the conservation and regeneration of 2,000,000 acres of Amazon Rainforest and the upliftment of their Nation. 500K will go towards our first collaborative on-the-ground projects with them, which they have designed and proposed themselves: A Shuar temple and marketplace, and the restoration of 140 acres of Amazon rainforest. We will also release the Mutual Credit App in all three bioregions (200K). 500K will go towards the NUNA V1, utilizing 15 years of data gathered by our partner SIFCo. 500K will go towards team growth, and 500K towards SANE's first Andean project in our third bioregion: a full-stack permaculture, youth empowerment, and reforestation project in the Ecuadorian Andes.

Seed:

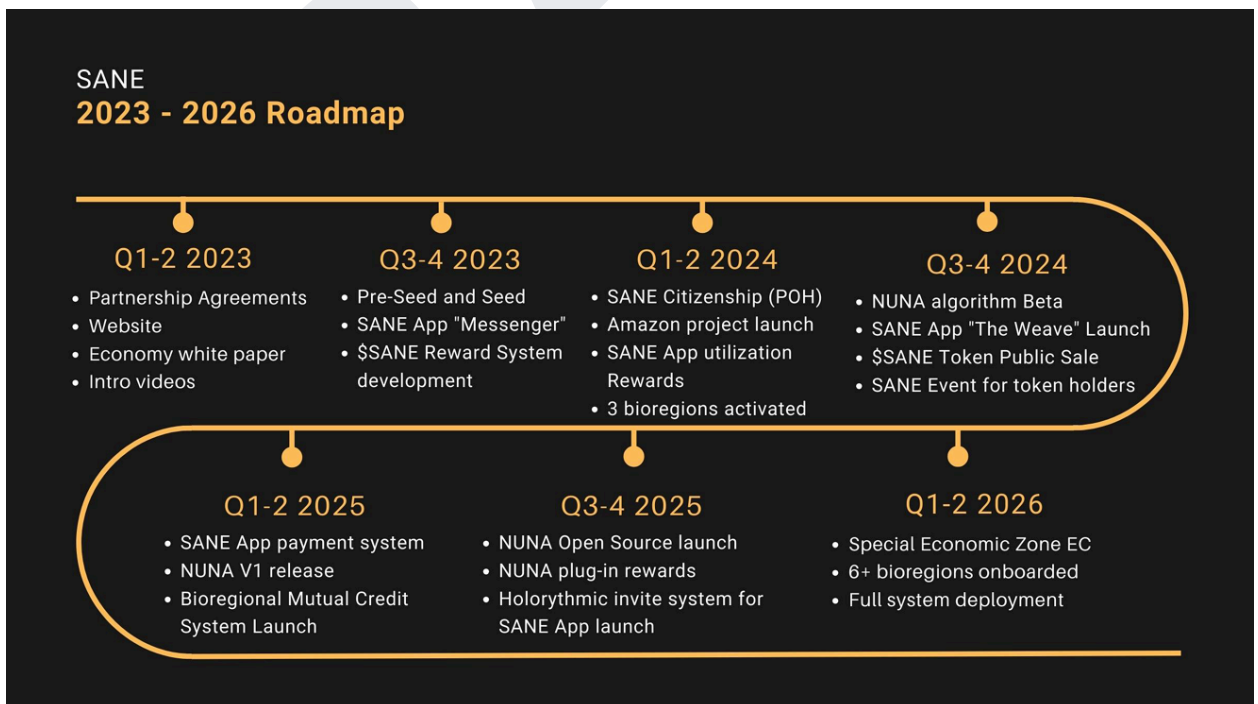
The Seed token sale will support our first full-scale bioregional project in the Amazon, the further development of NUNA, our Proof of Humanity/Citizenship system, the launch of the Messenger App, and the coding of our rewards system. In addition, our first three bioregions will be fully activated with proposals being accepted. A total of 221,621,580 \$SANE will be offered at a price of \$0.03 USD each. Total value of \$6,648,647 USD.

Use of Proceeds: We will work with the Shuar Nation (Over 100,000 people and 2,000,000 acres of the Amazon) and implement our first full-scale bioregional project, as well as SANE Citizenship (proof of humanity framework). We will deploy our extensive partnership agreements in Ecuador to create our first Regenerative Economic Zone (REZ). We will create the system for bioregional project updates on our website with associated rewards for \$SANE holders. In addition, we will launch the SANE App messenger component and create the framework to onboard micro-loan organizations (future smart-contract holders), as well as deploy our Synergy Commons framework for Organizational Partnership.

