Open Reforestation Protocol

Mechanism Design and Crypto-Economic Dynamics

February 2021

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Key Terms

DAO - Decentralized Autonomous Organization.

Project Owners - Users looking to leverage the Open Reforestation Protocol for their own reforestation project.

ORP Validator - An ORP token holder who stakes their ORP on the outcomes of a project's data upload.

Data Upload Fee - The fee paid by project operators to ORP Validators in return for verifying the authenticity of a given reforestation project. At genesis this fee is set at 5% but open to change based upon DAO Vote.

Minimum Validator Stake - The minimum amount of tokens an ORP validator must put forward in order to participate in the outcome of a data upload.

Validator Confirmation Bond - The bond required to confirm that the data upload provided by a project is correct. The bond is equivalent to the value of the data upload fee.

Validator Challenge Bond - The bond required to challenge the truthfulness of a data upload provided by a project.

DAI - A digital currency pegged to the US Dollar, used by project operators and collateral providers to secure or pay the protocol for each stakeholders respective activities.

ORP Token - The utility token of the Open Reforestation Protocol, used by ORP Validators and ORP Community members.

Open Carbon Credit - The digital token representing carbon sequestered by a given reforestation project.

Collateral Provider - A person offering to lock up DAI as collateral for a reforestation project, in return for a yield of ORP tokens.

Upload Collateral - DAI staked as backing for a reforestation initiative.

Upload Collateral Rate - The percentage of collateral required for the size and scope of a reforestation project based on the projects budget.

Yield Rate - The percentage of ORP tokens yielded for collateral locked based on duration and phase.

Upload Collateral Penalty - The percentage of tokens lost in the event that a reforestation project is successfully challenged.

Project Creation Deposit (PCD) - An initial deposit put forward by a project operator until their first data upload is accepted by ORP Validators. This deposit is slashed if either collateral providers or ORP validators initially reject the project in question. The PCD functions as both an initial deposit to source funds, as well as payment for the first data upload. This is priced according to the size and longevity of the project.

Data Upload - The process by which reforestation data, collected via the Open Source Application is uploaded to the protocol and sent for validators to approve or challenge.

Confirmation Window - The amount of time allotted to validators to fill a validator confirmation bond, or a validator challenge bond.

Challenge Window - The amount of time allotted to validators to challenge the original bond decided upon in the confirmation window.

Upload Slope - The rate at which the data upload fee is paid out to ORP Validators, based upon the risk of malicious data upload at certain stages of the process.

Collateral Lock-In Window - The period of time Collateral Providers are allotted to be able to accept or reject an initial collateral request from a reforestation project.

NFT Mint - The process by which a project operator creates a non-fungible token (NFT) at the commencement of their reforestation project.

OCC Protocol Fee: The percentage of a project's OCC's project yield taken as a fee and distributed to all ORP token holders on the protocol.

Introduction

The following document outlines the initial mechanism design for the Open Reforestation Protocol. As a decentralized layer two protocol, the goal of such a design is to create a structure of incentives and penalties for a distributed group of stakeholders to collaboratively support the creation, monitoring, verification, and completion of reforestation projects. To do this different digital 'tokens' are utilized by different stakeholders to guarantee security, project collateral, and the accuracy of all reforestation data uploaded onto the platform.

In Section 1, an overview of the *Data Upload* procedure is outlined. This explains the process that a new reforestation project follows for uploading data in collaboration with other protocol stakeholders. Next, in Section 2, the role of the four different tokens on the Open Reforestation Protocol are outlined: (1) NFTs for Land Management, (2) the ORP utility token, (3) DAI, and (4) the Open Carbon Credit (OCC). Section 3 explains the structure of incentives and punishments for different stakeholders participating in the protocol. This refers to Project Owners, Collateral Providers, Network Validators, and ORP Token Holders. Finally in Section 4, Governance of the Protocol via ORP DAO is explained with reference to the governance procedure, future technology integrations, and delimiting qualifications for earning OCCs .

Section 1: The Data Upload Procedure

For any reforestation project created on ORP, the same data upload procedure must be followed by project owners, where project owners refer to the party responsible for handling the collection and upload of data onto the protocol.[1] The following steps outline this procedure:

First, a project owner must *send a project request* to collateral providers for a new project. This is done by defining the boundaries of the project and minting an NFT for the zone of land that they intend to reforest. When this information is completed, the project owner *'sends'* the request to the Collateral Provider Whitelist.

