Menthol Protocol Token Economics Litepaper

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Gitbook

1 Executive Summary

Menthol Protocol is the first decentralized multi-chain sustainability ecosystem for automated offsetting of carbon footprint and energy consumption. The protocol captures the entire offset cycle from tokenized green certificates to offset calculation to buying and claiming offset certificates with audited provenance.

The protocol empowers users, DApps, and blockchains to streamline their sustainability processes using DAO-curated, high-quality on-chain environmental commodities, starting with tokenized carbon credits and tokenized renewable energy credits.

Menthol token is the centrepiece of the protocol, facilitating its value flows and promoting clean, sustainable practices.

2 General flow

Menthol protocol connects **sustainability companies** (clean energy producers, licensed carbon credit distributors, etc.) with **responsible consumers** — companies and users who are mindful about their energy consumption and CO_2 emissions. To that effect, Menthol aims to be omnipresent throughout major blockchain protocols, using a network of bridges and node services to orchestrate offsets across chains.

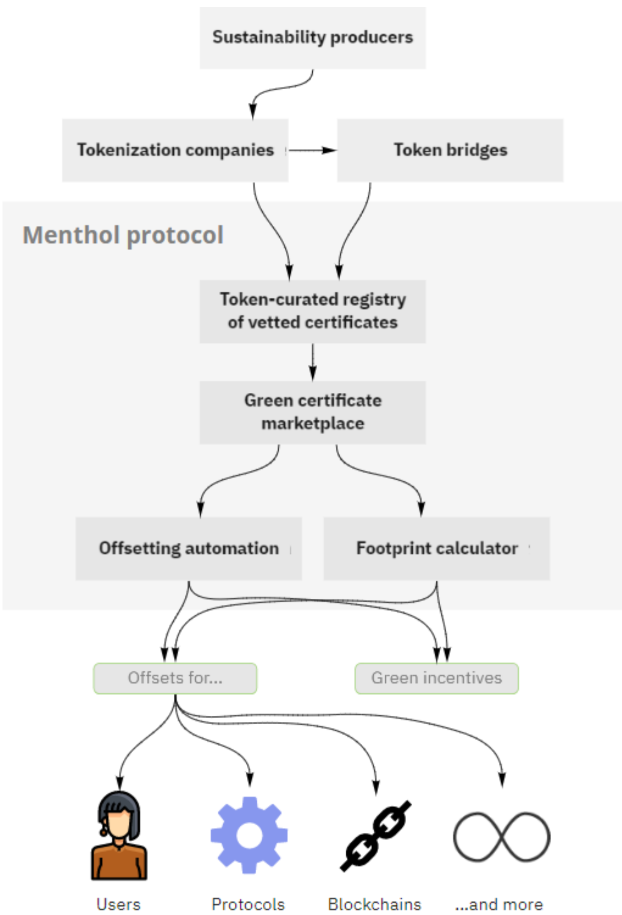

Figure 1: Menthol Protocol Flow

There are five groups of stakeholders. We list them in order as they appear in the core product flow.

1. **Sustainability companies**. This group includes clean energy producers.
2. **Tokenization companies**. These are companies that tokenize clean energy, carbon credits and, potentially, other green assets, and places them on public blockchains.
3. **Infrastructure providers**. Independent blockchain-space companies that specialise various tasks along the way, including:
   (a) **Cross-chain bridges**. Bridges are utilized to move tokens between different blockchains in a trust-free way.
   (b) **NFT Fractionalizers**. Fractionalizers turn large certificates (such as 10 clean megawatt-hours certificate) into smaller, fungible tokens applicable to offset smaller consumption targets.
   (c) **Decentralized exchanges**. Protocols that facilitate trading of fungible tokens.
   (d) **Exchange aggregators**. Protocols providing the best low-slippage options for buying fungible tokens on multiple exchanges simultaneously.
   (e) **Automation networks**. Solutions that automate certain blockchain-related tasks, in the case of Menthol — automate offsetting on behalf of the user, without taking custody of the user's accounts.
   (f) **Chain indexers**. In order to measure the ecological footprint of a user or a protocol, the calculation module needs information about their activity. Indexers are a source of that data.
   (g) **Blockchain oracles**. Some of the inputs required for the calculation do not exist on-chain or exist in a form that is not viable to process on the smart contract level. To handle these inputs, a decentralized oracle service is configured and used.
4. **Traders and liquidity providers**. Profit-seeking parties that facilitate market health on the DEXes and NFT fractionalizers.
5. **Menthol Foundation**. Protocol developers organized with a DAO (decentralized autonomous organization).

