Collective Intelligence for Greener Tomorrow

Green Earth Social Impact Alliance

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INDEX

PROLOGUE

Abstract

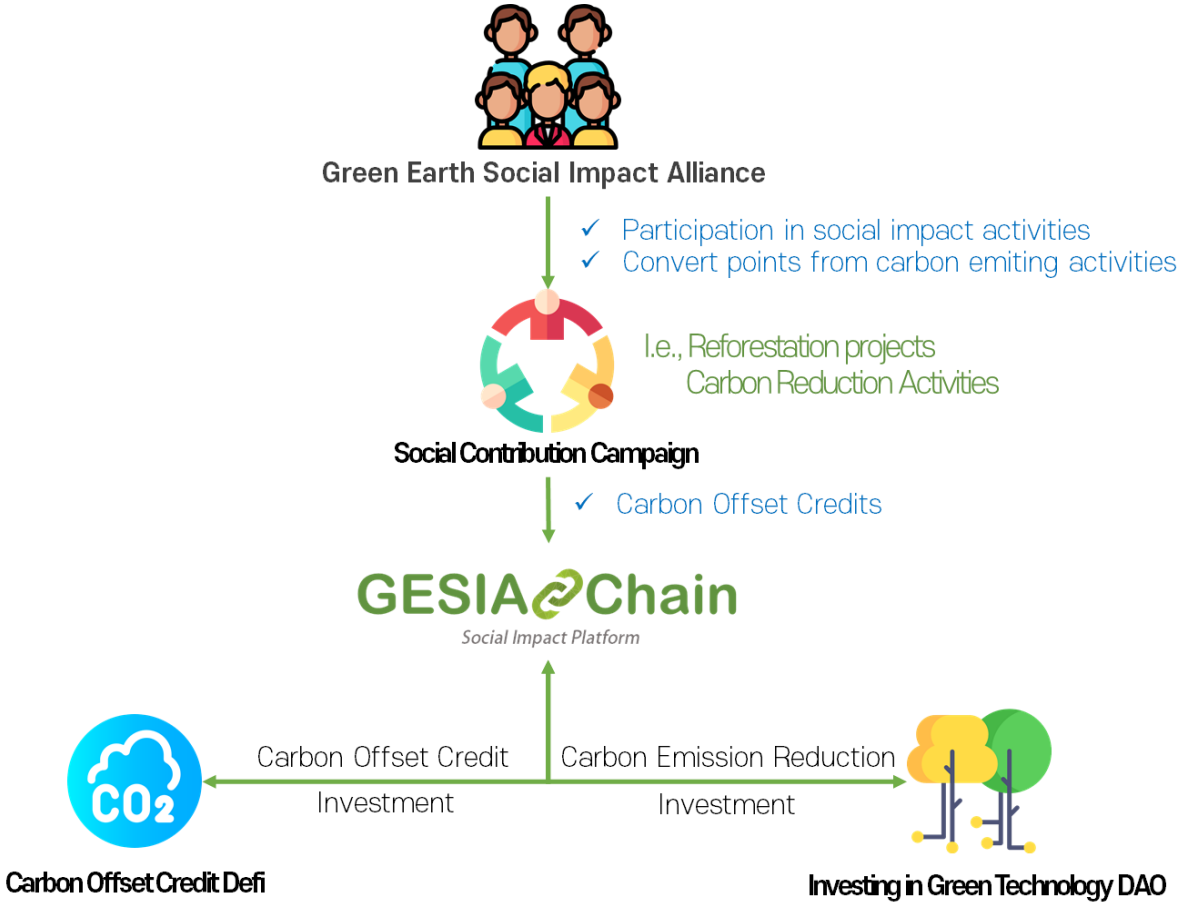
The birth of a blockchain-based virtual asset called 'Bitcoin' makes it possible to fund projects based on innovative and disruptive ideas that have been overlooked by the traditional financial market. Through 'decentralized' and 'distributed' decision-making processes in the blockchain world, collective intelligence is now poised to unlock the possibility of more socially contributing projects for the next generation. It's called "social impact investment" and it's not just a buzzword.

Global Impact Investment Report in 2021 describes social impact investment as a priority shift toward the good of society in selecting investment opportunities, NOT foregoing the investment return for the good of society. In fact, contrary to the common misconception that social impact investment is solely for the good of society, many social impact projects are yielding higher than acceptable returns. However, still, in many countries including S. Korea, the general public misbelieves a small local cooperative project hiring elders in a coffee hut is the only form of social impact investment, which has hindered the growth of the social impact investment industry.

On an upbeat note, with the rise of the millennial generation, the tide is shifting. One of the distinctive traits of millennials is even though they do not shy away from expressing their individuality they strongly uphold an active appetite for the common good of society. This trait is clearly manifested in how millennials choose their investments: They don't just want to grow their money: Many millennials want to achieve social and environmental goals through their investments.

According to CNN Money, the overwhelming majority of Millennials surveyed, 93%, believe that a company's social and environmental impact is key to their investing decisions. This result sharply contrasts with Baby Boomer's response of 51%. "Impact investing is hitting the mainstream," says Jackie VanderBrug, investment strategist at U.S. Trust, a division of Bank of America (BAC). "We're hitting a tipping point."

We at Green Social Wave(GSW) endeavor to share the real value of social impact among millennials and propose the Green Earth Social Impact Alliance(GESIA), through which we will cooperatively promote impact investment opportunities in the green technology industry, especially in the countries where social impact investment is not well regarded, starting with S. Korea. To uphold the fairness and transparency of this social alliance, the GESIA will operate on a digital platform, GESIA Platform, that will embrace blockchain's philosophy of decentralization and incorporate its recent technological developments. On which, we will first introduce convenient and transparent services for individuals to invest in the voluntary carbon offset credit market and green technology companies, and showcase sound and solid returns of social impact investment.



[Green Earth Social Impact Alliance Platform]

1. Background of GESIA Platform

GESIA Platform is NOT just a science lab-level blockchain project: It aims to overcome the limitation of existing not-for-profit environmental movements by incorporating social impact investment philosophy and fostering new cultural trends toward the common good of society. Blockchain technology has been adopted to form GESIA Chain ensuring a more transparent and sustainable ecosystem, where participants will create network effects and share the created returns and social value fairly. The following points are considered when selecting the opportunities that the GESIA Platform will first focus on.

1.1. Green Technologies

The green technology industry is striving to provide more environment-friendly ways and means throughout the life cycle of goods and services. It is not limited to simply switching to alternative energy sources but includes a technology enabling the reduction of energy consumption by harnessing the research in the energy management system, agricultural reengineering, material science, hydrogen power, and other related technologies. Moreover, many of these new green technologies are aggressively aiming to restore the earth by recapturing greenhouse gas, reforestation, re-soiling, etc.

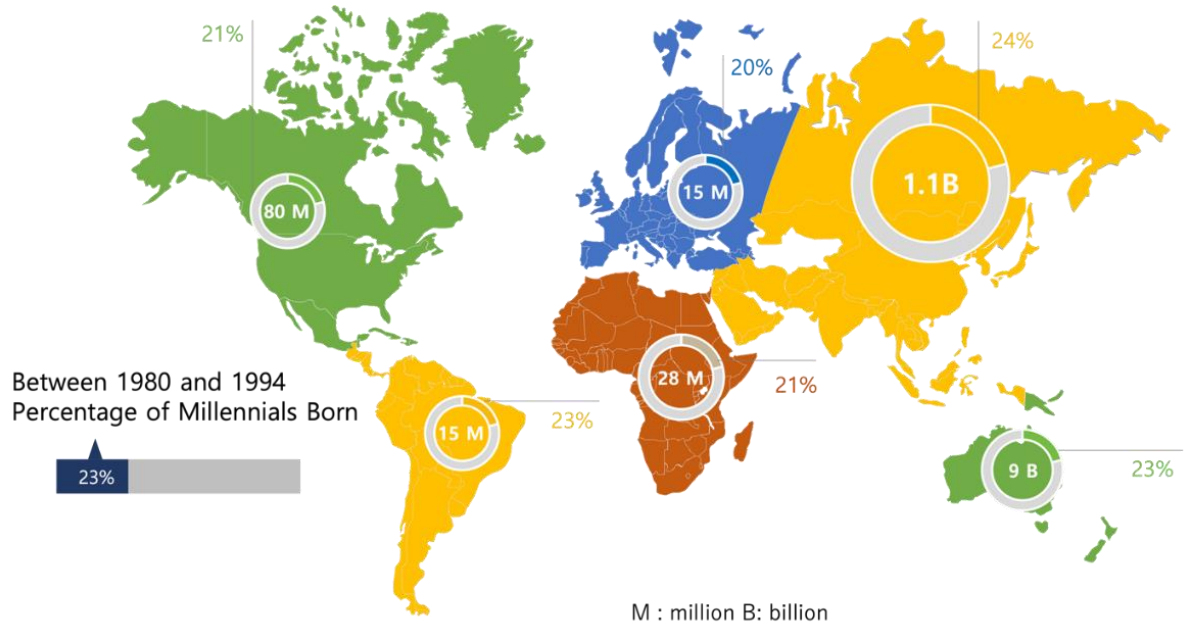
The market for green technology is still at the infant stage but attracting the interest of investors as the issue of natural resources depletion and climate change is escalating. As of 2020, the global green technology market is recording USD 120B with a CAGR of 21.9% and is expected to reach USD 900B by 2030. On November 15th, 2021, US president Joe Biden passed 'The infrastructure Investment and Jobs Act' consisting historic investment of US 550 billion in new spending mostly on carbon pollution reduction projects, including eco-friendly electricity transmission systems, electric vehicle charging infrastructure, and cleaner public transportation, which will revolutionize green technology industry as a whole.

The hyper-growth trend of green technology is greatly indebted to the heightened personal and corporate awareness of the seriousness of global climate change. As an example, for the fulfillment of environmental responsibility, more and more companies are looking into alternative energy sources even at the cost of additional expenditure at first and consumers are becoming mindful of the carbon footprint of the goods they consume. The shift of government regulations countering environmental crises is also adding pressure on the entities to adopt greener technology sooner than later.

However, many green technology companies are struggling to reach economy of scale due to the high cost associated with research and development, thus unable to provide an acceptable price for the consumers; the companies would rather procure carbon emission rights from other companies instead. In other words, many green technology companies have great ideas, products, and services, but their market entry is being delayed since they do not provide sufficient cost benefits to companies that want to adopt them. As such, society as a whole needs to look into a wiser solution to support the faster deployment of green technology by lowering cost barriers.

