Zero Citizen Whitepaper

V9.1

ZERO CITIZEN

REWARDS FOR A NET ZERO FUTURE

ABSTRACT

Despite substantial efforts, the current global initiatives fall short of achieving the 2050 Net Zero objective. Currently, the national climate plans of the 193 Parties to the Paris Agreement combined would result in an 11% increase in global greenhouse gas emissions by 2030 compared to 2010 levels [1]. There is also a lack of economical incentivisation and drive to push towards a net zero future, which is where we intend to fill the gap by rewarding the end-users of zero-carbon products and services that contribute towards cutting emissions and combating climate change. Achieving Net Zero requires all governments, particularly the major emitters, to enhance their Nationally Determined Contributions and take prompt and decisive action to reduce emissions.

Whilst we fully support this top-down approach, we also believe that there is huge potential from a bottom-up, individual-led net-zero approach that would empower all of us, to balance our emissions. We believe that there is a significant number of people and small businesses that have a desire to do their part in making a positive impact on the environment and ensuring a sustainable future. These individuals and enterprises are committed to reducing their carbon footprint and playing a role in reaching the goal of net zero emissions, but often it is simply not possible to do this directly.

Zero Citizen is a cryptocurrency ecosystem being developed to support the net zero initiative. Building on the Cardano blockchain, Zero Citizen will bridge the gap between cryptocurrency and the real world by providing the tools and incentives for businesses and citizens to support the net zero initiative. Our flagship offering, the Carbon Balance Service, provides an innovative solution to help individuals and businesses understand and reduce their carbon footprint. We have created user-friendly calculators that allow users to calculate their emissions in minutes. These calculations take into account various factors that contribute to emissions and provide a comprehensive overview of the user's carbon footprint. Users are then offered to offset their emissions through the purchase of Carbon Credits. By purchasing Carbon Credits, users can neutralize their emissions and achieve Net Zero status, demonstrating their commitment to sustainability and mitigating the impact of their carbon footprint.

This Whitepaper covers the key aspects of our upcoming products and the ecosystem that they will form. Upon reading this, you will gain insight into our identity, our objectives, and ways for you to participate. Please note that although the plans presented in the document have been carefully reviewed and analysed, there will likely be factors that could affect the actual implementation and outcome of those plans. It is possible that unforeseen circumstances, changes in the market or industry, or other external factors could impact the success of the plans outlined in the document.

CONTENTS

WHAT ARE CARBON CREDITS

To understand our core objectives, we first need to provide an overview into the world of carbon credits and the concept of what it means to be ‘net zero’. Conceptually, net zero is a global objective to cut the net greenhouse gas emissions into the atmosphere to zero. This doesn't mean that no emissions are generated but rather that we ensure all of these generated emissions are offset by one of three main methods:

Carbon sequestration (natural absorption), carbon capture (synthetic absorption) and carbon avoidance (prevention of emitting CO2).

We can see from this explanation that this allows for people/organisations to offset any emissions that they generate, by implementing or contributing to projects that help with carbon sequestration. To put it plainly, although it may not be possible for a factory to avoid producing emissions, they can instead plant enough trees to offset this amount. Whilst in a perfect world the emissions being output would be captured (or not exist at all), the reality is that carbon offsetting is a necessary starting point for many individuals and businesses to start taking responsibility and begin making an impact.

Carbon credits were created to solve this very problem of allowing people/organisations to hit their net zero targets in a more standardised and measurable way, such that there is now a standardised market for carbon credits, whereby 1 carbon credit is equal to 1 tonne of CO2 emissions. This system is unfortunately still very centralised, and its complexity is a barrier to entry for people and small organisations that wish to become net zero.

HOW ARE CARBON CREDITS CREATED

There are many possibilities for projects that can produce carbon credits, ranging from forestry and conservation to green energy and community projects. Once the project is ready, they can attempt to gain verification (likely from one of the industry leaders such as Verra[2], who will apply their methodology and considerable process to calculate accurate estimations of the amount of carbon offset (and therefore credits) it will produce. Once this process is completed, the verification organisation will issue the credits, making them available for purchase, thus providing funding for the project to be implemented.

