



SOLAR

Solar Community Whitepaper

SXP Blockchain

Abstract: Solar is designed from open-source blockchain protocols to power peer-to-peer decentralized payments with unique features governed by a DAO. Built with a DPoS consensus, Solar is secured and validated by block producers known as Delegates who are voted in based on SXP vote delegation. SXP is the native cryptocurrency of the network and is used throughout the protocol and Solar ecosystem.

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DAO

Decentralized Autonomous Organization

DAO's are an effective way to work with like-minded people around the globe.
There is no centralized leadership or licensed entity.

There is no disclaimer or legal notice about what you are supposed to do or what you are supposed to assume.

Solar does not give any financial advice or investment recommendation.

Any individual participating in a DAO is responsible for its own actions.

Solar and its community are not liable for any information or content provided in social media channels, the
whitepaper, website or any other material provided by the project.

In a DAO, it is expected that you use common sense and do your own research.

Decisions are governed by proposals and voting to ensure everyone in the organization has a voice.

DAO - You. Us. Solar.

SXP has communities all around the world, speaking different languages.

This whitepaper was written with the aim to keep the language on street-level and simple as possible to make
it easier for anyone to translate the document in another language using automated translation tools.

Initially the whitepaper will be released in English. Following in Korean, Turkish, Dutch and many other
languages.

Introduction

We are Solar.

A decentralized community-driven project.

Solar is focused on creating an ecosystem with true governance.

An enterprise-grade ecosystem with open-source developers and community involvement powered by Blockchain.

Solar has a transparent mission and vision initially created by the founders of the project.

Our mission is to develop a community-based blockchain project governed by the community and not led by an individual or a single entity.

Anyone is able to participate in the project and provide its open opinion or proposal towards the project. We are all here to achieve our vision with our mission.

Our vision is to build an ecosystem that allows us to level with other DAO's and provide a blockchain platform that can be compared with projects such as EOS, Solana and Ethereum.

Blockchain Framework

Solar is powered by Solar Core. A safe and secure **Layer-1** Blockchain Framework.

Solar utilizes the Delegated Proof of Stake Consensus, also known as DPoS.

The Blockchain with its own native coin named SXP is fast, modular, sustainable, efficient and fully decentralized without the known issues and vulnerabilities from traditional Proof of Work (PoW) blockchains. Issues and vulnerabilities such as being energy intensive or the risk of taking part in 51% attack vectors.

The Blockchain Framework has been forked from ARK Core.

Solar Core improved on the security of the Blockchain Framework by fully utilizing Schnorr for signatures. Solar Core entirely drops all support for ECDSA due to persistent signature malleability vectors.

Solar Core also provides a more robust block production routine to minimise the likelihood of nodes missing blocks and therefore creating a more stable and operational blockchain.

Security first. The blockchain framework is open-source and actively maintained on Github by dedicated Core developers. Anyone is able to create a PR or open an issue on our Github repositories to discuss or point at a potential vulnerability in our code. These issues will always have the highest priority and will be taken seriously to ensure that the framework will always be safe to use for our users and for anyone participating in the Solar DAO.

The Solar Core has several enhancements such as the Side Ledger Protocol for token issuing with and without metadata and custom transaction types to allow "burning" and "SolContract" which allows the creation of Solidity Smart Contracts on the SXP Blockchain.

The Solar Core also enables dynamic forging rewards based on the position of a delegate.

Voting and Delegation

The Delegated Proof of Stake consensus with 53 delegates also known as node operators or validators are responsible for securing and maintaining the network with high-end servers.

Each Delegate will submit or forge 1 block per round. 1 round consists of 53 blocks.

Each round will be forged by all 53 delegates.

The time to forge a block is 8 seconds.

Each round produces 530 SXP that will be shared among the delegates. The reward per delegate is based on their ranking in the top 53.

In technical terms, the following formula applies for the distribution of the forging rewards.

$$\text{reward} = ((N + X) / D) * (R / S * D)$$

N = position of forging delegate at start of the round.

X = (53) variable, used to determine the ratio of reward between top and bottom delegate.

D = (53) variable, total delegates.

R = (10) average block reward in one round

S = (80) sum of $((N+X)/D)$ from N=1 to N=D

This means that a delegate on rank 1 is able to forge a minimum of 6,75 SXP per block. While a delegate at rank 53 forges a minimum of 13,25 SXP per round.

Additionally, each block also contains fees that are collected from transactions on the blockchain. These are added as rewards to the delegate for operating a forging node on the blockchain.

Block rewards are inflationary coins, meaning the total SXP supply is increased by 530 SXP per round. This serves as a form of consistent inflation that reduces over time due to the non-fluctuating rate of rewards.