1.2. New Consumers - Millennials

Currently, the millennial generation is estimated at 1.8 billion people, accounting for the largest share of the generation cohort. In the case of Korea, it constitutes 32%, far exceeding the global average of 23%.



Woori Financial Research Institute's research on millennials well explains what this generation is paying attention to through the keyword 'R.E.S.T.A.R.T'. The research revealed millennials are highly self-motivated and fun-loving in daily activities while maintaining a keen interest in social development and environmental improvement even at the cost of many inconveniences. This generation, who grew up in a globalized and interconnected environment compared to the previous generation, is very familiar with digital technologies such as Web 3.0 and shares a deep interest in fairness and social justice through digital technologies.

R: Renewable Energy
E: Expenditure of C.R.E.W
S: Small-Big Ants
T: Touchless-tact
A: Autonomous Work Culture
R: Rescue IT System
T: Technology with Humanism

While growing up with the digital world and social media, millennials' obsession with the transparency and integrity of society may have formed naturally. They go to great lengths to strike a balance between their online persona and their real-life self, and to find the truth in a flood of erroneous news and misinformation. As they were entering adulthood, They have been greatly impacted by the financial crisis of 2008 and the uncertainty of the COVID-19 Pandemic, which may have fortified their view toward transparency and integrity of society.

In selecting any goods and services, they demand the products or brands they consume reflect their values and are quick to respond to their preferences. The marketing campaign of Dove is a good example of how brands are reflecting millennials' values and preferences, where ordinary people with various skin colors and appearances appear in advertisements. The reaction of millennials to Chipotle, which uses more health-oriented natural ingredients in food and beverages, and to Tesla, which is making efforts to preserve the environment through recycled energy demonstrate what products or brands can expect when they embrace millennials' values and preferences.

Furthermore, millennials with this mindset want to know exactly whether a company is fulfilling its social responsibilities and what kind of social contribution activities it is carrying out if it claims that it is fulfilling its responsibilities. In other words, when a company declares that it will be carbon neutral by 2025, they want to know if that can really be achieved and how it is progressing. These unique characteristics of millennials are distinctly different from previous generations, and if a new

culture that reflects their values becomes mainstream in the future, society is expected to evolve in a healthier direction.

1.3. Social Impact Investment

Social impact investment has grown rapidly over the past 10 years. In the 2010 Global Impact Investing Network (GIIN) annual report, 75% of investment institutions that responded considered social impact investment was still in the early stages. They were willing to fund about 4 billion dollars or 4.8 trillion won in social impact investment opportunities. In sharp contrast, according to the 2020 report, 69% of investment institutions think social impact investment is now entering maturity and in 2021 alone, they had a new investment plan of about 48 billion dollars or 57.6 trillion won. Currently, the total size of the Social impact investment market is estimated to record approximately USD 715 billion, or more than KRW 858 trillion.

Globally, investors have made it clear that profit is not their only goal, and they want to show that they are contributing to society through their investment. An asset manager once said that 86% of its clients prefer and choose social impact investments because of global environmental issues. This is a historical opportunity not to be missed. If only 10% of the $269 trillion of wealth owned by institutions and individuals is channeled toward investments that help improve society and the environment, the UN's 'Sustainable Development Goals' including a carbon-neutral future will be achieved.

In addition, according to global consulting firm Accenture, within 30 years in North America alone, about $30 trillion in wealth will move from baby boomers to Generation X and millennials. As mentioned above, millennial investors prefer investment strategies that emphasize social and environmental impact, and for this purpose, they actively analyze investment opportunities. In a recent Barclays Investment Bank survey, the most important factor to consider when investing in the social and environmental impact of the investment project, includes health, education, and climate change. As such, as millennials become the mainstream of society, the investment paradigm shift may be accelerated.

A healthy change has already begun in which the criteria for the choice of investors, including millennials, and the UN's Sustainable Development Goals are aligned. Many believe social impact investment will become the mainstream of the investment industry and the investment industry must make efforts to discover socially responsible companies that meet these standards and connect

them to investors, and provide transparent and truthful information about these companies to investors.

1.4. Voluntary Carbon Offset Credit Market

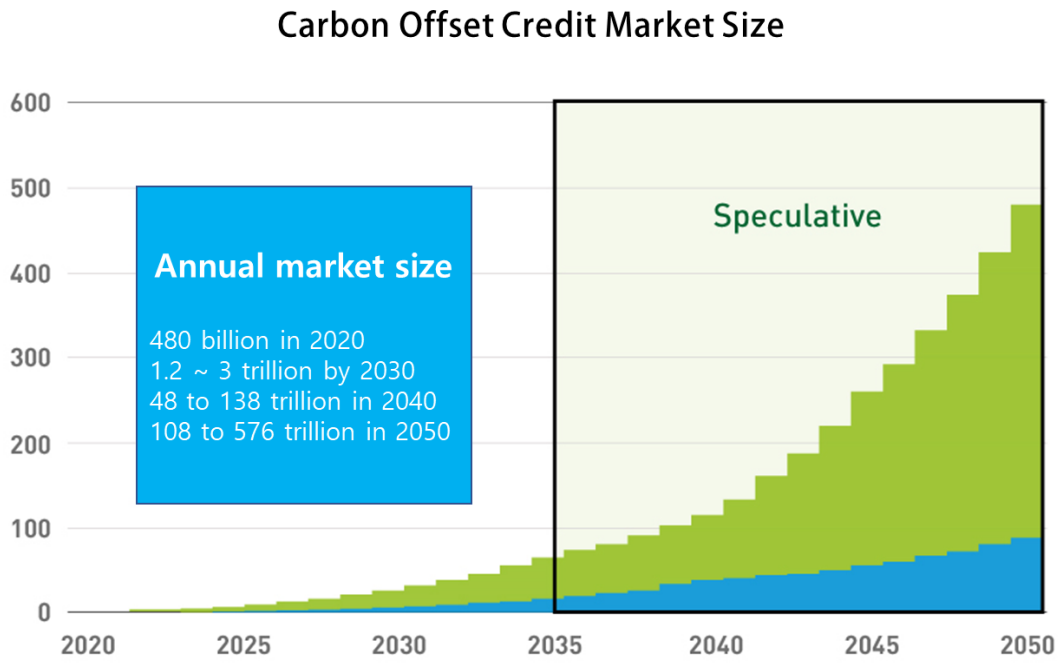
The Kyoto Protocol of 1997 and the Paris Agreement of 2015 defined international carbon emission targets that each participating country should define and manage its carbon emission targets. Companies in these countries are now looking for ways to reduce their carbon footprint to best operate within the assigned emission target. The carbon market, which makes priced units of carbon emissions a commodity and allows them to be traded, is now being introduced as a temporary measure. The carbon markets are currently divided into two categories: the carbon emission rights and the carbon offset credits markets, which offer a market-based solution to the pressing sustainability problem of the planet.

Although carbon emission rights and carbon offset credits are related concepts, in a precise sense, they have different meanings. Carbon emission rights move vertically, with companies being assigned and obtaining carbon emission rights from the government. Any unused or saved carbon emission rights can be traded in the market. On the other hand, carbon offset credits move horizontally through business-to-business transactions. When a company engages in activities to remove carbon from the atmosphere, it can create corresponding offset credits and other companies can purchase these offset credits to reduce their carbon footprint.

CO_2 1 ton = CO_2e 1 unit

As a follow-up to the UN Environment Conference in Glasgow, Article 6 of the Paris Climate Agreement, officially passed on November 13, 2021, provides the basis for innovation in the private sector's voluntary carbon offset credit market. Article 6 is the last of the 29 articles under the 2015 Paris Climate Agreement. It defines the mechanism for carbon offset credits that each government will approve to achieve carbon emission reduction targets under the carbon credit management system that each country has decided on its own.

Paragraph 6.4 of these designates the UN as a final authorizer for projects that will receive carbon offset credits recognized in the respective country's carbon emission management system. The decision will enhance the credibility of the carbon offset credits trading system enabling more carbon reduction projects to be born and increasing the demand for carbon offset credits in the future. Section 6.4 (Sustainable Development Mechanism, SDM) also heralds a significant change in the way the private sector, as well as the government, achieves emissions targets and makes us expect a quantum leap in the voluntary carbon offset credits market.



2. Introducing the Services of the GESIA

The GESIA Platform will kick off with two services, 'social contribution services' and 'social impact investment services', allowing participants to generate sufficient profits while contributing to society. The services are designed carefully to motivate voluntary participation of people incorporating blockchain's network effects and various fun elements.

Social Contribution Services

GESIA Chain
Social Impact Platform

Social Impact Investment

2.1. Social Contribution Service

2.1.1. Mileage Donation System

Not only companies but also individuals are also emitting a huge amount of carbon in their daily life. Yet, there are many obstacles to managing individual carbon emissions at the government level. The reality is that individual carbon emission management can only depend on the goodwill of the individual. For example, when one travels, the usage of transportation such as an airplane or the stay at a hotel are activities that an individual emits carbon. Companies that are in travel services

provide points or mileage as part of customer relationship management programs to promote repeated visits by consumers. In that sense, the accrued points or mileage can also be interpreted as evidence that an individual is rewarded for their carbon-emitting activities.

In recent days, many companies are attempting to provide points and mileage exchange services for consumers to maximize the usage of earned points and mileage. Currently, the points are recorded and managed as liabilities or deferred assets in the issuing companies' ledger and are not tokenized and paid out for individuals to hold. Each exchange service providers need to link to issuing companies' ledger individually that an integrated mileage exchange service has very limited expandability. Therfore, consumers have very limited ways to spend accumulated points or mileage and the utilization value of the points or mileage is still remaining at low. Worse yet, many consumers do not even know how many points they have accrued and the points are expiring on the expiry date without the customer's full knowledge.

There is also a carbon mileage system, which is operated by the government and local governments. Carbon mileage is paid to individuals through carbon reduction activities but very little known yet. The limited budget and low compensation limit is causing a low adoption rate and poor mileage usage. Mileage provided by private waste recycling companies as a reward for collecting recycled waste such as PET bottles, cans, and wastepaper is showing no different results. Individuals are not sufficiently incentivized to participate nor unable to quantitatively feel their contribution to carbon reduction by looking at the accumulated mileage on the service providers app.