THE OPPORTUNITY

This process is currently complex and centralised, which we believe is currently a deterrent to SMEs and individuals from participating in the critical goal of becoming net zero. The global carbon credit market is currently worth around $200 Billion[3]. With more and more consumers demanding businesses move to net zero and governments implementing carbon taxes[4] - we believe the demand for carbon credits is only going to increase over time. As that demand arrives, we will be there with our Carbon Balance Service to remove friction and bridge the gap to ensure everyone can get involved in maintaining the sustainability of our home, Earth.

CARBON BALANCE SERVICE

THE CORE OF OUR BUSINESS

HOW IT WORKS – THE USER FLOW

Very soon, we will be launching our Carbon Balance Service. This will be our flagship offering, aiming to make it as easy as possible to verifiably become net zero using our Service.
Below, we have summarised the high-level workflow that a user will take whilst utilising the Carbon Balance Service:

Step 1 – **Calculate**: User calculates their carbon footprint.
We're developing our own Carbon Emissions Calculator, which will have tailored settings for individuals, businesses/blockchain projects and blockchain stake pool operator (SPOs). Once the final calculations have been made, the user's emissions will be totalled, and a price offered for them to utilise our Carbon Balance Service and subsequently become carbon neutral.

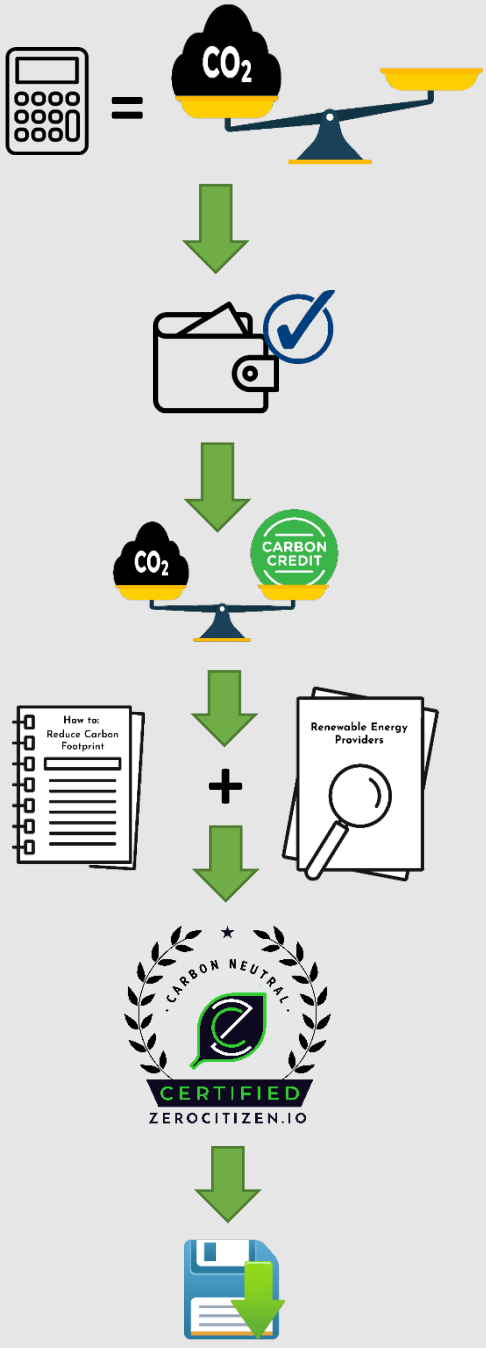
Step 2 – **Purchase**: User completes transaction for Zero Citizen's Carbon Balance Service.
Users will be able to pay via traditional currencies (£/$/€ etc.), as well as select cryptocurrencies, including $ADA and our native $0CZN tokens.

Step 3 - Balance: Zero Citizen balances the user's carbon footprint using the carbon credits we have acquired.

Step 4 – **Support and Educate**: User receives a guide on how to reduce their carbon footprint, as well as a list of renewable energy provider alternatives for their country.

Step 5 - Certify: Zero Citizen provides digital certification for users to display on their website/socials etc. Critically, this will also be available via the Cardano blockchain, providing all the benefits of decentralisation, immutability, and the ability to provide benefits to holders.

