1. Introduction

Motivation

Seedcoin is a project that began in 2022 to create a cryptocurrency that will serve everyday users and aid them in their daily transactions. Unfortunately, the cryptocurrency market has turned into a sea of whales jumping into the market due to how speculative most cryptocurrencies have become. This speculation destroys any potential a cryptocurrency has in becoming a viable daily transaction vehicle. Many people believe that cryptocurrency is just a gamble with no future viability except for pump and dumps and speculation. This lack of permanence as a transaction vehicle delegitimizes the crypto space and destroys most long-term aspects of the market. For example, no one will ever want to sell their cryptocurrency, such as Bitcoin, for another good if they believe that the price of the Bitcoin may increase tenfold in a couple of days. In addition, an unstable currency makes it hard for consumers to base how much of a coin they should spend and instead rely upon the dollar or other forex currencies, eliminating some of the reasoning behind using a decentralized currency.

Our goal is to fix this issue using algorithmic protocols to limit the price fluctuations, low transaction costs, efficient validation, and a negative carbon goal. The lack of price fluctuations will make the coin unfavorable to people who try to speculate on the price or hold the coin for a long-term investment. This idea to make the coin undesirable to long-term investors came from how no one wants to save the dollar as a long-term investment. The dollar is simply a vehicle to exchange goods and services. Following this idea, Seedcoin has algorithms that limit the range of the coin. Even with these algorithms, arbitrage is still possible, just like how the forex market participants indulge in arbitrage, but any long-term investment will be sparse.

Finally, our last goal is to have extremely low processing costs and, therefore, low gas taxes. This goal will further enable the currency to be adopted as a daily trader and improve the experience of the average small cryptocurrency buyer.

Inflation Barrier Unit

Going along with the SeedCoin's team to create a long lasting cryptocurrency, SeedCoin will have the Inflation Barrier Unit, designed to counteract the inflationary tendency of the US dollar. This will work by judging the increase in global market price and correcting all of the SeedCoin algorithms by increasing or decreasing this inflation barrier unit (or IBU). This means that all algorithms are tied to the IBU. More information about this IBU is included in the Science and Engineering section under Inflation Adjustment part.

Proof of Venture

Seedcoin uses a similar system to the average proof of stake. However, instead of showing proof of a Seedcoin stake, SeedCoin's proof of venture works by showing involvement and activity in an anchor currency such as the cryptocurrency, WoodCoin (LOG). In the future, the anchor currencies list may be expanded to include more cryptocurrencies, but as of now, the only anchor currency of SeedCoin is WoodCoin LOG.

A proof of venture in LOG allows the prospector, the venture holder, to mine new SeedCoins, which will be rewarded to the prospector as compensation for holding the anchor currency. In order to become a validator who participates in blockchain signing and voting a user must first be a venturer by

venturing some anchor currency and once their ranking is high enough then they can become a validator and earn higher rewards through a validator reward schedule.

Several different proof of venture plans have or will be released. There are three phases of proof of venture plans that were released. The first phase was created to focus on maintaining SeedCoin and incentivizing the inventors to continue running the project efficiently for long into the future. The second phase of plans focuses on allowing more early believers to join by lowering the venture requirement; however, the rewards are also reduced. The final phase of proof of venture plans will be the only phase to stay in operation indefinitely; all of the other programs will be phased out within a set time. Therefore, the final phase has the lowest rewards but also the lowest minimum venture quantities and shortest reward release schedules.

The following will provide a detailed rundown of each current or future proof of venture plan.

Phase 1: Genesis

The Genesis proof of venture plan was created to compensate the inventors and early believers of the SeedCoin project for their time, motivation, and effort. The Genesis plan is also used to maintain the attention of the inventors and early believers by having a slower reward schedule so that they can not just take out their rewards and leave the project. This will allow SeedCoin to prosper in the long term and enable a steady rollout of features and updates that would not be possible without a motivated developer team.

The Genesis proof of venture plan requires an exact amount of 10,000 LOG to be deposited into a locked account for 250 days. The reward for locking this quantity of LOG is 2 SeedCoins per LOG per day. This results in a total reward of 10 million SeedCoin; however, the reward schedule will only release 20% of that reward after one year and another 20% of the total reward each subsequent year until all of the rewards have been received. The final reward will be received five years after the LOG for the Genesis plan was first deposited in the locked wallet. Again this five-year reward release for the first proof of venture plan is designed to prevent the early believers and inventors from abandoning the project. Otherwise, their reward will be worthless if the project fails within the five years of the reward schedule.