With these in mind, the GESIA platform would like to provide an integrated service that allows individuals to convert various mileage they have accumulated through carbon-emitting activities to carbon offset credits and erase an individual's carbon footprint on the spot. Through collaboration with companies or institutions that issue mileage, consumers will be able to easily procure carbon offset credit or invest in projects that generate carbon offsets with the value corresponding to the mileage. This new ecosystem offers consumers the opportunity to offset the carbon they generate with the mileage they were rewarded for respective consumption. Businesses will be able to enjoy the opportunity to enhance their image and improve their financial statements by lowering debt accrued in the form of mileage.

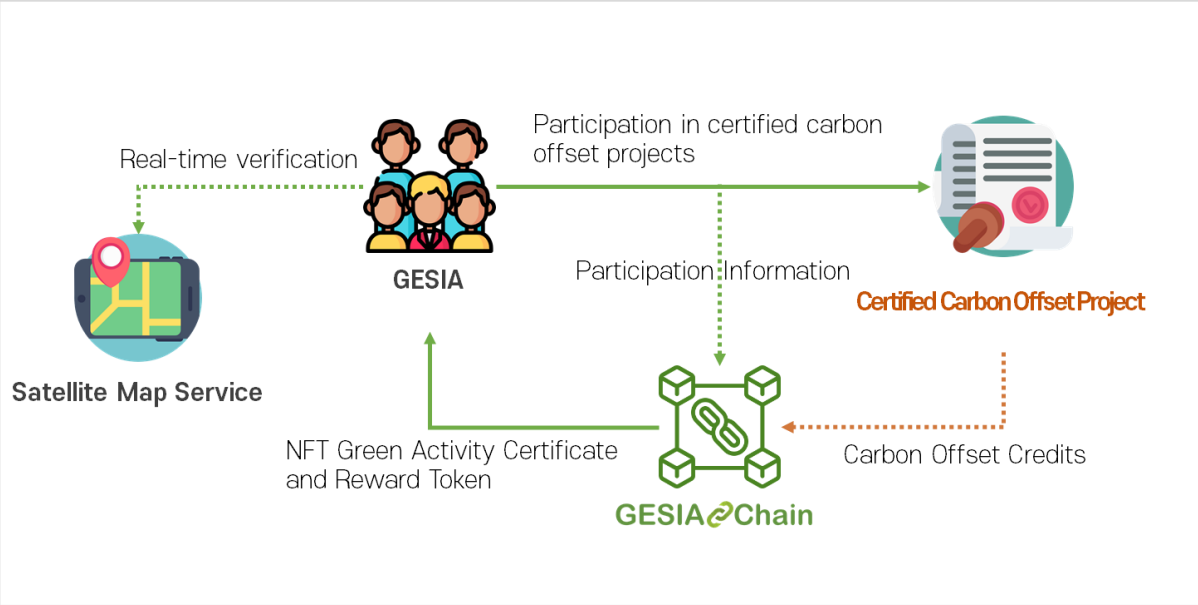
For example, if a participant who has earned mileage by using an airplane decides to convert it, it is registered in the social contribution smart contract of the GESIA chain. The GESIA chain confirms this information and issues reward tokens to participants and at the same time request the airlines to exchange the mileage donated by the participants. At this time, participating airlines can pay in tokens used in the GESIA Platform, and the GESIA Platform will use the tokens to procure carbon offset credit or invests in projects that generate carbon offsets as per the election of members.

[Example of Mileage Exchange System]

2.1.2. **NFT Green Activity Certificate**

For the first time among local government bodies in S. Korea, Daegu Metropolitan City secured 2.8 million tons of carbon credits in 2021 through the 'landfill gas resource conversion project' registered as the Clean Development Mechanism (CDM) project of the UN Climate Change Convention and generated about 40.8 billion won in non-tax revenue. In addition, they recently secured an additional 12.7 billion won in non-tax income by selling through external business carbon reduction certification (KOC, Korea's official carbon offset credit) conversion that can be freely traded to other entities.

The case of Daegu Metropolitan City is a good example that participating in projects that have obtained external business carbon reduction certification provides a lucrative business opportunity in the low-carbon economy era. The GESIA Platform intends to provide information that allows members to participate in many of these projects. In addition, we intend to share with the members the profits from carbon offset credit generating activities, either from direct participation or social impact investment.



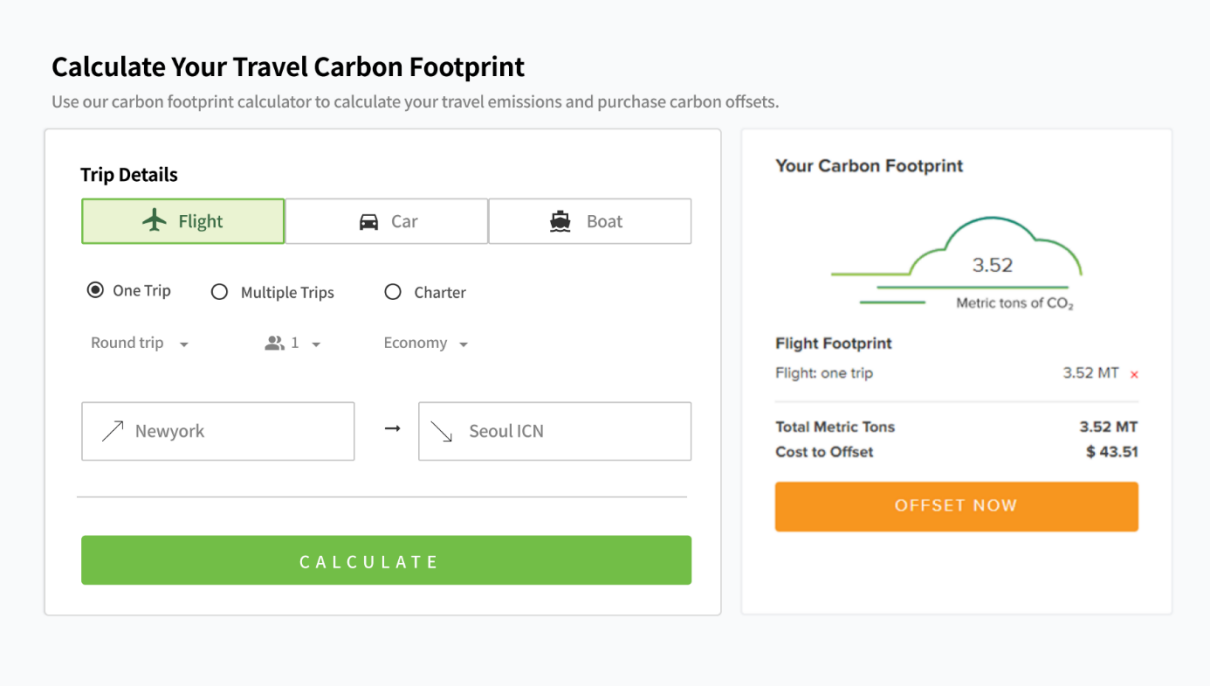
[NFT Green Activity Certificate Example]

For example, GESIA members can propose to restore damages from the historic wildfire in Yangyang, S. Korea in 2022, and such a proposal will be conveyed to GESIA members. GSW will then organize an offline campaign and register them to be a certified carbon offset credit generating project with the relevant authority. When GESIA members do participate, an NFT Green Activity certificate is issued to the participating members through the blockchain's Proof of Attendance Protocol. At this time, the geographic information of the area where the project is conducted is attached to the NFT certificate so that participants can observe changes in the area with continuous interest. In addition, a certain amount of tokens are provided as a reward for such participation based on the value of carbon offset credit the project generates.

Another way to get the NFT Green Activity Certificate is to voluntarily participate in a campaign to reduce the carbon generated through daily activities by purchasing carbon offset credits. For example, the travel industry is a significant contributor to climate change and accounts for 8% of global carbon emissions. On a one-way flight from San Francisco to Paris, each traveler emits about 1.25 tonnes of carbon, equivalent to a quarter of the average annual carbon emissions per person. Of course, conscious travelers also make efforts to minimize their carbon footprint by reusing wash towels and blankets at their accommodation, or by renting an electric car. However, no matter how hard travelers try, they cannot avoid a certain amount of carbon footprint.

Instead, individuals can purchase carbon offset credits and use them to erase their carbon footprint from their travel. A growing number of travel agencies, airlines, car rental companies, and more are providing tools to calculate how much carbon footprint their customers are leaving with them. They

may also provide a service to purchase carbon offsets through connected carbon offset credit traders. However, there is a lack of integrated services through which one can see the carbon footprint and procure carbon offset credits at the same time.



[Carbon Offset Credits Calculation and Purchasing Examples]

GSW is currently proposing the aforementioned integrated system to various companies and service providers in S. Korea and making good progress. When participating companies and service providers so elect to provide services so that participants can erase their carbon footprint with carbon offset credit, the GESIA platform will provide Restful APIs and supports that allow easy integration without much initial investment or time.

2.2. Social Impact Investment Service

The GESIA platform is designed to serve as a window through which more people can access investment opportunities that contribute to society. The social contribution service in the preceding section is an activity to gather interest and motivate voluntary participation in the GESIA platform. The social impact investment service is a service that provides information for members to invest in green technology projects that generate sustainable and stable profits. The GESIA platform will

build blockchain-based services in the voluntary carbon offset market and the green technology investment fields. The underlying asset is tokenized so that these investments can start with a small amount, enabling fragmented investment.

In addition, we will provide the correct audit information on investment opportunities through the blockchain Oracle service where various professionals can submit their investment opinions, and share the profits generated through social impact investments with GESIA members so that the GESIA platform can continue to grow.