Step 6 - Store: We will keep a record of calculated carbon footprints, which will make it easier to renew each time our service is used. We will also use this to reward users that have reduced their carbon footprint compared to their previous calculation.



THE OUTPUT

We mentioned that in step 5, the user will receive a certification from us showing that now having followed our process to calculate and offset their carbon footprint via the purchase of carbon credits, they are now a net zero Citizen. We plan to offer various levels of certification, based on the users' desire for auditability vs costs. You may have noted that, for the parts we have explained so far, we are relying on the idea that the users input correct information about themselves. We believe in the concept of self-certification, particularly given the scale and practicality of providing this service for individuals.

All NFTs that we mint will hold metadata for the date ranges that the user was/is net zero, the sources that the carbon credits were derived from and optionally the quantity of emissions that they have offset. We intend for this to work in a similar fashion to the PFP revolution, whereby a user will be able to display this on their social media. Over the long term we aim to find partner organisations that can integrate with our NFTs to provide users with the ability to have a 'Green Tick' if they have the NFT in their wallet.

- For our standard offering (aimed mainly at individuals) we will mint our '**Basic Certification**' NFT for the user, this NFT will certify that based on the information the user has provided, this user has fully offset their carbon emissions for the time period stated. In this instance, we do not currently have plans to audit this offering.

In the early stages of operation, we plan to launch with only the Basic Certification but for the certification to have relevance over the long term, we must create a system of credibility around them and the best way to do this is via auditing the information that is used in our calculations. To solve this, we intend to have 2 additional levels, designed for individuals/organisations with the desire and capability to fully prove their commitment.

- **Enhanced Certification**. With Enhanced Certification, we will audit users at random, thereby providing users with the chance of having their information reviewed and potentially revoked. In doing so, this further incentivises users to provide accurate information but also ensures the wider community any data that is audited, will be accurate. Because auditing requires additional time and effort, this Certification will cost more, but not as much as Premium. Due to the multivariate factors involved and the unpredictability of user growth we cannot commit to a specific audit rate for Enhanced Certification at this time.

- **Premium Certification**. This level of Certification is where the organisation/user has directly requested an audit, thereby guaranteeing that the information has been assessed by us and that they have provided accurate information. We expect this level to be used by larger organisations as it will naturally cost more due to the time and effort needed for the review.

We believe that these various options keep the ecosystem accessible, whilst ensuring that the Certifications we deliver have credibility.

LONG TERM PLANS

Over the medium term, we plan for the Carbon Balance Service to utilise pre-verified carbon credit-producing projects, that have already been processed by the existing entities in the industry. As mentioned previously, we do feel that this industry is currently overly layered and somewhat opaque, with many of the key players not publicly publishing their verification methodology. For our long-term goals, we intend to be involved in three of the key stages in carbon credits - their Creation, Distribution and Retirement.

CARBON CREDIT CREATION

Generating carbon credits is a multifaceted process that involves a project positively impacting the environment, such as planting trees, generating renewable energy, or utilizing direct carbon capture. The project must undergo a rigorous evaluation process to determine the amount of emissions it will offset, and subsequently, the quantity of credits it can generate. Meeting a variety of criteria is necessary to obtain approval, and typically, the project must already be in existence to provide tangible evidence for the calculation process. However, in certain cases, a project may undergo the process before its inception, provided that there is a clear means of verifying the CO2 that will be captured, sequestered, or avoided.

Whilst we will initially be purchasing and retiring carbon credits from existing organisations, we will be working towards formal accreditation to also become producers of carbon credits. We aim to eventually allow carbon offsetting projects to onboard with us, such that we handle the review and ultimately the creation of the credits, allowing for the potential to fractionalise them further for users who don't need to offset more than 1 tonne of CO2.