Genesis was released on the 9th of June, 2022, and was available for ten days.

Phase 1: Early Bird

The Early Bird proof of venture plan was created for smaller early believers that can not afford 10,000 LOG; however, the reward is smaller due to this. The reward release schedule is the same as the Genesis plan, with 20% being released after the first year and 20% of the original total being released each subsequent year until the whole reward is received five years after the initial deposit is sent. This reward release schedule follows the same principle to maintain the interest of early believers in the project.

The Early Bird plan requires a minimum of 2,500 LOG to a maximum of 10,000 LOG to be deposited into a locked account for 150 days. The reward for locking this LOG deposit is 1 SeedCoin per LOG per day, resulting in a reward ranging from 375,000 SeedCoins to 1,500,000 SeedCoins, depending on the size of the original deposit of LOG.

Early Bird was released on the 8th of June, 2022, and was available for 25 days.

The Alpha proof of venture plan is part of the second phase of proof of venture plans and is therefore designed for a larger number of daily users. Following this, the venture minimum is lowered; however, the reward is also lowered. Since this plan is meant for more daily users, the reward release schedule is shortened significantly. These daily users are still considered early adopters; however, they are not as early as those who opted into the Genesis or Early Bird plans.

The Alpha plan requires a minimum of 1,000 LOG to a maximum of 10,000 LOG to be deposited into a locked account for 100 days. The reward for locking this LOG deposit is .5 SeedCoin per LOG per day, resulting in a reward ranging from 50,000 SeedCoin to 500,000 SeedCoin, depending on the size of the original deposit of LOG. The reward release schedule for the Alpha plan is 20% after the deposit unlocks, then another 5% of the original total reward every subsequent month for a total of 16 months after the lock period ends.

Alpha was released on the 3rd of July, 2022, and was available for 60 days.

The Pre-Release plan is part of the second phase of proof of venture plans and therefore follows the same designed principles as the Alpha plan, a lower venture minimum with a lower reward and

shorter reward release schedule compared to the first phase; however, a still higher reward and longer reward release schedule than the final release phase.

The Pre-Release plan requires a minimum of 50 LOG to a maximum of 1,000 LOG to be deposited into a locked account for 80 days. The reward for locking this LOG deposit is .5 SeedCoin per LOG per day, resulting in a reward ranging from 2,000 SeedCoin to 40,000 SeedCoin, depending on the size of the original deposit of LOG. The reward for this plan is lower than an equal deposit due to the lock period being shorter by 20 days. The reward release schedule for the Pre-Release plan is 5% of the original total reward every month after the lock period has ended. Therefore, the total reward will be received 20 months after the lock period ends.

Pre-Release was released on the 3rd of July, 2022, and was available for 60 days.

Phase 3: Wood

The wood proof of venture plan is part of the final phase of venture plans that will be in operation indefinitely and will be available and designed for all daily users of SeedCoin. Since this phase of plans is designed for all daily users, the minimum venture quantity is much smaller than in the previous phases. Following this smaller venture quantity, the reward release schedule is the shortest, and the reward is the smallest compared to the other phases. The reward release schedule for both Phase 3 plans is 100% of the reward once the lock period ends.

The Wood plan requires a minimum of 50 LOG with no maximum quantity of LOG to be deposited into a locked account for 28 days. The reward for locking this LOG deposit is .25 SeedCoin per

LOG per day, resulting in a reward ranging from 500 SeedCoin to unlimited SeedCoin, depending on the size of the original deposit of LOG.

Wood is planned to be released on the 1st of September, 2022.

Phase 3: Seed

The Seed proof of venture plan is part of the final phase of venture plans and therefore follows the principles and ideas listed before in the "Phase 3: Wood" section. This plan is open to the most extensive amount of people, with the minimum quantity being the lowest out of all the venture plans.

The Seed plan has no minimum requirement; however, there is a maximum of 50 LOG. This LOG deposit must be deposited into a locked account for 28 days. The reward for locking this LOG deposit is .1 SeedCoin per LOG per day, resulting in a reward ranging from 0 SeedCoin to 200 SeedCoin, depending on the size of the original deposit of LOG.