2.2.1. Carbon Offset Credit Trade

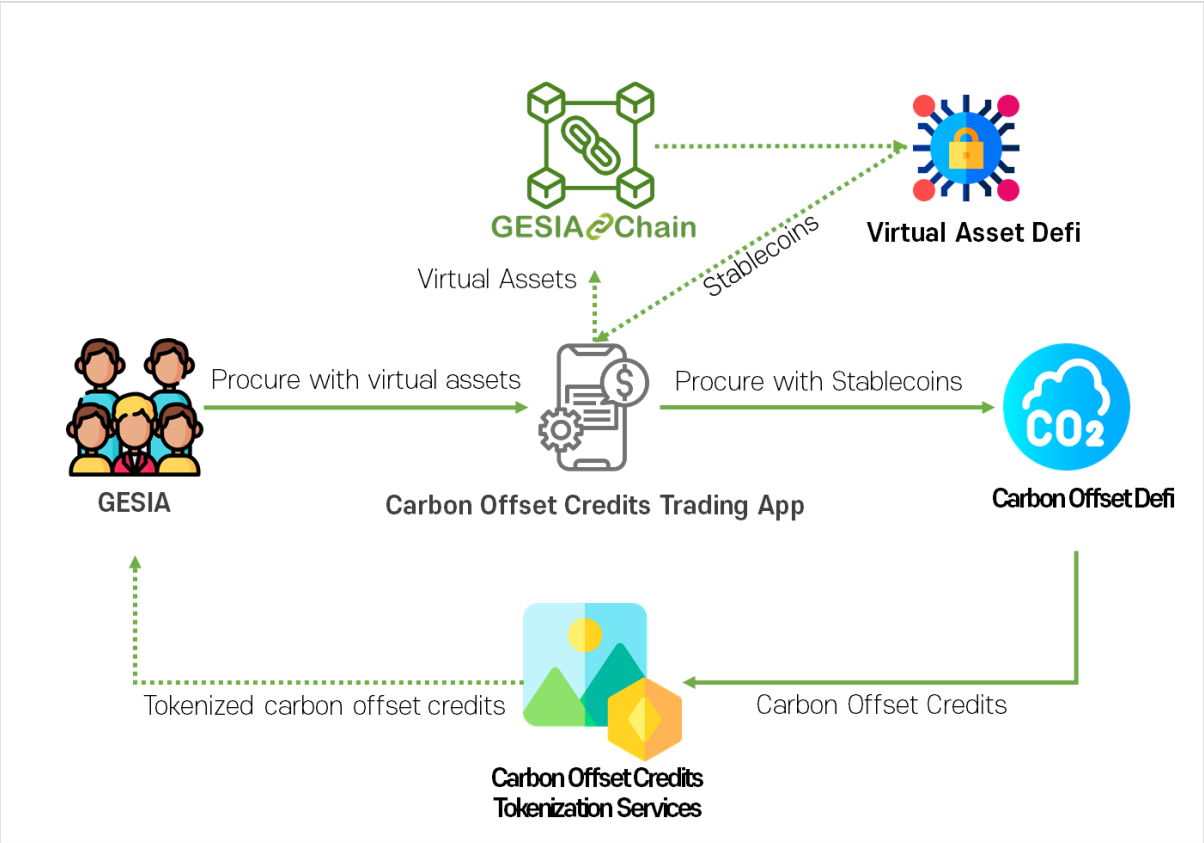
The voluntary carbon offset market was first introduced to provide financial support for efforts to reduce greenhouse gas emissions. In the early days, it started as simply a new attempt to respond to environmental changes. Over time, the voluntary carbon offset credit market has been recognized as a mature and effective channel of greenhouse gas recapturing activities that are objectively verifiable and provide significant funding for projects that reduce greenhouse gases on a global scale.

The voluntary carbon offset credit market supports the achievement of more aggressive environmental goals over the company's efforts to reduce greenhouse gas emissions. As of the end of 2019, 688 million tons of carbon had been offset through the voluntary carbon offset credit market. This is a greenhouse gas reduction effect equivalent to the disappearance of 130 million vehicles per year.

Bloomberg's report, Long-Term Carbon Offset Outlook 2022, predicts that the price of a ton of carbon offsets credit will range from as low as $47 to as high as $120 by 2050. This refers to a price increase of up to about 50 times or more, and it is worth paying attention to from the investment perspective. As the certification process for carbon offset credit is defined in the recent Paris climate agreement, grades will be assigned according to the source from which carbon offset credits are generated in the future, and a price difference will occur depending on the grade. If carbon offsets generated from carbon removal, storage, or sequestration activities begin to be extended to carbon-neutral targets, the supply of carbon offset credits will see a shortage to meet market demand will eventually lead to price increases.

The GESIA platform will connect with an authorized carbon offset exchange so that members can easily and conveniently participate in the carbon offset market, which is expected to have a high

growth potential. Through the GESIA platform, investors will be able to invest in carbon offset credits with various virtual assets and receive tokenize carbon offset credits so that investors will have access to the blockchain-based secondary market. All records of these transactions will be recorded on the blockchain and will always be managed transparently.



In addition to their virtual assets, members can use the tokens they received while contributing to the GESIA platform and the ecosystem coins of the GESIA chain purchased in the virtual asset exchanges for carbon offset credits trading. In addition, the profits generated in the process of providing services will be pooled to purchase carbon offset credits to increase the value of the entire ecosystem.

2.2.2. Green Technology Decentralized Autonomous Organization

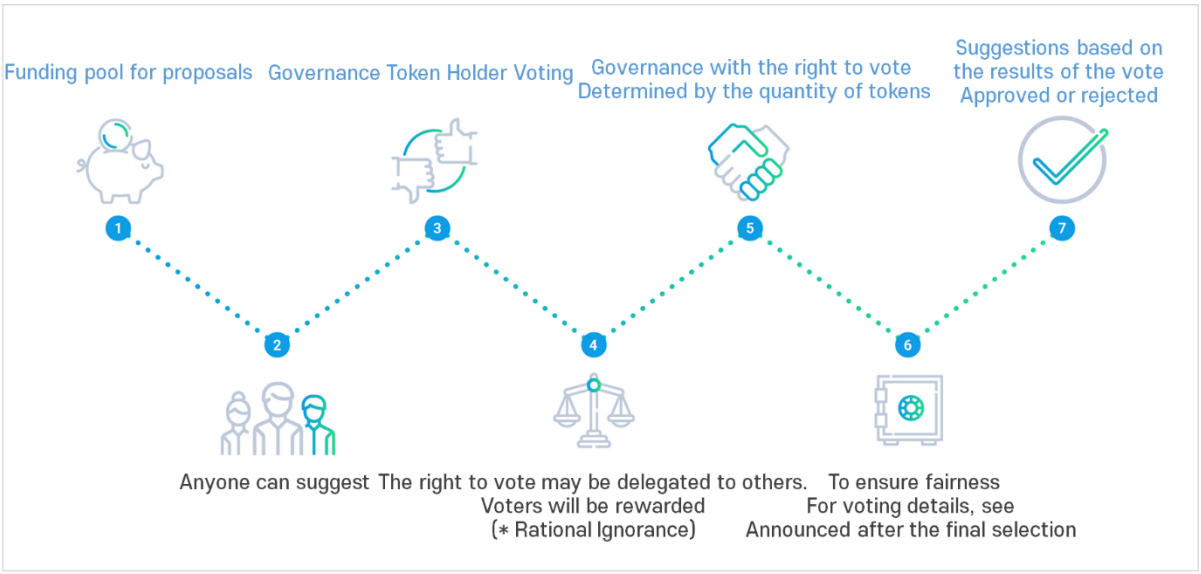
The GESIA platform is not just a trading brokerage platform, but a community of millennials who think deeply about the future of society. The GESIA platform will be built on a blockchain protocol that allows all participants to easily discover new green technologies, share them with the

community, make investment decisions collectively if so voted, and form a Decentralized Autonomous Organization (DAO) for the investment execution and management.

DAO is a decentralized autonomous enterprise, which is an organization without centralized leadership or hierarchies, where all decisions are made through democratic voting. DAO is considered the most appropriate investment structure in the Web 3.0 era with its highest regard for individual sovereignty. The investment process will also evolve so that any participants can identify investment opportunities, propose to each other, form an investment pool, and collectively agree on an investment.

Transparency, open participation, and democratic decision-making are the main characteristics of a DAO. Each token holder has the right to vote according to the number of tokens they hold, which process is governed by the rules or bylaws (Smart Protocols) defined in the smart contract. These bylaws may also be changed by a democratic vote of members. Among these DAOs, 'Funding DAO' is a special type of decentralized autonomous enterprise that focuses on investment activities to create wealth with the funds raised by participating members.

The GESIA platform will provide the necessary services for these decentralized autonomous organizations to operate safely and efficiently. We will ensure that both the person making the proposal and the person voting for it receive a certain amount of reward token. The opinions and evaluations of various external experts are also connected to the blockchain oracle service, and certain rewards are given to experts who provide these opinions and evaluations. This reward system provides incentives for more participants and experts to actively participate in the ecosystem.



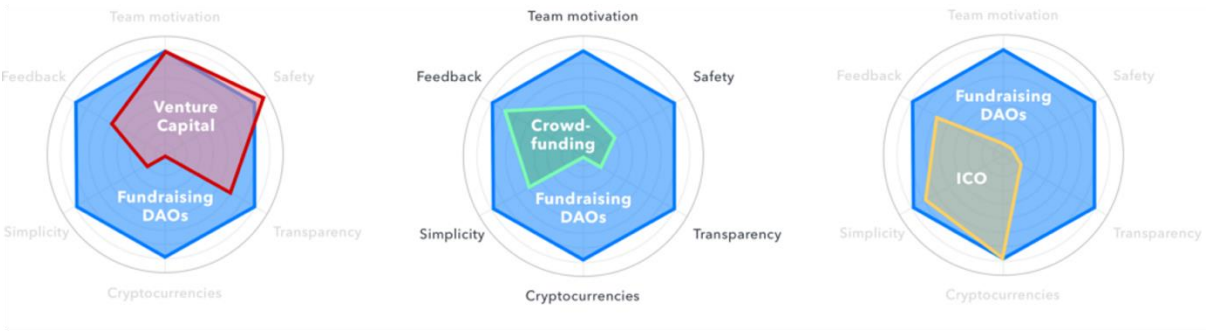
[Decentralized Autonomous Organization Investment Process]

The project receiving the investment and the DAO will form a smart contract so that the investment

fund will be disbursed only when an event with predefined conditions is met. This phased disbursement will solve problems that are difficult for existing venture investors, crowdfunding, and ICO (Initial Coin Offering).