Second, Collateral providers, defined as stakeholders interested in staking DAI in return for yielding ORP tokens, pool collateral into a specific project proposal (this can be set according to specified constraints or limits by the Collateral Providers). Once the amount of collateral required for a project is reached, the *project request* is considered *approved.*

Third, upon approval of the *project request* the pooled collateral is locked for the duration of the project. If at any point during the project there is an insufficient amount of collateral backing that project, the project owner is not able to continue uploading data to the protocol. Initially, however, once the *project request* is approved, the Project Owner is notified that they are allowed to upload their Stage 1 Project Data onto the network.

Fourth, the project owner uploads their first data upload, and sends that upload with an included fee to ORP Validators (this fee is in fact the project initiation deposit). Upon receiving this data, the *Confirmation window* commences from which ORP token holders can vote on the legitimacy of the data upload claim.

1 Notably, project owners refer to dashboard admins, who are equally capable of receiving data from designated field agents.

Fifth, ORP Validators holding ORP tokens, pool their tokens together to post either a *validator access bond* or a *validator challenge bond* on the validity of the data uploaded. The former confirms that the data uploaded is accurate, the latter denies that it is. Once the validator access bond is met, a *dispute window* is opened up. The *dispute window* is calculated based upon the size and duration of the proposed project. During the *dispute window* any ORP token holder has the opportunity to challenge the truthfulness of the data uploaded by posting a *validator challenge bond* equivalent in value to the *validator access bond*. If no *validator challenge bond* is put forward, the data upload is considered accurate, and the ORP validators are rewarded the *Data Upload Fee*. If a validator challenge bond is put forward, the project is then pushed to be evaluated by the ORP DAO and determined to either be authentic or malicious from DAO vote. In the event that the project is malicious, a percentage of the collateral pool is taken and rewarded to the token holders staking on the *validator challenge bond*.

Sixth, Once a data upload is accepted by ORP validators, the status of the reforestation project is updated in the project NFT. The project then moves from Stage 1, to Stage 2, and the last two steps of the cycle repeats itself for the remaining stages of the project.

In summary, the data upload procedure must always include: (1) A new project request from a project owner to a collateral provider including the parameters of the project and the project NFT. (2) Collateral for starting the project. (3) Data sent for each stage of the project by the project owner to ORP Validators. (4) ORP Validator agreement or challenge as to the veracity of the data posted, and (5) an updated NFT with the most recent data from the previous data upload.

Section 2: ORP Crypto-Economics

All stakeholders on the Open Reforestation Protocol participate in the ecosystem using different tokens of value. In total there are four digital tokens used: (1) A Land NFT for delimiting the land that a project covers, and as a placeholder of project meta-data for the lifetime of the project. (2) The ORP utility token used for accurately validating data uploads sent to the network by project operators. ORP tokens are also used for

governance of the ORP DAO. (3) DAI, used by project owners to cover upload fees, and used for collateral providers in providing project collateral. (4) Open Carbon Credits (OCCs) rewarded to project owners via their NFT, for the carbon sequestered by their reforestation project. Each of these different tokens are explained in detail below.

2.1 The Land NFT

Non-Fungible tokens are unique digital identifiers coded into smart contracts on a blockchain. With NFT's the history of a digital asset is contained in the metadata written into the token. This can be updated over time, with changes or fractionalizing of its ownership, updates to its projected Open Carbon Credit (OCC) yield rate, or additional information due to new circumstances.

On the Open Reforestation Protocol, every reforestation project must mint an NFT for the land boundaries of the project in question. Using Google Plus Codes, geographical coordinates for the entire globe can be integrated to allow for project operators to delimit the precise boundaries of their own project before creating a non-fungible token to digitally identify it on a blockchain.

As a representation of project ownership, the NFT Land Plot for a project will contain the initial project details inside of it, while also confirming ownership of the project. Importantly, this ownership is not necessarily legal ownership of the land: It is a digital representation of the reforestation project being created. As such, the scope of the protocol does not extend beyond the project level - there is no claim to land tenure or ownership made through minting an NFT. The presupposition is that the project operating has already taken care of securing the land they are reforesting - just as it is presupposed that they actually have the trees to reforest such land. The validity of these presuppositions is either confirmed or found to be false, during the data upload procedure.

In relation to the Data Upload Procedure, after every stage of data is uploaded, validated, and finalized, the meta data from that data upload is embedded into the

NFT as an update to the status of the digitized plot of land. In this manner every reforestation project has a permanent yet unique identifier for its progression.