Seed is planned to be released on the 1st of September, 2022.

2. Science and Engineering

Math Behind Proof of Venture

To activate a Proof of Venture plan, the user must create a new staking wallet using a program developed by the SeedCoin team and which can be found on https://staking.seedcoin.network/. This staking wallet will be owned by the user. The user will know both the public key and SEED-phrase (similar to private key) and have access to the staking wallet. This wallet is designed in order to prevent users from simply giving someone else's wallet as theirs and earning rewards for someone else's anchor currency.

After sending anchor currency to the staking wallet, the user will click a button on the Seedcoin staking site to validate the currency in the staking wallet, at which point a program called oracle, developed in full by the Seedcoin team, will check to see the amount of anchor currency in the wallet. After validation has been completed, Oracle continues the staking activation process.

Once validation is completed, the background program, Oracle, will create a smart contract that creates StackingToken-based one-to-one with the anchor currency, which will be used to stake on the SeedCoin blockchain. This is done since the anchor currency is not on the same blockchain as SeedCoin and can not be staked on that blockchain. This is also why our "staking" is called Proof of Venture. The original staking wallet will never be touched by the Oracle program and will never remove any of the anchor currency, and the anchor currency may be withdrawn by the user at any time (with a penalty of losing all SeedCoins ventured during the last venture period). Finally, the StakingToken will be used to stake on the SeedCoin blockchain, and the user will receive the rewarded SeedCoin according to the reward schedule.

Proof of Venture will automatically renew the user's plan after the venture period is over unless the user decides otherwise. The user may also specify to the program that they want to remove some of the anchor currency and lower the venture amount for the next venture period. This takes effect the following venture period.

Pricing Protocols and Algorithms

Following the principles of the project, to maintain a stable price that enables users to trade and perform transactions without fear of missing out, SeedCoin uses two main algorithmic protocols to maintain a loose price range.

The first one is the Resistance Protocol or PRP. The PRP increases the commission fee when the price of SeedCoin drops below a certain point. This increase in commission fees will de-incentivize people from selling their SeedCoin and encourage them to hold their coins until the price corrects. This on its own would, however, would not be enough to correct the price. That is why part of the commission fee will be automatically burned, lowering the supply and increasing the price. Details on how these work are covered in the "Commissions Fees" section.

The second algorithmic protocol is called the Reward Flexibility Protocol or RFP and involves an increase in the reward for validators. In theory, this increase in reward may increase demand to become a validator and will increase the reward of SeedCoins provided to the validators in turn increase the total amount of SeedCoins awarded significantly. Following macroeconomic theory, this increase in total reward will result in an increase in the total supply of currency, causing the price of SeedCoin to fall.

Commission Fee Distribution

The commission fee is distributed to further the goals of the SeedCoin project, to maintain a stable price while maintaining low commission fees to enable daily trading. The base commission fee is 1%. This is usually the only fee applied to transactions as long as the price of SeedCoin is above a certain inflation adjusted unit quantity. 50% of this base commission fee goes to rewarding the SeedCoin Fund (More detail on the SeedCoin fund in the "The Fund" section), while the other 50% goes to the eco projects, with the trader being able to choose which project they want their money going to.

Once SeedCoin falls below a certain value, the PRP starts increasing the fee added to the transaction costs. This increase in transaction costs makes it more difficult for people to sell their SeedCoins and further lower the price. 90% of this added fee will be burned (More detail on the burn process in the "Burn" section), and 10% of it will go to the SeedCoin fund. This commission fee can be calculated using the following formula:

λ = commission fee proportion of total

x = price of SeedCoin in inflation adjusted unit

$$\lambda = .01 + .98/(1 + (x + 1)^{24})$$

X	λ
0	.500
.01	.442
.1	.100
.25	.0146
.5	.0101
1	.0100

The Validators

SeedCoin's goal is to combine the idea that anyone can become a validator and earn rewards and the principle of an honest, fair, and efficient market with loyal users. Therefore, SeedCoin will have a flexible range of validators with a minimum of 10 and a maximum of 200. This range of validators allows for the most security while not sacrificing too much efficiency. In principle, the more validators, the more secure a network is; however, this is at the expense of efficiency and speed since more validators have to validate a transaction.