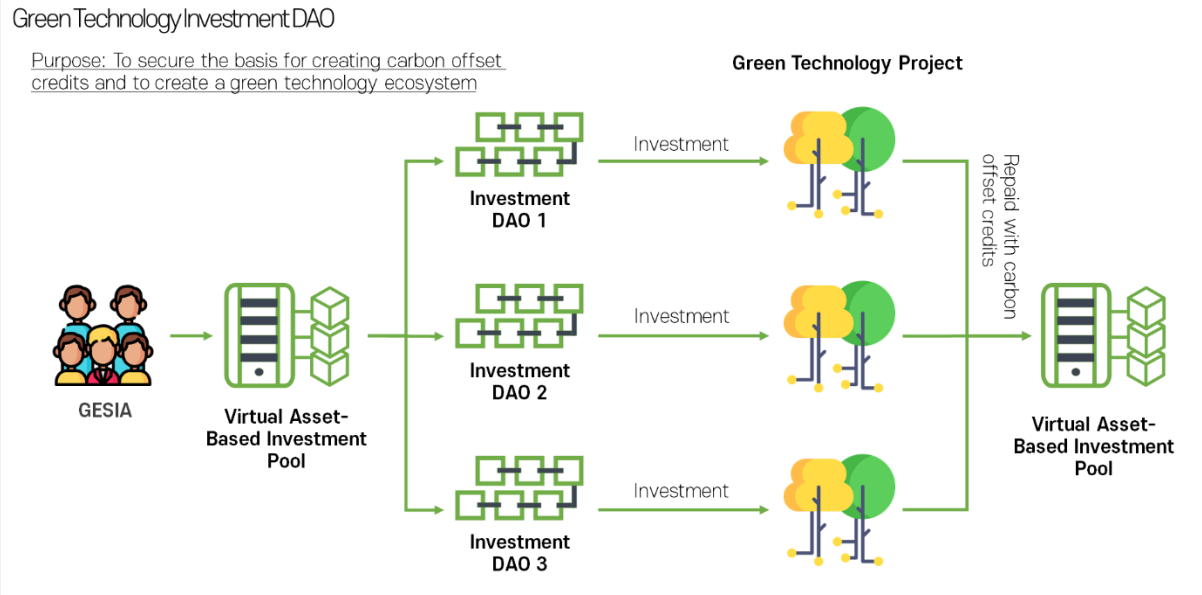
The Fund for Investment is not owned or managed by any company or individual. It is deposited in a smart contract called a DAO, and is only spent according to the withdrawal proposal of the project receiving the investment. At this time, the token holders of the DAO will review the withdrawal proposal, confirm the progress of the project, and then approve it.

This procedure alone will reduce the investment risk of demotivation and the moral hazard of project operators, which is a serious issue with many ICOs or crowdfunding. If most holders of decentralized autonomous tokens determine that the project is not proceeding in the way promised, the investment may be withdrawn. This possibility of withdrawing investment can increase the likelihood of project success by keeping the project operator focused.



The important point here is that the GESIA platform never solicits investment from members or directly engages in the investment activity itself. The GESIA platform provides participants with useful tools to verify information, which the social and environmental values of the projects meet global standards. The verification of such information is also provided in a decentralized manner through the blockchain oracle service. The GESIA platform will strive to remove any shortfalls and risk factors that may occur in the traditional centralized investment and verification process using blockchain technology.

The funding DAO provides many benefits for project operators as well. There are many benefits such as a decentralized decision-making structure harnessing collective intelligence, transparency in business relationships, more convenient communication, and complete independence. Connecting with the ecosystem that provides these services will provide even greater value in terms of securing potential customers. Each investment-type DAO is modularized so that the governance structure or function can be set according to the characteristics of each project.

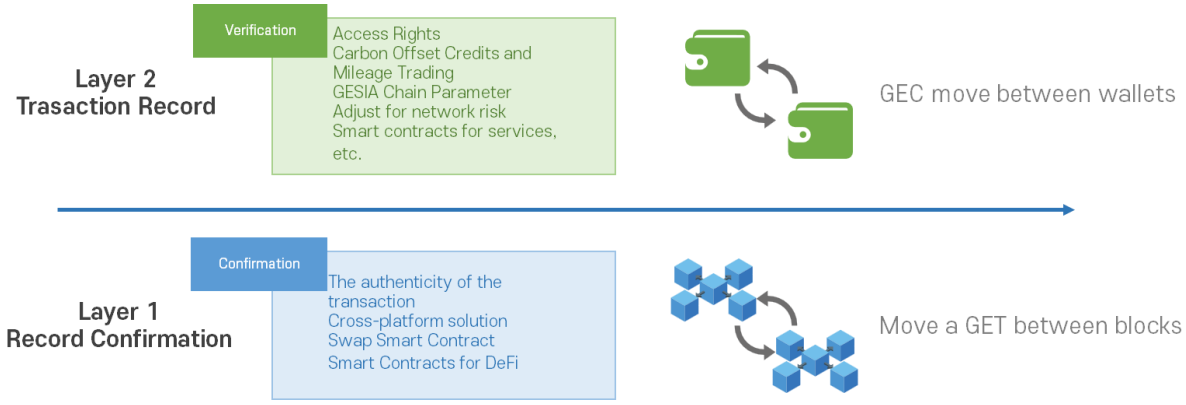


[Green Technology Investment DAO]

3. GESIA Chain

While Bitcoin and Ethereum are public blockchains that require a high carbon footprint by design, GESIA Chain has a hybrid architecture to reduce the carbon footprint of the blockchain. GESIA Chain works as a sidechain with lightning protocol to ensure high transaction processing speed and is limitedly anchored on the public blockchain to maintain network compatibility, and stability. As the main anchoring chain, GESIA Chain is intending to fork Bitcoin, which security and stability have been verified for an extended time.

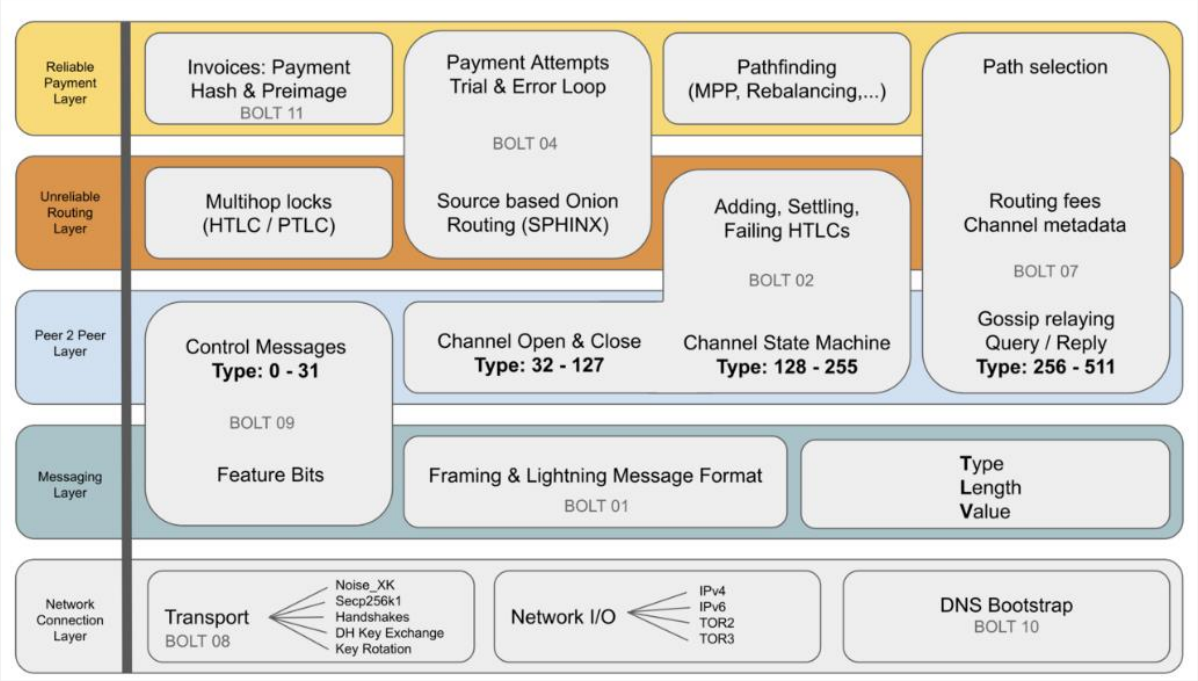
A lightning protocol is a 'Layer 2' payment protocol layered on top of a blockchain-based cryptocurrency. At this time, the Proof of Work consensus algorithm, which consumes excessive energy, is changed to a Proof of Authority-based consensus algorithm, so that the network consumes much less energy and transaction fee than a main public network. Validators participating in the proof of authority are randomly selected from among those participating in the oracle service of the GESIA Chain, and the selection process is repeated at regular intervals to solve the centralization dilemma of the proof of authority.



The GESIA Chain will be configured to be compatible with the upper public networks layer. There will be two virtual assets to foster the ecosystem.

1. Green Earth community Token (GET): ERC-20-based token on the public network
2. Green Earth Coin (GEC): Native ecosystem coin on the lightning protocol

More people will be able to join the GESIA through acquiring GET on the public networks, while GEC will be used in various projects within the ecosystem on the Lightning protocol. GEC is a stablecoin whose value is fixed at the time of issuance, and GEC is issued when GET is deposited in a smart contract formed on the public network. The deposit event information and the price of the deposited GET are fixed through external DeFi. In the opposite case, if the GEC on the GESIA Chain is burned, the smart contract receives this information and proceeds with the liquidation procedure of deposited GET according to the given conditions.