CARBON CREDIT DISTRIBUTION

Once created, carbon credits will most commonly be sold to those who want to buy them through brokers. Brokers provide value by finding credits that meet the buyers demands but in doing so charge additional fees. We intend to solve this by creating a Carbon Marketplace, similar in concept to a decentralised exchange, only that the assets being traded will be tokens that represent a given carbon credit(s). Using blockchain, we will be able to track back to the source of each credit, giving users a direct link to all of the project's information, allowing them to assess if they are a good fit. Having Carbon Credits on the blockchain in this way will open up a free market allowing users to determine the value and trade as needed to meet their emission level needs.

CARBON CREDIT RETIREMENT

The end goal of any carbon credit is to retire it. In doing so, the user essentially ‘spends’ the credit, using it to offset their emissions. This is mainly done through the large, centralised organisations at the moment and retiring a carbon credit essentially involves marking it as so in a centralised database. This isn't necessarily a bad thing,

but it lacks the transparency we feel that this industry needs to further enhance the value of carbon credits. Our aim is to allow users to create their own Web3 profile for use within a Carbon Credit Exchange. We will then harness the concept of how crypto assets can be sent to a 'burn wallet' – in doing so, we will be able to trace each credit from its creation to its retirement, knowing the sender wallet was the user who has offset their emissions. By implementing this feature, users will be able to showcase their carbon offsetting activities on their profiles as they wish. We consider this to be an essential aspect because carbon offsetting has an accountancy-like nature and doesn't naturally lend itself to being something that people can showcase to others. We believe that features like this, combined with our certifications mentioned above will allow everyone to easily offset their carbon emissions and communicate the positive impact they have had.

BEYOND CARBON – HUMANITARIAN ACTION CREDITS

Our initial objectives are clearly focussed on carbon credits, however upon doing this we have identified that this methodology maps well to other socially positive activities. Looking at the annual reports of most large organisations, you can see how nearly all have dedicated sections to their Environment, Social and Governance (ESG) activities. We can conclude that there is a huge demand from the public and the organisations that they interact with to continually improve their ESG impact - we could provide the ability quantify it.

We are currently in the proposal stages with the Global Impact Challenge, whereby we have plans to create a similar system that is linked to humanitarian efforts and supporting refugees. The proposal is to create a humanitarian credit ecosystem, which uses credits that we have labelled Humanitarian Action Credits (HACs). This ecosystem will also utilise a functioning marketplace to produce, trade and retire the credits. It will follow a similar format to what carbon credits have typically taken, as to not deviate too far from recognised standards and protocols, for example, only recognised projects with accepted methodologies can produce HACs.

Production of HACs

Initially, only UN-led initiatives will be able to produce Humanitarian Action Credits. Producing HACs would require interaction with the UNHCR and once produced, HACs will then be distributed to people/organisations who provide proof of performing various positive actions such as donating, volunteering, housing, providing jobs, event hosting and more.

Utilisation of HACs

Unlike with carbon credits, there is no footprint or calculation to offset against. All individuals and organisations will start at a baseline of 0 HACs. Once distributed, those that possess HACs will be able to decide if they want to retire them and thus receive the Global Impact Certification or sell them on the market for other people/organisations to purchase. We will set a benchmark for the required number of Humanitarian Action Credits to be retired in order to obtain the Global Impact Certification based on the size of the organisation and the amount of time they want to be certified. This certification will be something that holders can be immensely proud of, enabling them to share across their networks and inspire others to do the same.

POSITIVE ACTION THROUGH REFORESTATION AND PHILANTHROPY

Zero Citizen is also committed to direct positive action via reforestation and philanthropy across the world. Carbon sequestration is incredibly important, with trees and seagrass for example, playing a vital role in the removal of CO2. We've already made a start by planting 500 mangrove trees in Madagascar through our partner, veritree, which conducts verified reforestation across the world. Using our veritree page https://zerocitizen.veritree.com, a visual overlay is displayed to showcase the reforested area that Zero Citizen have contributed to, with sequestration quantity and hectares reforested covered on our page. We'll be looking to significantly increase the number of trees we plant, with our commitment to plant 10 trees for every 1 NFT we sell. This means that upon successful mint, we'll be planting an additional 20,000 trees.