In the medium term future, the NFT based land plots of projects will be used as a wallet for receiving reforested carbon credits, from the carbon sequestered on the particular plot of land being reforested. More about this process is explained in *Section 2.4 Reforested Carbon Credits.*

2.2 ORP Tokens

ORP Tokens are the utility token built into the ORP Protocol for Validators and Community Members. They are also rewarded to collateral providers for locking up collateral on the network for different projects.

ORP Token Functionality:
Stake to Accept or Challenge Project Data Uploads
Govern the Open Reforestation Protocol via DAO Vote
Yield ORP's for Providing Upload Collateral
Protocol OCC Yield Percentage

2.2.1 Stake or Challenge Project Data Uploads

As detailed in *Section 1,* every data upload procedure requires a reforestation project to send a fee alongside its data upload, as a reward to network validators for confirming and hashing on-chain the accepted data upload. When a data upload is sent, Token holders of ORP have a window of *t* time known as the *confirmation window* to pool tokens towards an outcome that accepts or rejects the authenticity of the data upload. An amount of ORP's equal in value to the p fee for that data upload stage is required to confirm or invalidate a data upload. In parallel to the *confirmation window,* is the *challenge window.* This is a period of *t* time, after the data upload has either been accepted or rejected, from which other token holders can pool ORP tokens as a challenge to the original outcome. If the data upload is successfully challenged, the

accuracy of the data upload moves towards a DAO vote from which 20% of all ORP token holders must vote on whether to accept or reject the data upload in question. The window for the vote is equal to the time set for the challenge window.

2.2.2 Governance of the Open Reforestation Protocol Via DAO Vote

The acronym *DAO* stands for a decentralized autonomous organization. In crypto-denominated ecosystems, DAO's represent the community of stakeholders engaged in maintaining certain core metrics and parameters of a given protocol based upon open vote. For the Open Reforestation Protocol, the ORP DAO is made up of ORP token holders. 1 ORP Token is equivalent to 1 vote on the decisions taken by the DAO. While prior to genesis launch, these decisions will be managed by the ORP Foundation, upon launch of the Main Network the ORP DAO will largely determine many of the protocol governance mechanisms, including:

ORP DAO Governance Mechanisms:
***Project Creation Bond Cost**: How Much Must Be Locked Up by a Project Operator To Start A Project*
***Data Upload Fee**: How Much A Project Must Pay As A Fee in Proportion to the size of their project.*
***Upload Collateral Rate**: How much DAI must be locked up by Collateral Providers according to the size of a given project.*
***Final Upload Resolution**: When a Challenged Data Upload Must be Resolved with 10% of the DAO Vote*
***Confirmation, Challenge, and Collateral Windows:** How Much Time Is Allotted For Each Window*
***Collateral Punishment Standard**: How Much Collateral Is Lost If a Project Is Successfully Challenged as Being False.*
***ORP Yield Rate**: How much ORP is Yielded by Collateral Providers.*
***Data Upload Fee Slope:** The rate at which a data upload fee must be paid out based upon the number of stages within the project.*
***Data Upload Standard:** The minimum standards set that each reforestation project must abide by in order to have data uploaded onto the Protocol.*

Project Initiation Standard: *The minimum standard for starting a project on the Protocol.*
Carbon Sequestration Standard: *The minimum standard required for a project to receive reforested carbon credits for a given reforestation project.*
Stage Segmentation: *The minimum number of data uploads required for a given project based upon its size and duration.*
Atomic Cartel Challenges: *Challenges put forward by a validator or project operator to challenge an unjustified or corrupted validator decision on project data. The DAO votes on the outcome and the losing party is severely penalized.*

The range of activities that the ORP DAO controls on the ORP Protocol is one of the driving factors that creates value for the ORP Token: Governance of the protocol will handle the standards that all reforestation projects must abide by, the core market mechanics of the protocol including the fees, incentives, and penalties for different stakeholders, as well as any future standard for carbon credit issuance. In many ways, governance within the ORP DAO has the potential to play a massive role for the future of reforestation across the globe.

2.2.3 ORP Yield In Return For Upload Collateral

Third and finally, ORP Tokens are used to reward collateral providers for locking up DAI as collateral in support of a given reforestation project. ORP tokens are proportionately rewarded, based upon the amount of DAI locked up, the duration of time the DAI is locked for, and the stage of the reforestation project the DAI is locked up for.