Public:

A public sale is planned for Q3 of 2024; more details are forthcoming. Public Sale start price is \$0.04 USD.

Roadmap:



Decentralized Economies Backed by Natural Capital Assets

Token release within the SANE token ecosystem will be directly linked to Smart Contracts (through DAO allocations), which in turn will be tied to regenerative actions, and, as mentioned earlier, these future conditions are embedded in the Smart Contracts and act as collateral for token creation. This entire process creates a circular, regenerative economy that brings us increasingly closer to our desired future conditions.

This process:

1. Creates incentives for conservation and regeneration, since token issuance is directly linked with these actions;
2. Returns the power of money creation to the individuals at the bioregional level (through Proposals);
3. Ensures that token creation and associated mutual credit process is in sufficient supply to meet bioregional needs in perpetuity, bringing us to a steady state of stewardship (as long as our proposed actions are aligned with a future that is Sustainable, All-considerate, Numinous, and Evolutionary); and
4. Acknowledges that the value stored in tokens is a derivative of real value stored in Nature, which is the real primary source of all economic activities.

In this way, the SANEconomy allows bioregions and communities to tailor-make their conservation and regeneration efforts through Proposals. The SANEconomy is largely value-based – with conservation, regeneration and human wellness at the core – while being built in such a way that each bioregion can adjust specific algorithmic outputs to meet their specific needs and be economically viable.

7. Smart Contracts

The SANEconomy focuses on concrete projects and activities that move the needle forward in our journey to a SANE future, hence the centrality of the smart contract. The SANEconomy does not focus on abstract exchange of value and/or unlimited accumulation and growth. It moves most economic activities over to actionable projects.

Modern technology has created the conditions for the creation of new alternative modes of exchange in the form of cryptocurrencies, but to date this innovation has not been able to solve the meta-systemic problems that sit at the core of our current economic system. Today's economic system is based on bank loans and debt. Close to 100% of money created follows this journey: A bank issues a loan that involves a contract. Once the contract is signed, the agreed-upon amount goes into the account of the borrower,

and this “new” money is simply created out of thin air as debt with interest attached to it. This journey has built into it a commitment to infinite growth (an eventual collapse). At this point, we can surely admit that the experiment has run its course and pushing it further will result in large-scale failure. Cryptocurrencies are not that different at their core, as the focus (so far) has been mainly on limited supply of tokens, growth in token value, and extraction of liquidity from the marketplace.

Alternatively, the SANEconomy focuses on real actions associated with Smart Contract issuance. Token supply is linked with desired future conditions. The entire SANEconomy project aims at creating an **adaptive circular economy that shifts bioregions to a mutual credits system**. This is a biomimicry economy where growth, if any, is directly linked with a new desired future condition that has not yet been achieved, one that meets the SANEconomy baseline assumptions mentioned above.

The Smart Contract is simply an agreement between parties as to the value and the required actions associated with token issuance. Such a Smart Contract is accounted for as a ‘liability until fulfillment’. The liability and the token issuance are of equal value. The Smart Contract acts as collateral one-to-one with token issuance.

This simple system quickly generates real, on-the-ground activities and the immediate utilization of tokens as a mode of exchange, as opposed to a store of value.

Token issuance is transferred to a bioregional micro-loan organization (see section 8) that administers the Smart Contract. The micro-loan organization acts as the bridge both for onboarding to the system and to kick-start the bioregional mutual credit economy. This achieves wide-scale utilization and ability to scale without the impossible on-ramp to a system that has not yet gained bioregional trust. The micro-loan organization acts as the one-party signatory to the Smart Contract and is the only body that needs to be on-ramped to the blockchain.

8. Micro-loan Organizations

Once a Smart Contract has been unlocked, we must ensure that the regenerative action is actually taking place on the ground. This is achieved through the creation of bioregional micro-loan organizations. The role of such an organization is sixfold:

1. Enter into a Smart Contract relationship with SANE
2. Onboard members to the SANE Ecosystem
3. Tender project management to local residents
4. Get Mutual Credit System kick-started
5. Incrementally release bioregional mutual credits in phase until project completion
6. Act as an exchange/bridge \$SANE to MCS to ensure completion of proposal

If we want to transform our economy into a more sustainable one, we have to find new ways of financing, allocating and accessing funds. As explained earlier, a debt-based system does not work. By releasing currency against the value of a future condition embedded in a smart contract, we create the conditions whereby entire communities can work toward desired future conditions by creating their own currency through proposals that meet basic foundational assumptions and agreements.