SeedCoin uses a tiered system of validator control to have the most efficient and secure network. When there are less than 100 validators, then the SeedCoin blockchain allows an unlimited number of validators to join every month. If there are more than 100 validators but less than 200, SeedCoin accepts five every month and kicks out the two lowest performing validators. If there are 200 validators, then

SeedCoin allows five validators to join and kicks out five of the worst performing validators. This system is designed so that validators must compete not to lose their roles and future rewards. This results in improved performance, quality, cost of validation, and security without sacrificing speed or efficiencyc.

Since there is a limited amount of spaces open for users to become validators, SeedCoin has a special method for how to select validators. The waitlist will be prioritized based on a ranking system of who has been venturing the most anchor currency and for how long. In theory, anyone with even one anchor currency will be able to sign up for the waitlist and eventually become a validator. For example, when there is a small gap in venture time then the volume ventured will decide. This prioritization of time instead of number of LOG will prevent large investors from taking over the whole validation process. Therefore, anyone with a well-functioning computer, internet connection, at least one LOG or other anchor currency, and a belief in the project in terms of time venturing will be able to become a validator and reap the rewards.

In order to become a validator a user must first be a venturer and then indicate that they would like to become a validator in order to receive larger rewards. Once a user meets the rating requirement to become a validator and there are enough spots available the user will become a validator, but will also still be a venturer.

Validators will receive rewards according to an algorithm created to increase the reward when the SeedCoin price increases. This will result in an increase in SeedCoin supply leading to downward pressure on the exchange rate of SeedCoin, furthering the prospect of a price tunnel. The rewards for the validators are calculated by the following function:

η = validator reward in SeedCoin per LOG per day

x = price of SeedCoin in inflation adjusted units

φ = high price validator reward increase function

$$\eta = .25 + \varphi$$

$$\varphi = 25*4\wedge(x-(2\wedge4)/3)$$

Here is a quick example of how this works. We expect there to be around one block every two seconds (43,000 blocks per day). When the price of SeedCoin is at one cent the reward for validators is 8,053.64 coins per day for every validator, which is approximately .19 SeedCoins per block. When the price of SeedCoin is three inflation adjusted units then the reward will be 515,432.78 coins, which is approximately equal to 12 SeedCoins per block. This massive difference in reward shows how the RFP will help regulate price.

Inflation Adjustment

In order to make SeedCoin a permanent currency, all of the commission fees and rewards will be calculated using SeedCoin's inflation barrier unit. This makes all SeedCoin algorithms effective regardless of how much inflation the US dollar undergoes. SeedCoin calculates its inflation barrier unit by following five global indices: S&P 500, FTSE, Euro Stoxx 600, Nikkei, and SSE Composite.

Each index has been rated a 1-10 based on how stable it is, with one being the least stable and ten being the most stable. S&P 500's rating is 8, FTSE's rating is 7, Euro Stoxx 600 is 10, Nikkei's rating is 10, and SSE Composite's rating is 5. This rating influences the index's weight in influencing the inflation barrier unit. Everyday SeedCoin will check the prices of each of these indices compared to the starting day and adjust the algorithms to fit these new prices. For example, if the indices increase a lot in price in the next ten years, let's say by 2x, and the price of SeedCoin used to be .25 dollars with a commission fee of .0146, that means that after ten years, the price of SeedCoin must be .5 dollars to have the same commission fee of .0146.

Following this logic, in theory, SeedCoin should follow the inflation-adjusted unit based on the global economy and market. This system will allow SeedCoin to be a low-maintenance currency that requires little to no mandatory updates.

3. Sustainability

The Fund

A part of every transaction's commission fee will go towards supporting the SeedCoin project fund. This fund will be used in order to increase the usage of SeedCoin through funding advertisement, sponsorships with other developers so that they use SeedCoin in their projects, and funding for fintech projects and startups that use SeedCoins, as well as stabilize the price through the purchase of securities. This will result in SeedCoin becoming more widespread and permanent in the crypto world. The fund will also promote and fund ecologically friendly projects and ventures such as the WoodCoin project. This

investment in environmentally friendly projects will help overcome the environmental costs of running the SeedCoin cryptocurrency.

A small portion of the fund will be put towards the purchase of low risk securities such as the S&P 500, Nijjei, FTSE, Euro Stoxx 600, and SSE. When the price of SeedCoin drops below a certain value, these securities will be sold and SeedCoin will be purchased in order to increase the price of SeedCoin. This will help stabilize the price and help make sure that SeedCoin can not fall below a certain value.