Based upon these factors, longer term and higher risk collateral will yield more ORP than shorter term and lower risk collateral. Risk is determined by the size and stage of the project: Earlier stage projects, where it is still not clear how genuine or committed a project operator might be, will be more of a risk for a collateral provider, than advanced projects that have already successfully completed multiple data uploads.

2.3 DAI

DAI is a stable, decentralized currency pegged to the US Dollar, and created by MakerDAO. It is a crypto-currency replica of US dollars, and will always be worth the equivalent of one United States Dollar. DAI is used on the Open Reforestation Protocol by project operators and collateral providers.

DAI Functionality on ORP
Data Upload Fee
Project Creation Bond
Upload Collateral
NFT Creation and Transaction Costs

2.3.1 Data Upload Fee

The Data Upload Fee is the required payment for any project operator to the protocol, for the verification and validation services provided by the protocol. At genesis, the Data Upload Fee will be set at 5% of the project budget. The Data Upload Fee is paid out to validators with each consecutive data upload. The Upload Fee Slope determines how much of the Fee is paid out according to the stage that the project is at:

Project Phase:	Data Upload Stage 1	Data Upload Stage 2	Data Upload Stage 3	Data Upload Stage 4	Data Upload Stage 5
Data Upload Fee Slope:	30%	25%	20%	15%	10%

This fee is used to reward ORP validators for correctly validating the correctness of the data uploaded. The Data Upload Fee is Paid in DAI, even though ORP Validators are required to stake ORP Tokens. This provides a non-volatile incentive for Validators to accurately determine the truthfulness of a projects' data upload at all stages of its lifetime.

2.3.2 Project Creation Deposit

The project creation bond refers to the initial bond locked up by a project for the first stage data upload. In order to ensure proper behavior among project operators, all project operators must lock up X DAI from the inception of their project, until their first data upload is confirmed as valid. This bond is designed to disincentivize malicious actors early on in the lifetime of a project. If a project's first data upload is challenged and deemed invalid, the project creation bond is confiscated by validators in addition to the first stage of upload collateral. The project creation bond is set at a fixed rate in DAI to provide easy onboarding for project operators, unfamiliar with managing cryptocurrencies.

2.3.3 Upload Collateral

Upload collateral refers to X amount of DAI that must be locked up on the protocol, as collateral for a reforestation project. Collateral Providers must initially approve each reforestation project by providing sufficient collateral for its initial data upload. Importantly, upload collateral is pooled by a decentralized community of collateral providers. Upload collateral can be locked up according to project phase or duration: This allows for the fractionalization of value among collateral providers as well as the gamification of yielding ORP for providing collateral. Upload Collateral is set in DAI as a percentage of the size of each reforestation project. The amount required for each stage of the project, is decided in parallel to the Upload Fee Slope.

2.3.4 NFT Creation and Transaction Costs

The cost of minting an NFT and transacting data across the ORP Protocol is denominated in DAI to make the process as simple and straightforward to use for unfamiliar users. The NFT Mint Fee and concurrent transaction fees, while often miniscule, are thus paid upfront alongside the data upload fee, and the project creation bond.

Overall, DAI is used as a familiar and stable placeholder of value for Users on the

protocol: No user interacting as a project operator or collateral provider, will have any need to handle or manage ORP tokens: In this manner, the barrier to entry for reforestation companies and environmental organizations interested in using the protocol, is effectively lowered as all currency handled by them will be stable and not subject to price fluctuations.

2.4 Open Carbon Credits (OCCs)

Reforested Carbon Credits are automatically created when data surrounding trees mature to a point in which the trees sequester carbon of a quantifiable amount. This *maturation point* is originally decided upon by the Reforestation Foundation but capable of being changed via governance vote over time. OCCs are thus minted after a data upload is approved by ORP Validators, that confirms the maturation point. OCCs are minted directly into the Land NFT of the project owner. Such OCCs are then tradeable on the open-market or as real representations of carbon backed credits from trees sequestering carbon. Due to the parallel nature of OCCs (i.e. OCCs are only created once data confirming the maturation of the trees is uploaded) with the growth of the trees in question, OCCs are truly data-backed carbon credits directly tied to a specific reforestation project.

OCCs provide a stable foundation for creating new incentives for reforesting land. As OCCs are digital representations of carbon sequestration, all OCCs are minted in direct correlation to a specific reforestation project - on an NFT denominated plot of land - and with the current state of the trees being reforested. By standardizing what qualifies as an OCCs on a protocol level, a data-backed carbon economy can be created by the entrepreneurs and companies interested in legitimately reforesting land.