Since Smart Contracts are awarded through simple tendering and a burning mechanism, creating mutual credits requires no interest, no transaction fees, and very low costs. The combination of instant liquidity and direct market access makes the SANE token ecosystem mainly a mode of exchange. The key here is that we clearly distinguish between the store of value and the medium of exchange.

We are, therefore, developing a form of cooperative banking system (Credit Union 2.0) that does not charge interest on loans, but instead, supports the creation of genuine wealth by supporting activities, which are regenerative and based on human wellness.

In the SANEconomy system, the micro-loan organization is the only part of the downstream network that needs to be blockchain native. From there, most transactions can eventually use the SANE Mutual credit system.

9. Monitoring, Reporting, Verification, and Impact Assessment

Through our Micro-loan organization system, decentralization can happen at scale. Simultaneously, SANE takes responsibility to ensure that regenerative actions are happening on the ground. SANE is involved in monitoring, is recipient of reporting from the ground and, in turn, reports to the world, and verifies that deliveries meet smart contract obligations.

All of this is done in a transparent online environment that involves live feeds, interviews, interim and final reports on projects, as well as tours for SANE Citizens. A clear onboarding path for microloan organizations is created to ensure compliance at all scales. In essence, the actions taken meet the highest standards and fulfill the commitments that are embedded in the smart contract.

Following completion of the Smart Contract, an impact assessment is conducted that informs and evolves the NUNA Algorithm. How are we impacting the Biospheric Health Index and the Human Wellness Index? These assessments allow for improved feedback mechanisms on proposals over time.

10. Moving From DAOs to C-HAOs

Let's pause and talk briefly about the shift from DAOs to C-HAOs (pronounced "see-how").

Decentralized Autonomous Organizations (DAOs), mentioned throughout this paper, have undeniably revolutionized organizational structures, offering transparency, efficiency, and autonomy. However, they encounter notable challenges:

1. Limited Adaptability: DAOs, by design, operate autonomously, lacking mechanisms for swift adaptation to changing environments, market dynamics, or unexpected disruptions.
2. Fragmented Decision-Making: While DAOs prioritize decentralization, decision-making can become fragmented, leading to coordination issues and suboptimal outcomes.
3. Human Expertise Integration: Despite technological prowess, DAOs struggle to incorporate human expertise and intuition into decision-making processes, limiting their ability to navigate complex scenarios.

DAOs are highly capable of doing certain specific tasks well, such as straightforward organizational activities that are based on programmable rules. When it comes to societal matters such as decision making and organizational structures, however, DAOs will get challenged quickly if the focus is solely on automation and decentralization.

Enter the Collaborative Holonic Adaptive Organization (C-HAO), a paradigm shift that addresses the shortcomings of DAOs while preserving their core benefits.

Unlike DAOs, C-HAOs embrace adaptability as a cornerstone. By integrating autonomous elements with collaborative mechanisms, C-HAOs swiftly respond to changing circumstances, ensuring organizational resilience. C-HAOs foster cohesion by harmonizing decentralized autonomy with collaborative decision-making structures. This synthesis ensures alignment of objectives and streamlines governance processes. Most importantly C-HAOs recognize the irreplaceable value of human intuition and expertise, and seamlessly integrate human elements into its fabric. This human-centric approach enriches decision-making, unlocking creative solutions and nuanced insights.

At SANE we believe that a machine will never be able to fully replace the multi-modal capacities of the human being and that developmental growth in capacity and, therefore, in responsibility, are an essential component of healthy organizational structures. We also believe that the future will utilize machines in increasingly precise ways, while embracing the subtle and causal dimensions of humans that are far beyond the reach of any machination. Hence the need for C-HAOs.

C-HAOs are built for human **collaboration** at scale. SANE premises that in order to make it through this time in history, evolving our capacity to collaborate is a must, and creating systems and structures that support this is essential. Within SANE., **Holons** are autonomous, self-reliant units that are part of a meta-system of holons. Each holon's roles and responsibilities are defined, and each holon's relationship to other holons is also defined.