However, the amount of block rewards can be changed in the future by modifying the milestones of the Solar Core. Modifying the future block rewards or to introduce halving requires the approval from delegates and voters.

Modifying the block rewards can be introduced by a proposal provided by the community using the governance module that will be enabled in Q3 of 2022.

Staking

As previously stated, block rewards and transaction fees are awarded to the active delegate responsible for reporting a given block and securing the network. We call this combination of the SXP block reward and any fees the total reward. On the SXP Blockchain, many of these delegates choose to take a small commission from the total reward and share the remaining commission with their voters.

This form of reward sharing is completely optional and not all delegates will share their rewards. Reward sharing can vary widely with delegates taking commission of anywhere from 0-100% of the total rewards.

Delegates are elected by their voters. Voters will be using the weight of the wallet to vote for a delegate. If a delegate has enough weight, it will enter the top 53 and it will start earning rewards.

Voters are not required to lock or send their SXP coins to a delegate. When a user casts a vote, their vote-weight is assigned to the network Validator (delegate) of their choice. A user's vote-weight adjusts automatically as funds are sent and received, and there is no need to re-vote or un-stake.

To change a vote, a user simply un-votes their current Validator and elects another by casting a new vote transaction.

Voting transactions can be made by using the wallets provided by Solar.

Delegates are able to contribute more to the ecosystem other than just simply sharing the forging rewards with their voters. By simply sharing the forging rewards, you are enabling the delegates and voters to sell the inflationary forging rewards without any additional contribution to the ecosystem.

Voting for these types of delegates comes at a cost where the value of SXP might decrease over time and where it exposes the well-known issue of inflationary assets.

Voters can prevent this known issue by voting for a delegate that contributes to the ecosystem in many more ways other than just sharing the total rewards.

Delegates can offer contributions to the ecosystem in the form of development, security improvements, marketing, moderating, a combination of all or any other form of contribution.

By voting for delegates that contribute to the ecosystem and share less of the forging rewards, you are decreasing the amount of rewards you might receive. But you are potentially creating a better short-term or long-term value for the asset you are holding.

More information about delegates and their proposals are available here: <https://delegates.solar.network>

Roadmap

The founders of Solar provided a roadmap with milestones they aim to achieve together with the community, delegates and open-source developers.

The goal is to make the Solar project more dynamic by improving on the roadmap items, but not being strictly binded to a single utility.

As blockchain technology and the market demand evolves over time, so does Solar.

By the end of each year, a new project leader will be elected by the community and the voters. This project leader will be able to improve on the set goals by the founders or manage the project in a completely different way with a new roadmap that sets new goals and milestones for the future.

More about this in the “election” part of this whitepaper.

The roadmap is visible on the official Solar website: <https://solar.network/roadmap>

The roadmap with the Key Features of the Solar project and SXP blockchain will be described in the next section.

Side Ledger Protocol

The Side Ledger Protocol, also known as SLP is a feature that enables users to create fungible and non-fungible tokens on the SXP Blockchain.

The goal of deploying SLP on the SXP blockchain is to allow anyone to create either simple utility tokens or creating assets with specialized mechanics for advanced utility in the enterprise sector or any other industry where blockchain is needed.

Creating fungible tokens or NFT's can be done by using the Solar wallets or by using our SDK's.

The SLP features will be similar to ERC20/BEP20 or ERC721 and are not strictly binded to Solidity technology. With the help of our Restful API's, you can use almost any coding language to access the SLP features.

The fees to send SLP tokens over the SXP blockchain are dynamic and use lower than 0.2 SXP.

The cost to create (genesis) fungible tokens or NFT's is 5 SXP.

The genesis fees are always burned. Which makes SXP also deflationary.

The more users creating tokens using SLP, the more SXP coins will be burned.

In comparison, about 10 millions contracts have been deployed on Ethereum in the year 2021.

Roughly 50 million SXP would be burned on the SXP blockchain if it had the same volume of genesis transactions as Ethereum in 2021, making SXP a deflationary coin at the same time.

More information about SLP will be available in Q1 2022.

Burning

The SXP Blockchain enables a new transaction type called “burn”.

This transaction type allows anyone at any time to burn SXP coins straight from the Solar wallet without having any technical knowledge.

Obviously, this transaction type comes with warnings in the wallet and with a huge security disclaimer.

Burning transactions will be introduced in many of the Solar products and features such as token creation, metaverse and launchpad.

More about this in the next sections.

Metaverse

A metaverse is a network of 2d or 3d virtual worlds focused on social connection.

The open-source developers behind Solar are creating a unique metaverse concept that interacts with the SXP blockchain in many ways.

As also described in the roadmap, the metaverse is in an early stage of development.