Section 3: ORP Protocol Stakeholder Dynamics

On the Open Reforestation Protocol there are four primary stakeholders: (1) Project Operators, (2) Collateral Providers, (3) ORP Validators, and (4) the ORP DAO. In this section the roles, incentives and disincentives for each stakeholder are outlined in detail.

3.1 Project Operators

Project Operators are companies, entrepreneurs, non-profits, international organizations, or environmental organizations interested in reforesting a plot of land. The role of project operators is to use the protocol: Project Operators are the *primary users of the protocol.* In return for using the protocol, project operators are able to reliably and permanently demonstrate the legitimacy of their reforestation project. In the future, Project Operators are also entitled to earn Open Carbon Credits (OCC's) for all of the carbon sequestered by their project in question.

On the protocol, project operators are incentivized to be honest and truthful for two primary reasons: First, in the early stages of any given reforestation project, the project operators must put forward a project creation bond until the first stage of their project is approved by ORP Validators. Second, project operators rely on Collateral Providers to back their project in question: If a project operator is challenged during the data upload period and found to be malicious, collateral providers will lose a percentage of their collateral, and will most likely not invest in future stages of the project. In turn, if collateral cannot be secured, the project operator is no longer able to upload data onto the network.

3.1.1: The Atomic Cartel Challenge

In situations in which a data upload is resolved in a manner that is the result of a 'cartel' forming among validators, project operators have the capacity to put forward an atomic cartel challenge (ACC). In an atomic cartel challenge, project operators appeal to the ORP DAO to investigate and ultimately resolve an abuse in organized/ collective validator power. In putting forward an atomic cartel challenge the stakes for both parties involved increases significantly: If the ORP DAO discovers a failure on behalf of a cartel of validators, then the project operator is reinstated with the participating validators being severely slashed. In the event that the behavior of the validators is upheld the project operator not only loses their data upload, but is additionally penalized for putting forward a false challenge. As a last resort mechanism, it is expected that project operators will only defer to ACCs when clear cases of misbehavior and abuse are present.

3.2 Collateral Providers

Collateral providers are any person wishing to lock DAI onto the protocol for a given reforestation project, in order to Yield ORP Token. The amount of collateral put forward by collateral providers can vary in magnitude and duration for how long it is locked up for. As such there is a wide range of stakeholders capable of functioning as collateral providers: From well funded charities, to individuals looking to earn ORPs.

Collateral Providers are incentivized to provide collateral to project operators, because they have the opportunity to Yield ORP tokens. Collateral providers are equally incentivized to diligently vet projects before collateralizing them, as they stand to lose DAI if a project is challenged and proven to be malicious. Collateral providers are disincentivized from leaving the platform, as they will no longer be able to yield ORP, nor will they support reforestation projects looking to mitigate the worst effects of climate change.

3.3. ORP Validators

ORP Validators are ORP token holders interested in validating data uploads from project operators. ORP validators must stake ORP tokens on whether a data upload should be approved or challenged, within the *confirmation window*. ORP token holders are rewarded in proportion to the amount of tokens they stake on a particular outcome, from the data upload fee.

ORP token holders are incentivized to stake on the correct outcome, because they are interested in earning a portion of the data upload fee. ORP token holders are disincentivized from incorrectly determining the validity of a data upload, as other ORP validators can challenge that outcome with alternative evidence. Thus, if an ORP validator attempts to maliciously approve a deceitful project, they stand to lose a percentage of their stake if their initial decision is challenged and proven false. ORP Validators are also incentivized to accurately challenge projects lacking evidence or credibility, as they stand to gain the upload collateral staked on the project if it is determined to be malicious.

3.4 The ORP DAO

ORP Community Members have the capacity to both stake on outcomes as an ORP validator, and to vote on protocol decisions, as part of the ORP DAO. As the world's first decentralized protocol for managing carbon sequestration initiatives, ORP Token Holders have the opportunity to set a uniform standard for Reforested Carbon Credits, while also defining the crucial parameters for what qualifies as a legitimate reforestation project.

With climate pledges from most major governments, and hundreds of private companies, the responsibility of ORP community members is to effectively steward the development of the protocol into the future to not only handle reforestation projects, but eventually also afforestation, restoration, maritime forestation, and land tenure initiatives that can be equally built on top of the ORP.