Adaptation: Using a biological lens we can quickly see that survival is closely entwined with the capacity to adapt. At this time in history the rate of necessary adaptation is transcending biological time. Systems, however, tend to get cemented and stagnant. It takes a lot of energy to create a system, and when a

system is established, the energy behind its creation tends to dissipate, and the system itself takes over. This is why changing established systems often requires more energy than what it took to create them in the first place. Every new system truly built for the future will require adaptation as a core inbuilt principle. Such new systems will need to get built in a way that assumes evolution in the design specs and integrates change seamlessly. Once an organization has agreed to a set of principles that makes it possible to be autonomous (as in DAOs), one quickly realizes that life throws unanticipated curveballs; an adaptive organization can react immediately and course correct correspondingly.

For all these reasons, C-HAOs are an intrinsic part of the SANE organizational structures and closer to the future of the human/machine interface when it comes to organization. Their role is, amongst other things, to ensure that all systems within their respective domain are capable of replicating and scaling.

11. SANE Organizational Structure (OS)

The three main C-HAOs of the SANE ecosystem are: the Economy C-HAO, the Nature C-HAO, and the Culture C-HAO. Each C-HAO is responsible for very specific aspects of the SANE Ecosystem, and each C-HAO can create sub-C-HAOs as the ecosystem grows, thus allowing the holonic organizational structure to evolve. Each bioregion becomes a Holon and replicates this OS downstream. Management acts as the link between C-HAOs, and the Consulate gives third-person perspective on the overall organization.



Roles and Responsibilities:

Economy C-HAO:

1. Offers the SANE Algorithm (NUNA) as a service for assessment of proposals and assigning value to proposals.

2. Facilitates the on-boarding of bioregions to the SANEconomy.
3. Is responsible for token release and entering into smart contract relationships with bioregional micro-loan organizations.
4. Stewards the Mutual Credit System deployment.
5. Liaises with all necessary levels of government for the creation of Regenerative Economic Zones (REZ).
6. Oversees the SANE accreditation process and conducts all the monitoring, reporting and verification.
7. Stewards the staking platform.

Nature C-HAO:

1. Works within bioregions and helps steward the creation of proposals.
2. Does research on the potential best projects within bioregions.
3. Stewards land-based permaculture projects as demonstration sites.
4. Stewards Eco-Village projects.
5. Stewards Nurseries and Soil Rehab labs for adaptive restoration.
6. Offers mapping, lidar and drone services for REGEN projects.
7. Hosts a reporting website on actions being undertaken.

Culture C-HAO:

1. Facilitates bioregional processes for imagining desired future conditions.
2. Is responsible for SANE Citizenship on-boarding and organizational accreditation.
3. Facilitates the SANE WEB3 online platform and App.
4. Does HR within the organization.
5. Develops and hosts events, courses and tours.
6. Nurtures the spirit of a SANE Culture

12. Implementation Overview

SANE was conceived of in 2017, building on twenty-five years of bioregional resiliency and cultural innovation work. The combined skill set of the SANE team encompasses decades of experience in the following areas: Coop development, eco-village design, co-housing and NGO consultancy, permaculture, ecoforestry, bioregional climate change adaptation, Web3, multi-stakeholders mediation, integral research and course offerings on parenting, community, education and ecology.

We are currently working in a few bioregions and are in the process of defining ecosystem-sized areas for our initial pilot projects. In North-America we are stewarding over 35,000 acres of land. In the Amazon we are collaborating with the Shuar Nation on a 2 000 000-acre regenerative economy project. In the Andes we are co-owners of two properties totalling over 60 acres where we are building ecovillages and working with local and international groups on regenerative research.

We are actively building our Mutual Credit App. Beta release is planned for June 2024. The foundational frame for NUNA V1 is in construction.

Initial proposals are being developed in each bioregion.

SANE token (\$SANE) is due for release in Q3-4 2024.

13. Conclusion

A SANEconomy promotes unbounded possibilities for people participating in it, allows for entire bioregions to imagine a future that is SANE, and supports bioregions with the infrastructure and processes to work toward a better future today.

At its core, it demonstrates that we currently have all the tools necessary to create a world in which nature is being restored and human wellness is supported. Economy is often overlooked as the centerpiece to the transformation we all know this world is in need of. Our current economic system and its core assumptions ultimately make it impossible for us to move our world in the right direction. The way forward is to reimagine what “economy” should be, and to begin creating the structures for the emergence of what we call a SANEconomy.