3 How it works

The full usage cycle of Menthol tracks a fractionalized offset NFT from inception to redemption. As the first step, a sustainability producer does the work by purchasing a CO2 offset quota, removing CO2 from the atmosphere, or producing clean energy. Then a tokenization company (whitelisted in a token-curated registry) captures that work into an NFT and brings it to one of the entry points in the protocol.

The offset NFT enters the market and connects to the network of bridges and AMMs, where it is purchased by the trustless automation network on behalf of the

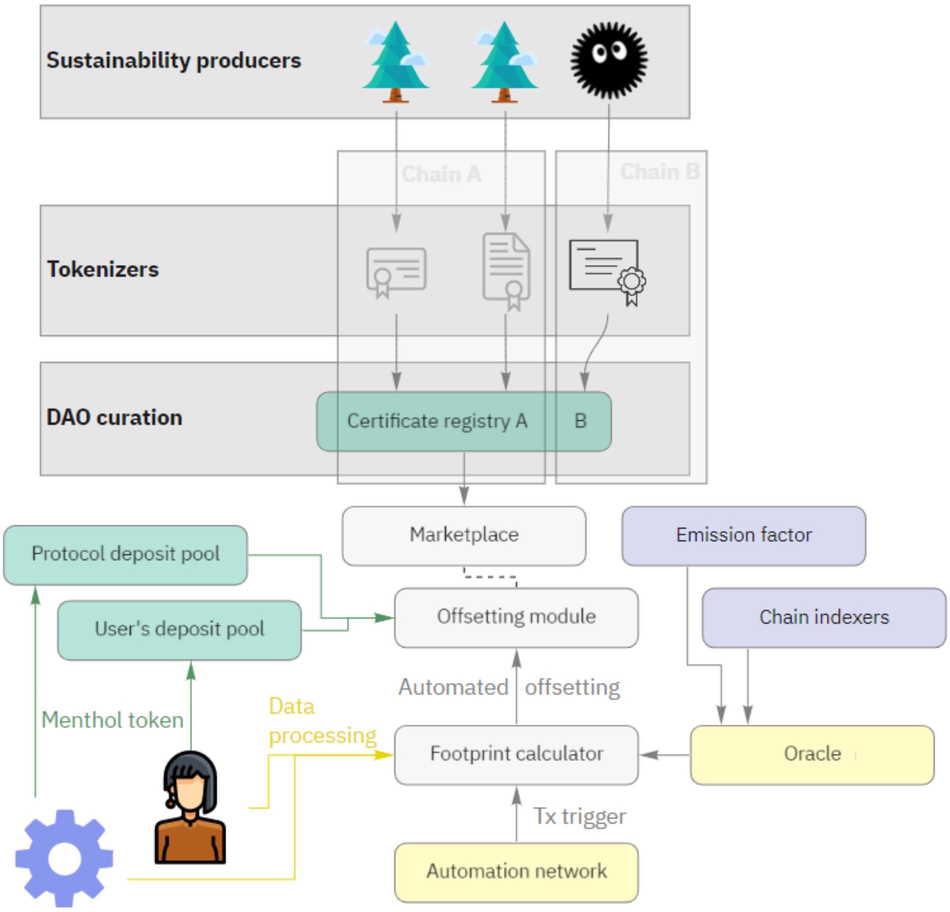

Figure 2: General layout and flow

user or by the user herself. The protocol calculates how much energy the user's on-chain activities consumed,[1], buys the matching quantity of the fractionalized offset tokens, and marks it as used up. In the long-term vision, the protocol could also be integrated with off-chain systems so that the user could offset their off-chain activities as well using the same sustainable liquidity market.

4 Menthol: The Sustainability Token

MNTHL is the deflationary protocol token used for fees, incentives, challenges, and token voting (including certificate curation). It is minted at TGE and is not ever increasing its supply.

1. Streamlining automation payments.

2. Streamlining bridge and aggregation payments.

3. Incentivizing development of the sustainability ecosystem.

[1]Or emissions produced, respectively.

4.1 User and protocol offsetting

In an offsetting event, Menthol protocol calculates the ecological footprint of the chosen entity and then purchases the right amount of corresponding offset certificates. There are currently two tracked components of ecological footprint: energy consumption (which should be offset by purchasing clean energy produced around the time of consumption) and CO_2 emissions. Menthol uses a combination of calculators, blockchain indexers, and external inputs (such as local emission factor for the consumer) uploaded by oracles to make the assessment and then use it with the offsetting module.

The process is mediated by *deposit pools* that hold MNTHL tokens until they are needed and picked up by an automation network to enact the offset. There are two kinds of deposit pools: **User pools** and **Protocol pools**.