For the moment, we can only share the following transcript from the Metaverse.

```
“...Welcome aboard Commander... what’s our next destination?..”  
“..hmm.. Did you hear about the missing artefact?.. The reward is 100.000 SXP..”  
“..It’s a difficult quest and a long journey. We should maybe team up with other commanders..”  
“..Yes, but we should upgrade our spaceship first and follow side quests to get more hints.. ”  
“...How do we get our first hints?...”  
“..We can visit other Solar systems.. Or maybe these hints are hidden in the real world...”  
“...as long as we collaborate, we will find out!..”
```

We are focusing on enabling the following key utilities for the metaverse.

- Integrating SLP features
- Marketplace for creators to sell digital items in the metaverse such as furniture, art, characters.
- Buying, modifying and upgrading spaceships with the use of SXP coins.
- Creating worldwide quests, digitally and in the real world in the form of Cicada 3301.
- Interacting with the SXP blockchain and allowing developers to create dApps on top of it.
- Mint passes for room access to have private AMA's with celebrities, influencers and VIP's.
- Burning all SXP transaction fees that are used in the Metaverse.

There is a lot more to come.

NFT Marketplace

With the possibility of creating NFT's and the main utility of the Metaverse to purchase items to display or to use within the Metaverse, we believe that an NFT marketplace will be in high demand for the Solar project.

Solar will look into potential opportunities to offer its services and technology with other NFT marketplaces such as OpenSea. In any case, Solar will provide a place for users to offer their NFT's either using 3rd party services or an NFT marketplace that is built by the developers behind Solar.

Launchpad

It goes without saying that with the ease of creating fungible tokens on the SXP blockchain, many projects will discover Solar and start creating their projects using SXP.

With a few serious projects already waiting in the starting grid to use the SLP features of SXP, it's only a matter of time before serious projects will start to look for a launchpad.

A launchpad to either fund their project or to gain community attention and awareness.

Solar has already started developing a launchpad with a few important key features that will be beneficial for the SXP holder.

- Each project that wishes to display their project on the Solar Launchpad will have to pay a certain fee in order to be listed.
- These fees will be anywhere between 10 SXP for regular listing, up to 1000 SXP for projects that are looking for funding (ICO's).
- The launchpad will be decentralized and will offer unique **optional** features such as KYC and Audits for projects that are applying for listing.
- Projects will be able to get funded directly through the Launchpad platform.
- All transaction fees and listing fees on the Solar Launchpad will be burned instantly.

Wallets

The main software to interact directly with the SXP blockchain is by using the so-called Solar wallets.

The initial Solar wallets are forked from the ARK repositories and it offers basic functions to send and receive SXP coins and to vote for delegates on the SXP blockchain.

New desktop, mobile, and browser wallets are currently being developed to interact with all the features that the SXP blockchain has to offer, such as creating tokens, interacting with the metaverse, tools to monitor the blockchain and a lot more.

The browser wallet, also called "Armor" will be released in Q3 and will have the exact look and feel as the Metamask wallet and will enable users to interact with the DeFi features of SXP.

Solar Community Foundation

The Solar Community Foundation is a non-profit organization that will review small projects developed on the SXP blockchain. These small projects can apply for funding to create unique features or utility for Solar. With the foundation, anyone applying for funding doesn't have to become a delegate to start working on Solar.

The funds will be provided by VC's, investors and optionally by delegates that wish to contribute to the Solar Community Foundation.

The goal is to have the foundation led by active community members. By using the governance module, the community will be able to vote for projects and either accept or reject a funding proposal.

Solar believes that SCF will motivate people to contribute to the ecosystem.

Documentation and SDK

Solar will provide a dedicated documentation website with all the required documentation and SDK's to help developers kick-start their projects on the SXP blockchain.

Initially, Solar will focus on providing support for the following coding languages:

Typescript

Javascript

Python

Solidity

More support for other coding languages will be provided over time in Q1 for the core functions and Q2 for the SLP functions.

Technically anyone is able to interact with the blockchain by using the Restful API's.

Elections

The Solar DAO will always have a project leader or a group guiding the project and to make sure that certain milestones are achieved. Anyone could apply to become a project leader. The project leader is someone that will be elected by the end of the year by the community and the voters based on the proposals provided by the potential project leaders.

We believe it's a good idea to bring fresh blood in a project in order to create new utilities, goals and improve motivation.

Swap from ERC20/BEP20

The Swipe (SXP) token that currently exists on ERC20, BEP20 (wrapped BEP2) will be migrated to the SXP mainnet. Also known as a swap.

Before we dive into the swap details. We need to make clear how the current tokenomics work and what the differences are between a circulating supply and total supply.