"Net zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance" – UN. As the $0CZN token will be created to support the target of global net zero by 2050, we will allocate a certain percentage of tokens towards the funding of projects that contribute to tackling climate change and support net zero activities. Whilst 2.5% of the maximum supply has been allocated to net zero philanthropic and community projects, we will ensure regular investment is made to this allocation of funds, to ensure its long-term sustainability. Zero Citizen NFT holders will be able to vote to recommend which philanthropic and community projects that we support.

ROADMAP
Q3 2022 – H1 2024

Q3-Q4 2022
- Launch socials
- Develop partnerships & collaborations
- Begin reforestation with veritree
- Mint 55 Zero Citizen Postcards collection (passes)

Q1 2023
- Become a registered carbon credit account holder with Verra
- Finalise Zero Citizen NFTs
- Launch Carbon Balance Service – Closed Alpha

Q2 2023
- Mint Zero Citizen NFT collection (2,050)
- Launch Carbon Balance Service – Open Beta
- Continue reforestation with veritree

Q3 2023
- Begin carbon credit marketplace development
- Secure a launch date and platform for the $0CZN Initial Token Offering (ITO)

Q4 2023
- Begin Net Zero Reward System development

H1 2024
- Begin carbon credit standardisation and ecosystem development
- Launch/partner with a Stake Pool

NFT COLLECTIONS

One of our main goals for Zero Citizen is to build a thriving community of like-minded individuals who all want to help drive the push to net zero. We have seen the success of NFT collections in doing this, allowing people to become a part of something bigger, by having an NFT in their wallet. Because of this, we are initially launching 2 NFT collections:

Our first collection - The Postcards (already minted) is a small collection of 55 postcards depicting various climate change events. Most of these have been given away to key members of the community as a thank you for their involvement to date. In addition to the excellent artwork, holders of these NFTs will gain the perks of the OG discord role as well as early access and reduced fees on our services. Holders of the Postcards will also be able to mint a free Zero Citizen NFT, with an additional 2 NFTs available at a 25% discount.

Our main collection - The Zero Citizen Collection is a larger collection of 2050 unique artworks, also depicting climate change events. These pieces are designed to be showstoppers, that make the viewer think deeply about the world we call home. For every NFT that is sold, we will be planting 10 trees via veritree [5]. We believe that this and the art alone are more than enough to make this project stand out.

Zero Citizen NFT holders will also gain access to the Citizens Club, we plan for this to include:

- Access to our private token sale (subject to conditions)
- Early access to all tools & services, including our:
    - Carbon Balance Service (become carbon neutral)
    - Net Zero Reward System (be rewarded for purchasing zero-carbon products/services)
    - Carbon Credit Marketplace (trade tokenised carbon credits (NFTs))
- Exclusive discounts relating to our tools & service
- Votes on community-related aspects of the company
- Access to Zero Citizen partnered project products, services

The key to our NFTs is that they have real utility in their power to bring together our community and offer access to discounted services that allow users to balance their carbon emissions. The art alone is excellent, but we feel with this and all of the other features above, these NFTs will provide significant value to their holders.

OUR ECOSYSTEM UTILITY TOKEN - $0CZN

As with all ecosystems, there needs to be a fundamental unit of measurement where the members of the community can share the value they create. In order to facilitate this, we have plans to launch a Fungible Token towards the later part of 2023 with the ticker $0CZN. As an initial tangible utility, we will accept $0CZN as payment for our Carbon Balance Service and in doing so instantly give the token a real-world purpose, directly linked to real-world service that we offer.

We mentioned previously how we aim to create a reputation for our various Certification NFTs, such that having gone through the Carbon Balance Process, users will be able to display their NFTs to prove they have done so. To add further to this, we have several plans to partner with metaverse projects who will be able to offer the ability for users to add unique in-world items that can only be acquired using $0CZN tokens. The idea here being that users can not only display their verification in-world, but also have specific items that show their support for the Net Zero initiative.

Over the longer term, we additionally intend for this token to be the main unit in our Net Zero Rewards System. Within the Net Zero Rewards System, Zero Citizen will reward the end-users of partner zero-carbon products and services with $0CZN tokens. EV chargers, Solar PV systems, using renewable energy providers and electric bikes/vehicles are all examples of zero-carbon products/services that we'll be looking to include in the Net Zero Reward System.