[Example Lightning Protocol configuration]

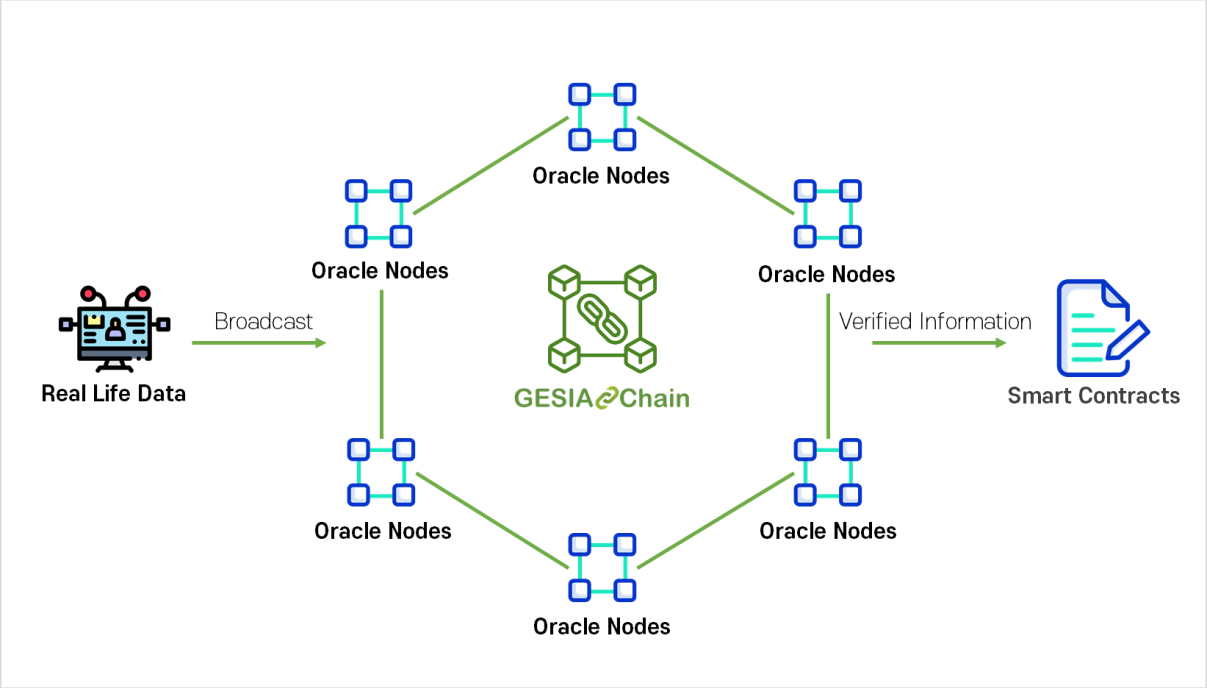
3.1. Hybrid Smart Contracts and Oracle Services

To enable exchange between GET issued on the upper public network and the GESIA chain's native GEC, a Hash Time Lock (HTLC) function, a type of smart contract, is used. A hash time lock is a combination of a time lock that delays the execution of a contract for a certain amount of time and a hash lock that executes/ends a contract only when a certain hash value (end of another transaction) is presented. HTLC overcomes the disadvantage of not being able to see what is on different

blockchains and enables more reliable exchanges because it can have the same effect as being connected to each other's protocol without seeing each other. This is also called atomic swap, which is a virtual asset exchange technology between different blockchains.

Various smart contracts are also utilized within the GESIA Chain and conditions for smart contracts can be established based on various external information in real life. A service that provides such external information in real life to a smart contract is called a blockchain oracle service: A smart contract that combines on-chain code and off-chain information is called a hybrid smart contract.

GESIA Chain delivers verified information to members through blockchain oracle services and provides them when making various decisions. For example, when forming an investment-type DAO and executing an investment, the investment fund is disbursed upon the request of the company. When requested, such request is broadcasted to blockchain oracle service and two or more experts verify whether it conforms to the investment plan promised in advance. Then the verified results against the planned investment conditions are fed into DAO contracts and the investor can execute the investment through the final voting process. In this case, the expert who provides verification information can act as a node of the GESIA Chain and receive compensation accordingly.



[GESIA Oracle Service Example]

Some of the data or information which can be verified through the GESIA Oracle service include the followings.

3.1.1. Market information for carbon offset credits trading

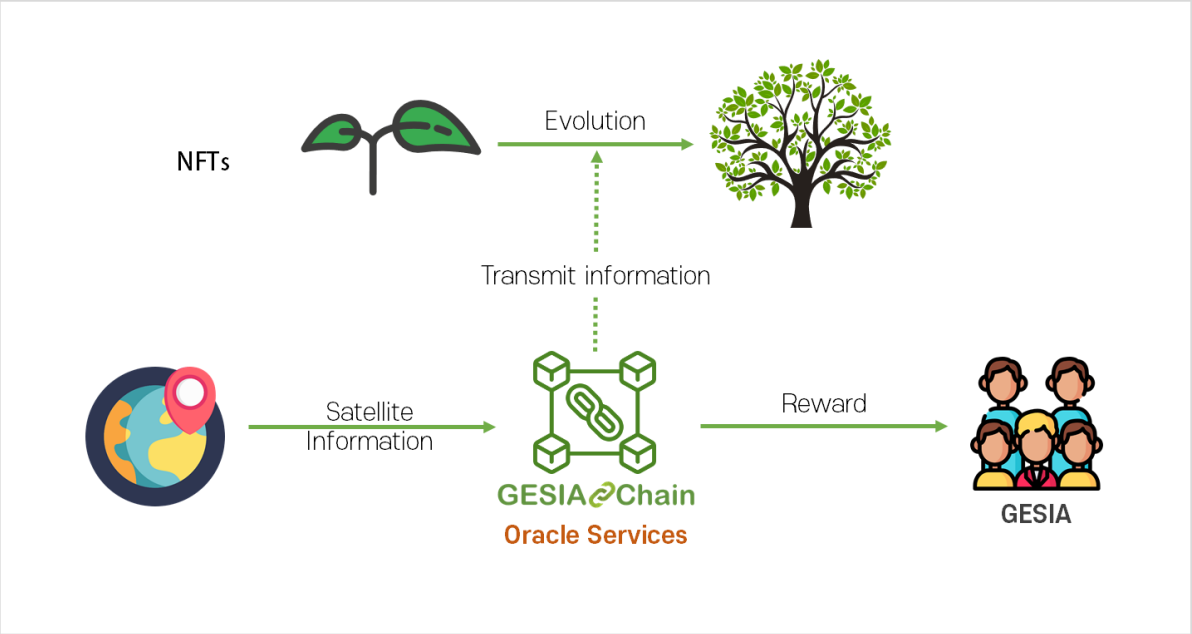
Currently, the hybrid smart contract model forms the basis of the decentralized finance industry to implement traditional financial products in a decentralized manner. Many decentralized financial services bring, verify, and deliver integrated information in real life through the Oracle network when users make or receive loans, savings, and asset transactions. Based on these data, smart contracts are executed and settled on the blockchain. Carbon offset credits also can capitalize on GESIA oracle service in assessing a fair market value of carbon offset credits and in realizing arbitrage transactions. It can also be applied to the liquidation procedure upon the price change of carbon offset credits staked in a smart contract.

3.1.2. Satellite Geographic Information Data

Cornell University's Initiative for Cryptocurrencies and Contracts (IC3) promotes environmental betterment through reforestation. To reward those who contributed, the GESIA platform rewards members with dynamic NFT reflecting the progress based on the satellite geospatial information. In this project, the oracle network fetches satellite imagery and provides information about the area of tree growth to the hybrid smart contract. The smart contract then provides transparent and fair rewards to those who contributed according to predefined conditions.

3.1.3. Dynamic NFTs

The first-generation NFT (Non-Fungible Token), like the existing digital picture, did not have any purpose other than to display the contents of the picture in a static form. Second-generation NFTs enable dynamic changes to these NFTs through hybrid smart contracts. When any change occurs in real life and is verified through the oracle network, these events are transmitted to the hybrid smart contract and the NFT can be automatically updated. For example, NFT received through reforestation can evolve following the growth of the forest. In other words, NFT, which used to simply record a moment, can evolve into a means to record a continuum of history.

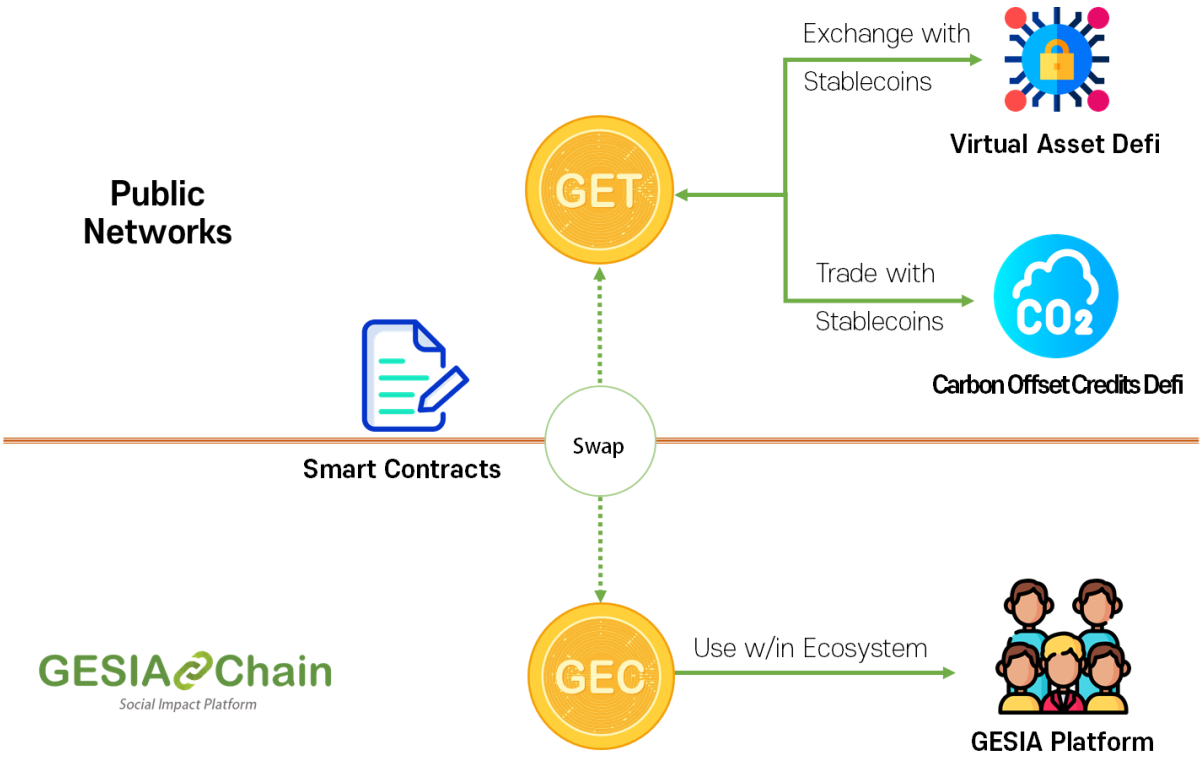


[Example of Dynamic NFT]

4. Token Economy

Anyone who wishes to participate GESIA Platform may procure the ERC-20 standard token, GET, which will be listed on several virtual asst exchanges and decentralized exchanges, for easier access by members. The main role of this token is to function as a channel to participate in the GESIA ecosystem. This token can be exchanged with third-party stable tokens, which have the same value as fiat currency, required for the process of purchasing carbon offset credits and for external transactions such as green technology investment DAO.

GSW plans to issue a total of 5 billion tokens. Of which, 1.5 billion will be reserved for swap activities between GET and GEC, the key currency for the operation of the GESIA chain, so that 1.5 billion tokens will not affect the actual circulation volume.



