Watr: The Digital Commons for Commodities

A future to live in

Consumers and society's awareness and demand for choice have unleashed a new era in resources and commodities. Values-based consumption and true-pricing throughout the supply chain is unavoidable - with a whole new breed of participants leaning in to redefine commodities and trade.

Watr's vision is to house an open and connected ecosystem of collaborators who rebuild our relationship with natural resources.

The outcome is enhanced profit models in how we source, finance, price and trade the world's most valuable economy: commodities.

Today, it is possible to create a new class of programmable commodities built around elevated quantitative and verifiable origin-to-consumption value chains and business models for every resource consumed.

The definition of good, responsible and desirable in commodities is deeply personal. It is based on a range of priorities and perspectives reflecting a consumer and supplier's values. Watr's goal is for the ecosystem to provide the infrastructure and frameworks that allow participants to parameterise purchasing preferences over desired attributes that span technical, financial, provenance in addition to environmental, social and governance considerations across supply chains and assets.

Thereby making commodities no longer fungible. Market participants can have the power to choose a desired set of attributes they value, while the market in turn, decides what these specific attributes are worth. **Open innovation and transparency spark a race to the top and behavioral change based on fully sovereign and market-driven inputs and values.**

Open-sourced but curated and empowered by the world's most pioneering giants of industry, trade, decentralized technology, entrepreneurs and champions of sustainability.

Today's most pressing dilemmas won't be solved in siloed, uninformed garage experiments or corporate boardrooms. They will be solved by ecosystems.

And tomorrow's most exciting business models won't be created by in-house experts or stranded entrepreneurs alone. They will be co-created.

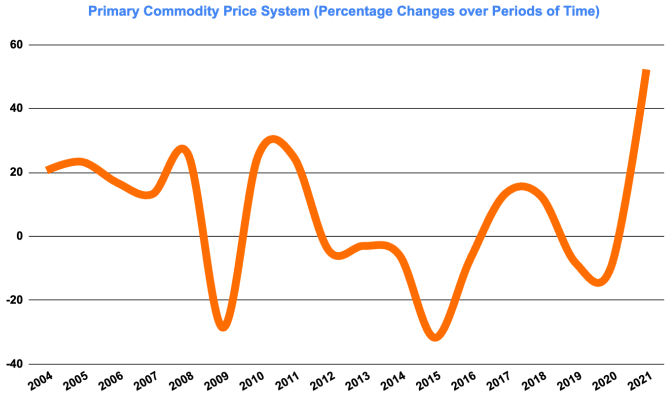
This is a future Watr has been curating. We invite you to grow it with us.

The Dilemma of Commodities

Commodities are a $17 trillion dollar industry - equal to 20% of global GDP in any given year and the lifeline of our economy.[1]

The greatest and most urgent dilemmas - and the sustained fortunes - of our generation have their roots in commodities. They are the food we need, the fuel, metals, minerals, plastics... the raw materials for everything we consume and everything we pollute. They are also the essential building blocks with which we will need to build a viable low-carbon economy. They are central to everything but **our relationship with them is broken and the status quo is no longer sustainable:**

- ➔ Global conflict and supply chain constraints have led to **record commodity prices[2] and profits** while the same record commodity prices and scarcity are **negatively impacting consumers** and their national economies.[3]



- ➔ Resource-owning **communities in much of the world remain not only excluded from the wealth, but harmed** by extraction of their resources. Child labor, slavery, corruption, oppression and exploitation of land and people still plague an unacceptable portion of our resource models and our consumption has the risk of financing activities and regimes we'd be loathed to be part of.

- ➔ **Climate remains on track for Crisis** as the world fights over energy transition metals (copper, cobalt, lithium-ion) while trying to keep the lights on, airplanes in

[1] Fung, Victor K. 2021. "Reconceiving the global trade finance ecosystem." McKinsey. https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/reconceiving%20the%20global%20trade%20finance%20ecosystem/reconceiving-the-global-trade-finance-ecosystem-final.pdf.

[2] "Primary Commodity Price System graph of the All Commodity Price Index which includes both fuel and non-fuel price indeces - IMF Data," IMF Data (International Monetary Fund, October 11, 2022), https://data.imf.org/?sk=471DDDF8-D8A7-499A-81BA-5B332C01F8B9&sld=1547557894971,

[3] "Commodity Markets Outlook April 2022." 2022. World Bank. https://www.worldbank.org/en/news/press-release/2022/04/26/food-and-energy-price-shocks-from-ukraine-war

flight and shipments moving. Everyone is counting on industry to keep supplying as before but also change it all without disruption.

- ➔ **Climate finance**, through carbon credits, has become embroiled in paper-based processes that risk making it bloated, opaque, and enterprise-enriching without reaching the last mile and impacting change. The tug of war has left the world needing at least five times the current supply of verified high quality carbon credits simply to service the commitments made by industry to fractionally offset its own emissions by 2030.

- ➔ Famine, global food scarcity, the constant lack of reliable electricity in the economic south - and the incoming winter of energy scarcity in Europe - highlight our **commonly shared exposure to vulnerable and inefficient resource value chains**.