The SeedCoin team believes in transparency and trust; therefore, all transactions in which the fund partakes will be released to the SeedCoin users and the rest of the public. This will help keep the team accountable for the fund and where the money goes, building a feeling of trust between the users of SeedCoin and the developer team.

Burn Operation

As a part of SeedCoin's team goal to keep a stable price tunnel, part of the commission from the PRP (Resistance Protocol) will be burned in order to lower supply and put upward pressure on the SeedCoin price. The SeedCoins designated to be burned will be automatically taken out of the commission paid by users and sent to a specialized wallet that no one can access. This specialized wallet will be created without anyone knowing the password or how to access it, including the developer team. This creates more trust with the community and prevents any developer from stealing any SeedCoins from the burn wallet. In addition, the burn wallet address will be released to the public so that SeedCoin users can track whether any SeedCoins have been sent out of the burn wallet, adding another layer of trust. These two levels of security will allow for a stable price tunnel and help secure the developer team's

goals of a future where SeedCoin is used for daily transactions. If SeedCoin reaches this then there will be no reward at all for either validators or stakers until some of it is burned.

Safe Harbor

Safe Harbor was created to lower the risk for early adopters of SeedCoin and increase adoption by temporarily guaranteeing a certain minimum value for SeedCoin. This value guarantee will be using new LOG coins equivalent to 10% of the LOGs that have been ventured in either Genesis or Early Bird. Safe Harbor will operate by setting a price of 1,000 SeedCoin to 10 USD, allowing for early adopters to be guaranteed a minimum value as long as the Safe Harbor still has LOGs in its wallet. Safe Harbor will sell its reserved LOGs in order to provide the 10$ dollar per 1,000 SeedCoin guarantee. This guarantee will be done through smart contracts. The LOGs within the Genesis and Early Bird proof of ventures plans will be used since these plans have a lock period of several months, so, just like a bank, Safe Harbor will temporarily use some of these coins.

Ecologically Friendly

SeedCoin was built in order to provide a transaction and ecologically friendly alternative to Bitcoin, Ethereum, Cardano, and so on. To achieve this goal, the SeedCoin team implemented algorithms to achieve a transaction-friendly crypto, and in order to be ecologically friendly, the developers designed SeedCoin to have low mining expenditures and provide funding to environmentally friendly projects, ventures, and charities that will overcome the cost of mining to the environment. These two methods will

allow SeedCoin to provide net-zero and, in the future, net negative carbon emission trading capabilities to current and future users.

The SeedCoin team decided to use a proof of stake derivative called proof of venture. Unlike Bitcoin's proof of work mining method, SeedCoin uses proof of venture and validators to achieve the same objective with significantly fewer energy expenditures. Currently, the amount of electricity used to mine Bitcoin is around 91 terawatt-hours annually, which is more than all the energy used in all of Finland just to mine Bitcoin, a crypto that is not very friendly to daily transactions with Bitcoin being at such a price, having high gas fees, volatile prices, and slow transaction speeds. Compared to Bitcoin's extreme energy usage, if SeedCoin was traded in the same quantity as Bitcoin, the energy expenditures would be over 10-fold lower than Bitcoin. Along with this lower energy expenditure, most of the energy used for mining will come from renewable energy sources such as solar, hydro, and wind which are also some of the lowest cost energy generation sources. This will result in significantly lower emissions.

Even with lower energy expenditures on running SeedCoin, there are still some emissions, at least until all energy for mining is transitioned to renewable sources. Therefore, SeedCoin will spend some of its commision fees to promote ecologically friendly projects, ventures, and charities to counteract these emissions to zero or push them to negative.

These eco projects will be run by a partnered company in order to better track the project's commitment and progress in lowering emissions. Traders will also be able to get more info on all of these projects through the Hermesus and SeedCoin official sites. A trader can then decide which project they like the most and select where they would like their commission fees to go by adding a .00001% commission fee with a number at the end. For example, if one project's number is 212 then the user would add .00001212% to the end of the commission fee. The exact percentage may be changed later if need be.

In the end, this will allow SeedCoin to become a carbon-neutral or carbon-negative cryptocurrency that is transaction friendly, secure, and trustworthy. We hope this document has persuaded you to believe in the SeedCoin team's goals and become a user of SeedCoin for your daily transactions.