At this time, GEC exchanged for GET is issued only when GET is staked in a smart contract on the public network. GET will be released from the smart contract and will either be paid to the initial depositor or retired to the illiquidity pool depending on how GEC was used.

However, if all the initially allocated floating flow is exhausted and there is a proposal for the expansion of the ecosystem, a certain portion of GET in the reserved pool can be released through the voting of GESIA platform members. In this case, it may affect the circulating volume, but even in this case, there is an increase in the value of the ecosystem, so the negative effect of the increase in volume can be negated.

Platform name	Green Earth Community Platform
Cryptocurrency name	Green Earth community Token
Symbol	GET
Total issuance	5,000,000,000
Reserved for Swap Transaction	1,500,000,000
Non- liquidity volume/Total issue volume	30%

4.1. Distribution of GET

- Initial Liquidity of Ecosystem

A total of 700 million of the total of 5 billion tokens to be issued, or of the 3.5 billion potentially circulating tokens excluding 1.5 billion reserved tokens, will be initially supplied to the ecosystem directly. 700 million tokens are comprised of 550 million owned by early investors and 150 million direct supply from the liquidity supply pool. Thereafter, the remainder of the liquidity supply pool, 1.35 billion, will be gradually proposed to be issued in conjunction with the ecosystem expansion rate and major business changes, and the final supply will be decided through a vote by GEC owners.

- Allocations for Founders/Teams/Advisors

This is the amount paid to the founding members, development team, and advisors who have contributed to the GESIA project, and the allocated tokens will have a lock-up period of 6 months, and then the tokens will gradually be released for 10 months at a rate of 10% per month.

- Partnership

For the furtherance of the GESIA project, the 'Green Earth Community Foundation' will be established to solicit professors, researchers, government liaisons, influencers, etc. Through the foundation, GESIA plans to research policy development for environmental movements and the certification system of carbon offset credits. 150 million tokens will be allocated to fund its establishment, and the amount will also be locked-up for 6 months. Locked-up tokens will be gradually released for 10 months at a rate of 10% per month afterward.

-Marketing

This is the amount allocated to external entities such as legal, accounting, tax, and management consulting that provided services for the GESIA project.

- Early investors

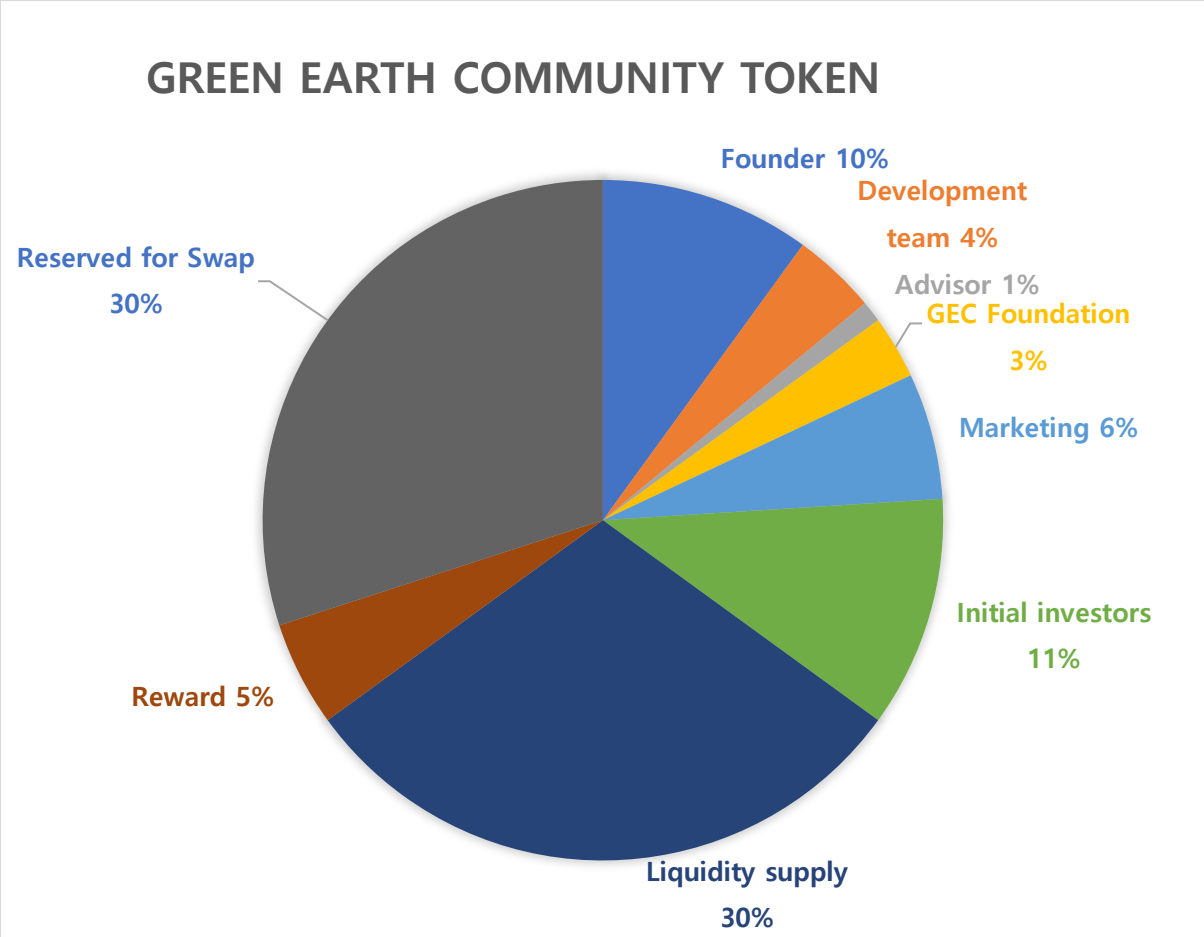
It is the amount allocated to investors who have invested funds for the initial development of the GESIA project. Investors' tokens will also serve as initial liquidity of the GESIA ecosystem so that they may freely liquidate their positions at their will.

- Reward Tokens

250 million will be allocated to promote and accelerate the participation of nodes that provide initial oracle services for the expansion of the GESIA ecosystem.

Item		Distribution Ratio	Issued quantity
	Founder	10%	500,000,000

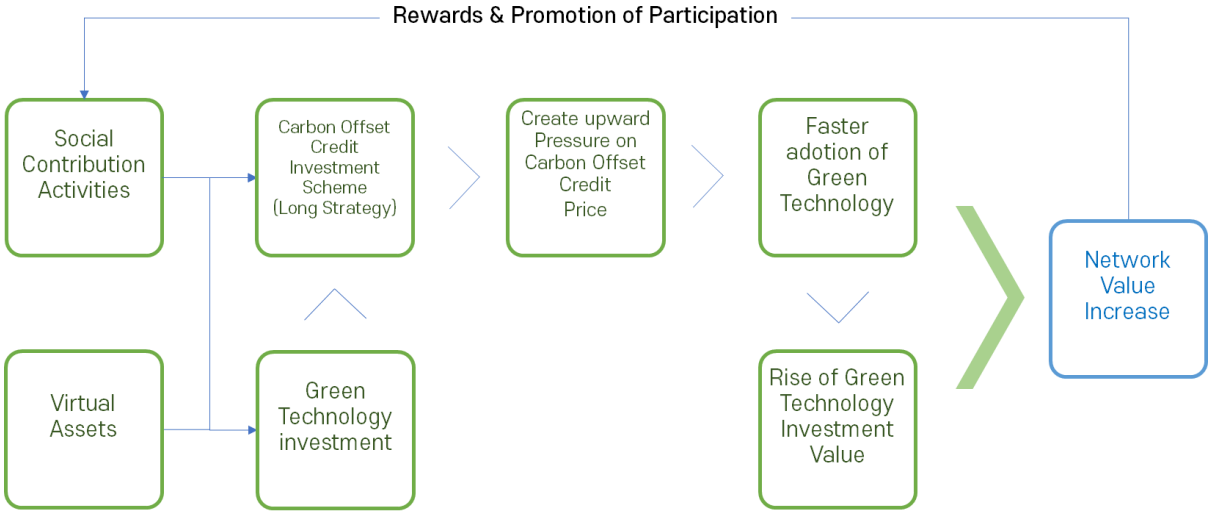
Founder & Team	Development Team	4%	200,000,000
	Advisor	1%	50,000,000
Partnership	GEC Foundation	3%	150,000,000
Marketing Expenses		6%	300,000,000
Ecosystem Supply Quantity	Early Investor	11%	550,000,000
	Liquidity Supply	30%	1,500,000,000
	Reward	5%	250,000,000
	Reserved for Swap	30%	1,500,000,000
Total		100%	5,000,000,000



4.2. Reward Program

The value of ERC-20-based GET issued is linked to the expansion of the network value of the entire

ecosystem. To foster the growth of the value of this ecosystem, GESIA Chain provides rewards to those who have contributed to the ecosystem with various smart contract usage fees and transaction fees. Reward programs will be carefully designed to incentivize more community members to actively participate.



[Token Economy]

As mentioned in the service of the GESIA platform, an intermediary service that allows participants to actively participate in the carbon offset market is suggested. It aims to provide decentralized financial services so that green technology companies can commercialize their technologies faster. Like the long-term-oriented synthetic investment strategy, as the GESIA platform continuously procures carbon offset credits to pressurize the upward movement of the price of carbon offset credits, the cost burden of companies to purchase carbon offset credits will be higher. The upward movement of the price of carbon offset credit will in turn make the cost of companies purchasing carbon offset credits higher than the cost of investing in green technology so that there will be more incentive to implement green technologies. Thus, the GESIA member's investment in green technology companies will yield appropriate returns

4.2.1. The continuous reward for the entire ecosystem

The distinctive feature of the GESIA platform is that GETs in circulation are staked and locked in

smart contracts to use various services built on the GESIA Chain. GESIA members can use social contribution services and social impact investment services using GEC and will be rewarded with GEC for their contribution to the ecosystem. In other words, even if the ecosystem expands and the number of participants also increases, the total issuance of GET is fixed. Therefore, the fact that as more GEC is used in the ecosystem the total volume of GET in circulation will be reduced so that the benefits of ecosystem expansion will be returned to GET holders.

Even when GET reserved for swap transactions is released into the circulating volume, it is to purchase carbon offset credits or invest in green technology, which in turn raises the value of the entire ecosystem. In other words, an increase in circulation is proportional to an increase in the value of the entire ecosystem network.