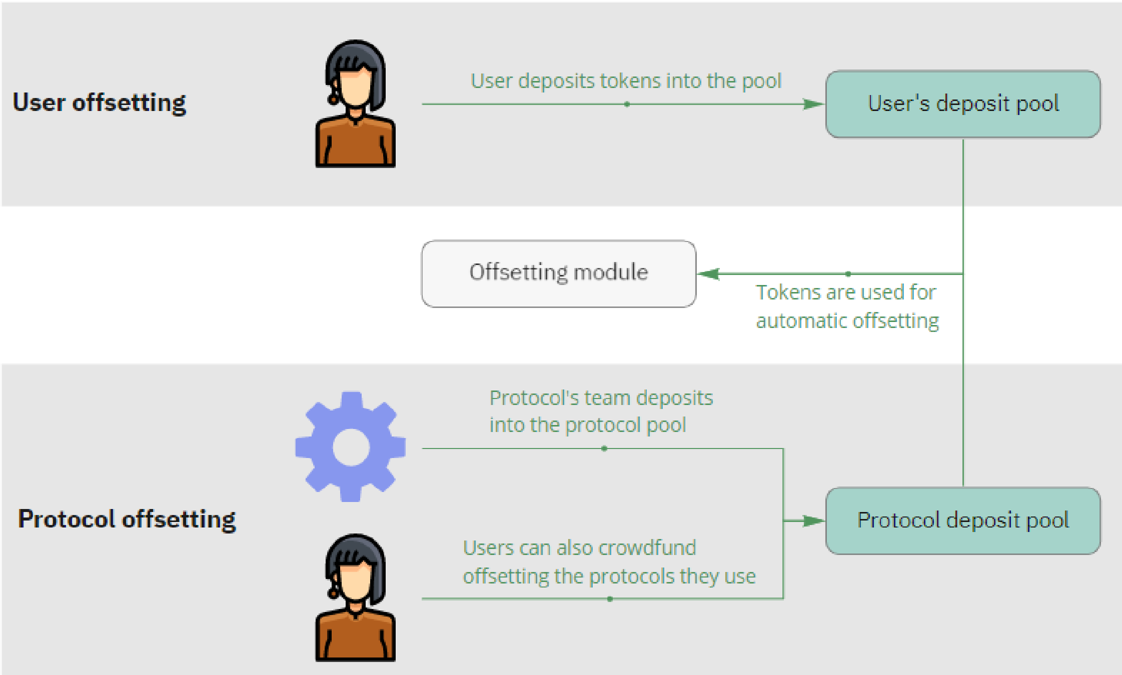

Figure 3: Menthol Protocol Flow

1. **User pools** are individual and pay for activities of a given blockchain account (or a collection of accounts), based on the data indexed from the blockchain (such as gas spent).

2. **Protocol pools** are used to offset every transaction going through a given protocol (such as an automated market-maker, or even a whole blockchain network). Unlike user pools, they can be crowdfunded: different parties (starting with the protocol team itself, but also potentially including arbitrary users) can contribute to the pool if they want the protocol of their liking to go green. Offsetting module tracks traffic going through the protocol and allows monitoring through a widget how green the protocol is currently being (% of activity being offset in a given time frame) and how long the current pool would last going forward, assuming near-constant activity.

4.2 The DAO

The protocol is governed by a Decentralized Autonomous Organization (DAO) that defines its protocol parameters and, most importantly, curates and manages the key decisions of the protocol, including:

- Curating the list of certificates and tokenizers that are considered vetted and acceptable on the platform.
- Managing protocol parameters (fees and restrictions).
- Enabling integrations (connection of modules) and voting on protocol upgrades.
- Prioritising and funding protocol development.

The DAO is formed from token holders who have staked in the protocol.

4.3 Green liquidity registry

The certificates considered by the automation gadget have to be enabled in the Green Liquidity Registry. The Registry serves as a vetting device to make sure only good-faith tokenization and sustainability companies are onboarded on the platform. The auditing process is eventually up to the token holders, but its spirit is that the value going into the certificates has to be directly connected to promoting the corresponding type of sustainability, e.g., green energy certificates have to pay directly for production of clean energy, etc.

The registry itself is a TCR (token-curated registry), with the total number of allowed tokenizers set up by the DAO vote, and the list of certificates curated by token staking.

4.4 Distribution And Allocation

Menthol is launched on Polygon and will be bridged to other networks as necessary.

- Total supply: 250 million
- Allocation: 10% seed, 5% strategic, 5% presale, 5% public sale/ido, 5% advisors, 15% team, 5% marketing and exchange liquidity, 10% ecosystem fund, 40% community rewards
- All token fees are split 3 ways:
  - 33% are recycled into the DAO fund
  - 33% are buried (destroyed)
  - For the first year, 33% are paid into the discretionary development fund, later on this part is split equally between the two previous items.

5 Future Vision