We're also aiming to launch an online store towards the end of 2023, whereby we'll aim to offer sustainable and zero-carbon products/services where it's also our aim to work with our Net Zero Reward System partners to use $0CZN tokens for at least part-payment for their products and services.

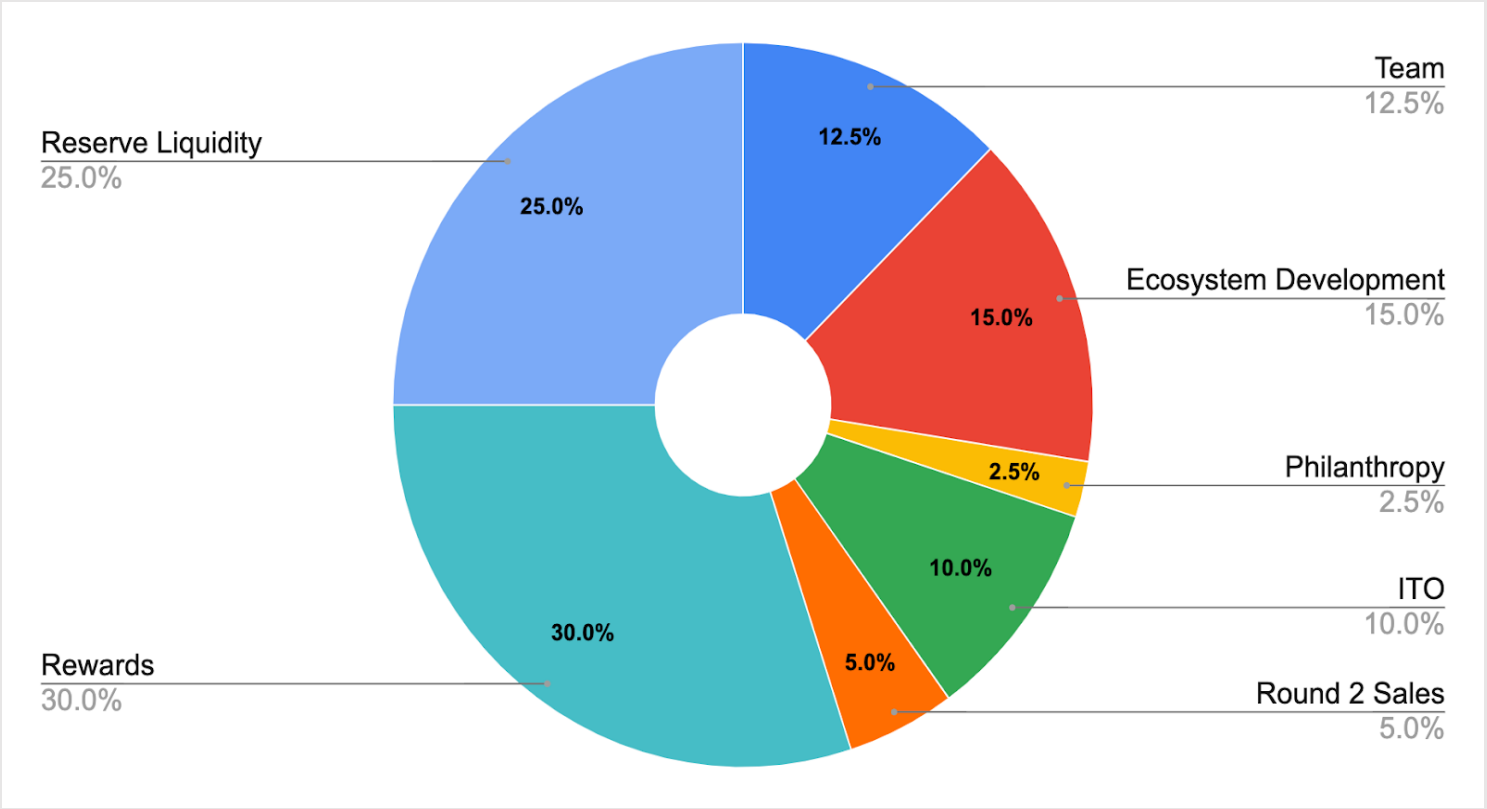
$0CZN TOKENOMICS

We want to give the $0CZN economy the best possible start – to do so requires mapping out plans for various key elements, such as the tokenomics, initial distributions and emission forecasting. Our current focus is with the launch of the NFT collection and Carbon Balance Service that holders will gain early access to. We want to get this right and as such, we are planning to launch the token around the latter half of 2023.