4.2.2. Rewards for participants in the verification process

GESIA Chain adopts the Proof of Authority of the validators as its consensus algorithm whiled addresses the centralization criticism of the PoA consensus algorithm by building a systemic and autonomous verifier selection process. Any expert participating in the oracle service of the GESIA chain can become a preliminary candidate for validators (For example 1000 investment advisors).

Among the preliminary candidates for validators, experts who maintain a certain amount of activity in the ecosystem are randomly selected every 24 hours and selected as validator candidates (For example 100 experts). Afterward, a final validator and verifiers are randomly selected from among the validator candidates. When a block is added to the blockchain through final verification and confirmation, a fee is collected within the GESIA chain as a reward. Any residual GEC, which is not subject to settlement, will be paid to the final validator.

4.2.3. Rewards for proposals and votes

The GESIA platform is open to proposals that can contribute to the expansion of ecosystems, and any ecosystem participant can propose. When a proposal that is considered necessary to expand the ecosystem is proposed, it will be notified to those participating in the GESIA platform. Holders of GEC can cast votes per the number of tokens that they own. At this time, GET owners who wish to participate in the voting can participate by exchanging GET for GEC. At this time, voting rights

can be delegated to others, and those who participate in voting will receive a reward. All details of the voting process are kept private until the voting results are announced. The result determines whether the proposal is approved or not. If the proposal is approved, the proposer will also receive a separate reward.

4.3. Roadmap

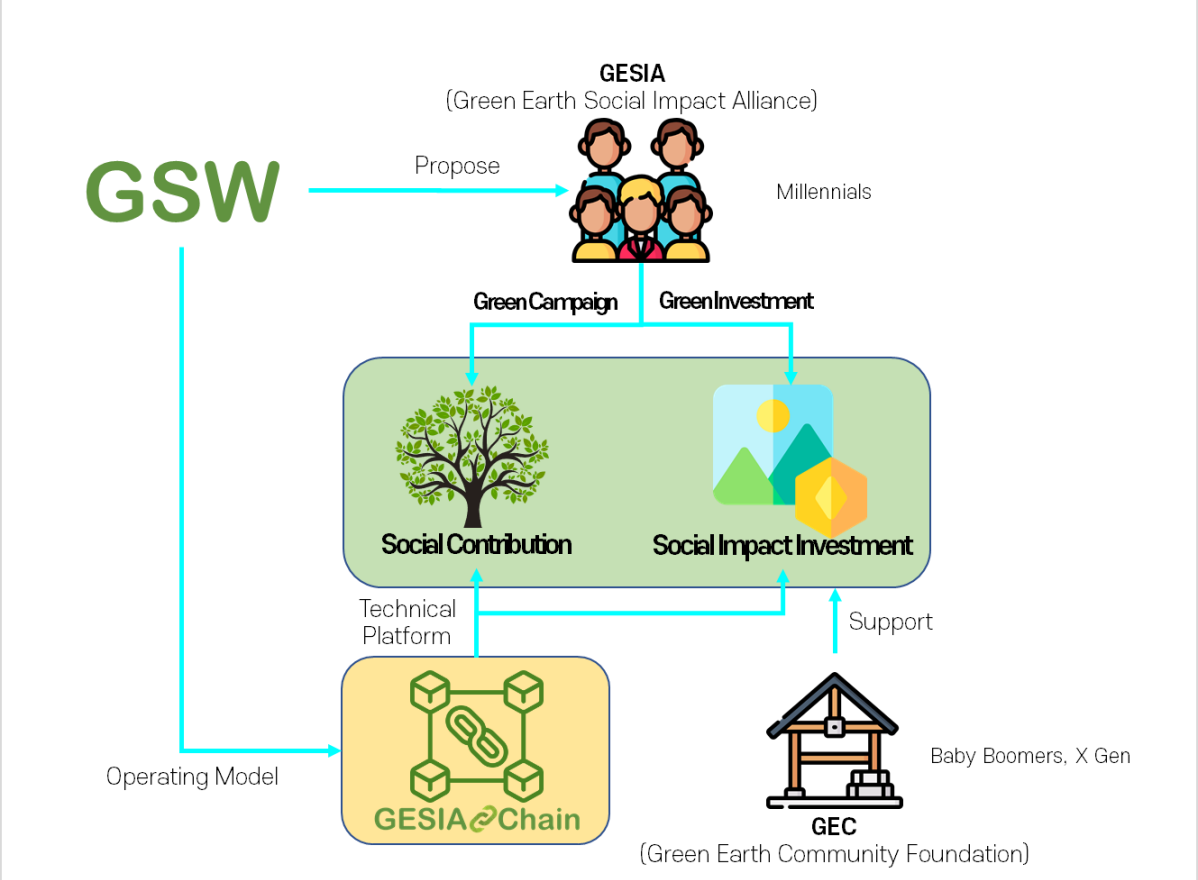
The GESIA platform allows participants to access their services through their own wallets. We want to support the API bank service composed of various Restful APIs so that various companies can more easily integrate the services we provide to the services of those companies.

	On-Chain	Off-Chain	Business
2023 1Q		Integrate a service to erase carbon footprints to one travel service company	Carbon offset Credits Trade POC
2023 2Q	Lightning Chain and Swap/NFT Services	Integrated Web service	NFT Green Certificate POC
2023 3Q	Investment DAO Platform	Linkage of external investment information/evaluation information service	Investment Brokerage POC
2023 4Q	Blockchain Oracle	External Expert Services	
2024 1Q	Carbon Offset Tokenization	External Enterprise-grade API Bank	External Service POC
2024 2Q		External verification of the system and make up	
2024 4Q			Main Service

5. GESIA Platform Member

The company that will be responsible for the initial development of the GESIA platform and business is Green Social Wave Company Limited.

Separately, the Green Earth Community Foundation, which consists of academia, politics, related organizations, business people, etc will be established for research and policy development necessary for the growth of this project.



GEC (Green Earth Community)

Item	Name	Main Profil
Chairman	Professor Wonwoo Park	C) Professor, Department of Business Administration, Seoul National University F) Director of Labor-Management Relations Research Institute, Seoul National University C) President of Korea Ethical Management Association F) Vice President of the Korean Society of Historical Organizations
board member	Professor Dongjae Kim	C) Professor, Graduate School of International Studies, Yonsei University Seoul National University Department of Business Administration and Graduate School C) Korean Air Non-resident Director / Governance Chairman C) Non-executive director of Korea Asset Management Corporation F) Professor of Business Administration, University of Illinois
	Environment field	TBA
	Businessmen	TBA
	Political Government	TBA

GSW(Green Social Wave)

Name	Charge	Main profile
Tae-Hoon Kim	Co-Founder/ CEO	C) Green Social Wave Co-CEO C) CEO of Cyworld Jet C) CEO of Dimitry Invest C) Representative of Hancom Town
Doyle Ahn	Co-Founder/ CEO	C) Green Social Wave Co-CEO C) On the Border Outside Director F) CEO of Taemujin Investment Korea F) CEO of HS Changtoo F) CEO of Il Mare
Ellis Ahn	Co-Founder/ CMO	Columbia University, USA Art exhibition held in Saatchi Fashion model Clothing and environment-related social activities
Joong-	CSO	C) Vice-President, Co-Founder of ITISEN Group

Geun Choi		CEO of Open Communication, CEO of M31 Andromeda, The TIU CEO
Jeong-hee Park	CTO	C) Green Social Wave IT general manager C) Managing Director, Shinhan DS Co., Ltd. (SI Division) F) Computer Room Manager, Honam Petroleum Co., Ltd. F) Managing Director, Lotte Information & Communication Co., Ltd. (Overall Card Project) F) Senior Vice President of Hyundai Information Technology Co., Ltd. (Merger of Lotte Information and Communication) (Head of SI Business Division)
Ji-han Kim	Head of Project Management	Bachelor of Public Administration, Yonsei University C) Korea representative of Optiver Co., Ltd. F) CEO of NH Investment & Securities Marketing Division F) First CEO of Hanbitco (Virtual Asset Exchange) F) Vice-President of Korea Blockchain Association/Chairman of Exchange Committee F) Vice President of Hi Investment & Securities, DGB Group
Yoon-Jung Choi	Project Manager	ISO 23001/27001 International Standard BCP/Information Security Certification Auditor Report C) Global Brand Digital Chief CTO/CISO C) Registered Director of Korea Blockchain Industry Promotion Association F) Adjunct Professor, Department of Computer Engineering, Bucheon University F) Levis Strauss Korea CIO F) CJ America/CJ Olive Networks Manager F) IBM Korea RS6000 Specialist
Simon Kim	Blockchain Architecture	C) Blockchain-based travel wallet "Waffle" operation F) Chief architect of the CBDC platform of the Central Bank of The Bahamas
Kwang-hyun Kim	Blockchain Payment System	C) CEO of Hivve Lab Worked for transportation companies such as Korea Expressway Corporation Hi-Pass, Seoul T-money, etc. Developed Korea's first virtual asset payment system 'PayCrypto' F) Thanks after co-founding Woowa Brothers (Baedal Minjok) C) Chairman of Blockchain Subcommittee of Technology

		Society
Jonghyun Kim	Media/External Responsibility	Bachelor of Economics, Yonsei University C) Hanssem Co., Ltd. Press/Responsibilities F) Director, Advertising Bureau, JoongAng Ilbo F) Director of the JoongAng Ilbo Economic Department
Dae-hoon Lim	Project listing management	C) BPMG CSO (Game Hub, K-Mint Wallet Division) F) Way2bit business development director (Bora coin planning)

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(b) This white paper does not recommend the purchase of virtual assets or tokens issued by the Green Earth community platform or investment in projects. The white paper cannot be used as a basis for a legal contract in relation to the sale and purchase of virtual assets or tokens issued by the Green Earth community platform.

(c) Virtual assets or tokens issued by the Green Earth community platform are not issued as securities, bonds, or collective investment products stipulated in domestic and foreign securities laws. Therefore, this white paper does not correspond to the prospectus for financial investment products such as securities stipulated in each country. In addition, virtual assets or tokens issued by the Green Earth Community Platform do not guarantee participation in the revenue generated in relation to the Green Earth Community Platform.

(d) This White Paper has not been reviewed or approved by supervisory authorities in domestic and foreign countries.

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(b) All unpredictable factors such as fluctuations in the global market and economic conditions, the emergence of competitive platforms, fluctuations in token prices, system errors and hacking, and loss of encryption keys are included.

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