The current SXP is **circulating** on 3 chains:

ERC20 - Ethereum
(285,368,789 SXP)

<https://coinmarketcap.com/sv/currencies/swipe/>

BEP2/BEP20 - Binance Chain & Binance Smart Chain (wrapped tokens of BEP2)
(285,368,788 SXP)

<https://coinmarketcap.com/sv/currencies/swipe-bep2/>

Combining the chains together, we will have a **total supply** of 570,737,577 SXP.

At time of writing (*February 23rd 2022*), the **fully diluted market capitalization** of ERC20 shows \$315,854,318. This is **based on the total supply of ERC20** only. (285,368,789 SXP)

The **fully diluted market capitalization of BEP2/BEP20** shows \$320,687,837
This is **based on the total supply of BEP2/BEP20** only. (285,368,788 SXP)

Swipe (SXP) has always traded on 2 different chains and both assets have always been in the market together. Meaning that **there are no extra tokens created** on mainnet upon launch. If you already hold SXP, you are either holding ERC20 or BEP2/BEP20.

The total supply technically doesn't increase when we combine both chains on our own SXP mainnet. The amount of tokens in circulation will be the same.

This will only mean that both supplies and the market capitalization will be combined together on a single chain, instead of 2 separated chains.

Now in comparison with the **circulating supply**.

The **total supply** didn't fully enter the **circulating supply** of SXP.

The portion that did not enter the circulating supply is the "Treasury Smart Contract" on Ethereum. This contract is owned by Binance and has HTLC (hash time-lock contract) enabled. This allows the contract to release the tokens in this contract over a certain time period. The tokens from the Founders wallet will be burned and will not enter the circulating supply.

The Treasury Smart Contract holds 40,800,000 SXP. The Founders Wallet holds 50,000,000 SXP.

In this way, we can assume that the current circulating supply is much lower than the fully diluted total supply.

Swap Details

The swap from ERC20/BEP20 is a decentralized bridge to mainnet SXP.

Meaning that only if you hold SXP, you can swap your SXP.

The swap ratio is 1:1.

Tokens that are locked in HTLC contracts won't be able to swap on mainnet launch.

Tokens that are already in burn wallets will never be swapped. Meaning that these tokens will also never be swapped on mainnet. Which also means that these tokens will **never** enter into circulation.

The complete swap details for users will be announced after successful integration and testing phase with the exchanges that currently support SXP.

The swap will be done in a few easy steps if you hold your tokens in Metamask.

If you hold your SXP on exchanges then there is nothing for you to do.

Please be aware of scams. The only place we will announce the swap will be on our official website:

<https://solar.network/swap-details>

More technical information regarding the swap will be introduced in our documentation page:

<https://docs.solar.network/sxpswap/technical-details/security/introduction/>

There will be no swap ending date. Meaning that you can still keep your SXP on ERC20/BEP20, but you will potentially lose out on staking rewards.

If you hold vSXP (Venus), you are able to keep these tokens and migrate on a later date.

Please stay tuned for the swap announcement.

Mainnet Launch

At time of writing, the mainnet launch date has not been announced yet.

After a successful devnet deployment, we are now collaborating together with exchanges to provide a mainnet and swap launch date. We expect that this will be in Q1 2022.

3rd Party Involvement

As hinted in several articles, groups and channels. SXP will be used in several 3rd party businesses. The Solar whitepaper will not include any details regarding this relationship or previously closed deals.

Solar allows anyone to utilize SXP in the way they want it. While in the meantime focusing on its own use cases and utilities to bring confidence and an inevitable promising future for the project.

Final word by the Solar Project Leader

I would like to thank everyone that has given us the chance to lay the first foundation blocks of Solar.

Whether you are a community member, investor or delegate.

Your voice in the project is what we truly care about and we will always listen to the community to improve our collaborative vision.

It has been only a few weeks since we started Solar and we've already come a long way.

It took only days to fill up the devnet with amazing delegates and their proposals.

With Solar we truly believe by bringing the technology to our own layer 1 blockchain with all the unique utilities that competing technology-wise on a level as Solana, EOS and Ethereum is no longer a fantasy.

With the hard work of our community and open-source developers, we can do it.

Our marketing team is more than ready and eager to finally start the marketing plan when mainnet goes live.

A blockchain project is nothing without proper marketing and great social presence.

This is something we will include and expose in our updated whitepaper in Q2 of 2022.

I'm also excited about the upcoming partnerships and the unique features of our blockchain that are coming after the mainnet launch.

There is a lot to come and I'm happy that we can enter this journey together.

I wish you all to enjoy the ride and keep following us on the progress.

Nayiem Willems



SOLAR