Developing effective tokenomics is a complex undertaking that requires careful consideration and planning. The plans outlined below represent our initial efforts to create a token that can support the ecosystem over the long term. We take this task very seriously and are committed to devoting the next three months to refining this further. Our aim is to ensure that the resulting token is sustainable and able to power the ecosystem for many years to come. While these plans are not final and subject to change, they provide a guide for the direction we are pursuing.

$0CZN TOKENOMICS

Category	Percentage	Number	Words	Allocation Details
Team	12.5	625,000,000	625 Million	Allocated to the current internal team that created and run the project (including founders)
Ecosystem Development	15.0	750,000,000	750 Million	Allocated for funding or as part of an agreement with current/future development partners
Philanthropy	2.5	125,000,000	125 Million	Allocated for use as a payment or donation for current/future philanthropic projects
ITO	10.0	500,000,000	500 Million	Allocated for the Initial Token Offering Sale
Round 2 Sales	5.0	250,000,000	250 Million	Allocated for the Second Round Token Sale
Rewards	30.0	1,500,000,000	1.5 Billion	Allocated for distribution as part of rewards (initially via the Net Zero Rewards Scheme)
Reserve Liquidity	25.0	1,250,000,000	1.25 Billion	Allocated for various purposes such as DEX liquidity, TBC
Total Supply	**100.0**	**5,000,000,000**	**5 Billion**	**The planned Total Supply of $0CZN Tokens**



WHY CARDANO

With our mission in mind, selecting the correct blockchain was crucial and after considerable research, we believe that Cardano is the best blockchain to host our growing ecosystem.

Sustainability (Proof-Of-Stake)

There has been considerable criticism in recent years for the energy usage of Crypto Currencies, particularly those that use Proof-of-Work mining models such as that used by Bitcoin. Cardano utilises the Proof-of-Stake (PoS) model, which significantly reduces the environmental impact of “mining” Cardano’s official blockchain coin, $ADA, estimated to use ~99.95% less energy than the typical Proof-of-Work mining models currently used by Bitcoin[6].

Efficient Transactions

Among the top reasons for using the Cardano blockchain is that it has deterministic transaction fees, which are also amongst the lowest cost and fastest of any decentralised blockchains. Having low and predictable fees[7] is a key element in ensuring the minimum possible barrier to entry for people wanting to engage with our offerings. When interacting with our systems, people need to know how much it will cost and have full confidence that the transaction will go through.

Secure, Decentralised and Scalable

Cardano has been one of the leading cryptocurrency blockchains for several years now and has a growing community currently across the 4.3 million active wallet addresses[8]. Cardano has implemented a number of features and strategies to improve its performance. One of the most significant is its use of a multi-layer architecture, which separates the computation layer from the settlement layer. This allows for more efficient and scalable processing of transactions whilst maintaining decentralisation.

Peer Reviewed Security

To ensure that the Zero Citizen ecosystem can operate at its maximum efficiency, we have to build on solid foundations. The peer-reviewed research and assurance provided with every element of work carried out by Input Output Group has meant that there has so far been no down-time or successful attacks against the Cardano Blockchain. Cardano has clearly been designed with considerable foresight which links in perfectly with our mission for Net Zero.

After thorough research, no other blockchain achieved all the necessary prerequisites to be deemed a suitable candidate for Zero Citizen to build on.

DISCLAIMER

The information contained in this whitepaper is for informational purposes only and does not constitute any kind of warranty or representation. The plans laid out in this whitepaper are subject to change and nothing should be interpreted as a guarantee by Zero Citizen, or any individual associated to the organisation, and the information provided should not be used to inform any financial or investment decisions.

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