The ORP DAO is incentivized to keep key parameters and metrics of the protocol accessible, in order to ensure that projects and entrepreneurs leverage the protocol for their reforestation (and eventually) carbon sequestration needs. The ORP DAO is disincentivized from making the protocol inaccessible, as that would lower engagement with the protocol, and as a result the price of ORP tokens (which all ORP DAO Members hold, as members of that DAO).

Section 4: Governance of ORP Protocol

Governance of ORP Protocol refers to the community of ORP token holders interested in managing and expanding the reach of the protocol over time - both as more projects begin to build on top of the protocol, and as more technology is developed that can be integrated with the protocol.

In line with the list of DAO responsibilities outlined in *Section 2,* the ORP DAO will also be responsible for defining incentive structures for new technology integrations onto the protocol, as well as standards for reforested carbon credit generation. It is expected that both efforts will require significant intellectual and economic expertise.

4.1 Basic Governance Procedures

Basic governance of the ORP DAO is done via community vote. The underlying principle of the ORP DAO is that every community member has a vote for each ORP token they possess. All protocol metrics that are determined by the ORP DAO are automatically rolled-over every six months or what is deemed the equivalent of one

project phase in a data upload cycle (i.e. one epoch). If an ORP token holder wishes to put forward a change to a protocol metric they must submit a request before the next epoch to consider that metric. In order to be considered for DAO vote, a minimum of 20% of ORP token holders must vote in favor of considering the request. If the request is accepted, a vote is held until the commencement of the following epoch on the proposed change. If the request is rejected, the metric is not allowed to be considered for a minimum of two epochs.

4.2 Technology Integration with ORP

The future development of technologies used in the context of reforestation, afforestation, and carbon sequestration is developing rapidly. From satellite imagery, to Internet of Things (IoT) sensors, to artificial intelligence and drone technology, technical advances in the coming decade promises to make reforestation monitoring, and carbon sequestration quantification both more efficient, cost-effective and reliable. As an open-source protocol, ORP is an opportunity to provide a foundation for future technology integration with existing reforestation projects.

Similar to internet plugins, the ORP DAO is responsible for determining which open-source technologies can be optionally integrated with the ORP open-source application for all future project operators to utilize for their project needs. Future technology integration follows the same DAO governance procedure as with other protocol modifications: A request is submitted, and if sufficient vote is garnered, it is voted upon up until the start of the proceeding epoch.

Note: Project operators are free to integrate these technologies individually with their project on a project by project basis.

4.3 Standards for Open Carbon Credits (OCC's)

Most importantly, the ORP DAO is responsible for defining the primary criteria and changing any standards in the future relating to the capacity for reforestation projects

to be able to harvest Open Carbon Credits (OCCs) from the land they are reforesting. This criteria can be categorized into three primary categories: First, how OCCs are calculated based upon the data uploaded to the protocol. This has to do with the stringency of data required in order to grant a Carbon Credit to a project. Second, the rate at which carbon credits are granted based upon the size of the project, the source of the carbon sequestration, and the veracity of the data provided over time. Third, what additional activities beyond reforestation can be submitted to the protocol for consideration and verification so as to yield OCCs. This may relate to proper land tenure management, afforestation, restoration, or maritime afforestation projects. Within these three categories a number of different variables must be considered in order to delimit how a project is able to yield a carbon credit for their reforestation initiative. The ORP DAO is responsible for handling such parameters. Any additions or changes to such parameters is based upon the same request process described above in *Section 4.1*.

In context, the opportunity in providing a standardized and data-backed means for capturing carbon sequestration initiatives quantifiably and over time is comparable to few others. For the future development of the Open Reforestation Protocol, the implementation of a Reforested Carbon Credit scheme will enhance engagement by providing entirely new incentives to entrepreneurs and developers alike, as well as private companies interested in off-setting their data.

Conclusion

The Open Reforestation Protocol is focused on providing a decentralized and open platform for verifying reforestation projects. ORP Protocol Mechanics are built around four digital tokens: NFT-based Land Plots, ORP Tokens, DAI, and Reforested Carbon Credits, and four primary stakeholders: Project Operators, Collateral Providers, ORP Validators, and ORP Community Members. All stakeholders are embedded into the data upload process, in such a manner that they are incentivized to help develop the protocol correctly, and disincentivized from acting maliciously. In parallel, different tokens are used for different needs of the protocol based upon the interests of the stakeholders at hand. Altogether, ORP Protocol Mechanics provide an initial foundation for a standard reforestation platform, data backed carbon credits, and a sustainable method for integrating technologies with reforestation projects into the future.