- ➔ Key players have opted out and left a **1.7 trillion-dollar shortfall** in commodity trade finance at a time when it is most needed. Small and Medium Enterprises make up the bulk of companies that suffer from this gap in trade financing.[4]

Doing something different and better is urgent.

An energy supermajor, farmer, or miner has to guess which of the above crises the market wants them to prioritize and then invest accordingly. Every decision has an opportunity cost and a real cost - reflected in end-user commodity prices. However, there are no systemic price signals and feedback on supply chain externalities from consumers to suppliers so they can adapt appropriately.

There is also no **reliable and systemic way in place for a financier and consumer to "see" what activities they are financing with their capital and consumption.** This means consumers' abilities to use their purchasing power to affect change is limited due to the lack of simple and visible provenance information when making purchases.

An adaptive ecosystem of open-source innovation, visibility and feedback loops is essential for collaborating to solve complex dilemmas such as this one.

There is significant and appropriate pressure from governments, customers, communities, policymakers, and investors - as well as commitment and desire from commodity producers themselves - for industry to shift from talking about the future of resources to materially delivering an alternative. The world needs a model that preserves profits because profits incentivize investment, while being more open and equitable so it is

[4] Fung, "Reconceiving the global trade finance ecosystem."

easier for all to participate in and co-create, as long as they meet the requisite compliance hurdles.[5]

Industries' leaders want and need to come up with ideas and business models for a better alternative. They want to do this at scale and with speed. **But the solution set and today's innovation landscape for commodities is fragmented and often disconnected in closed systems. The end-to-end needs to be aggregated and made interoperable to enable a holistic solution.**

This lifeline of our global economy, however, is built around legacy and opaque supply chains. These are managed through a mixed array of technology platforms - some built decades ago, others partially modernized, some bespoke and proprietary, others interoperable - and all mixed in with paper-based processes.

Commodities are priced through centralized market systems. **Price discovery is controlled by intermediaries** and wholly-lacking timely, structured price signals to producers on market priorities. Contract creation is historically controlled by incumbents and giant exchanges where even the introduction of a new price benchmark for say a Nigerian crude or Emirati crude requires the "consent" of industry's giants and infrastructure intermediaries NOT the consuming organizations.

Commodities remain one of the last giant verticals largely closed off to external participants due to their complex and vast safety, regulatory, security and geopolitical tapestry.

Identity and access remain major barriers to participation in this economy. This is true whether an organization is looking for efficient and compliant means to onboard new counterparts, or one is waiting to be onboarded. The identity barrier is even more onerous when it comes to digital identity for the last mile so they can enter the market. **This limits innovation and the market's participants, undermines "free trade" and broad participation simply by favoring those already in the club.**

Significant change requires new tools, new collaborators and a new playbook.

To reinvent resource provision models:

- ➔ to open up the centralized model where it is value-adding and compliant to do so
- ➔ to reimagine **financing and trading**
- ➔ **to establish two-way feedback and accurately price externalities and ethics into resources** with visibility and veracity,

[5] Net Zero Coalition | United Nations." n.d. the United Nations. Accessed November 1, 2022. https://www.un.org/en/climatechange/net-zero-coalition.

one needs the foundations and subject matter expertise of the market participants who have provided resource security and prosperity to the globe for centuries.

One also needs access to:

- ➔ the world's entrepreneurial community
- ➔ the innovations, compliant liquidity and business models of decentralized finance, blockchain and open collaboration.

The tools and business models that have fueled the world's fascination with decentralized governance (especially in light of the recent failures of centralized ventures such as FTX), the emergence of decentralized finance, new models of digital and financial inclusion are the same tools and business models that can bring commodities to its more profitable, equitable and sustainable future.

Once in a generation, a coincidence of improbable events makes previously unimaginable outcomes inevitable. This is that moment for commodities, open blockchain ecosystems and Web 3.

A common digital home for commodities enables game-changing asset classes and investment opportunities at a time when volatility and uncertainty is the most extreme. In financial and crypto assets this has been a profoundly downward volatility juxtaposed with the record profits of commodities. It is the perfect moment for DeFi talent, liquidity and business models to pivot toward real world assets, real world sustained profits and impact.

Introducing Watr *(pronounced water)*

Watr is the Digital Commons for Commodities.

The Digital Commons enable innovation across independent ventures but within a framework of interoperable and shared digital infrastructure.

- ➔ Watr's **Vision** is to house an open and connected ecosystem of collaborators who reconstruct our relationship with natural resources.

- ➔ Watr's **Mission** is to make Watr Protocol the public blockchain home that connects commodity flows with a vibrant ecosystem of new and traditional participants from production, shipping, sourcing to financing and trade.

  This Mission is delivered through a curated ecosystem of independent ventures and commodity industry pioneers leveraging the core Watr infrastructure, APIs and "Digital Commons" to enable technical, financial, governance and business model **interoperability** across them.

Watr Protocol is Watr's decentralized and public blockchain platform that is open to everyone who wants to build, create and collaborate on it. It is a **Polkadot Parachain**, leveraging the shared security of the Polkadot ecosystem as well as high transaction throughput, connectivity with the other parachains and regular upgrades. Its focus is commodities.

The **Watr Foundation**, a Swiss non-profit Stiftung, is the custodian of the Watr Protocol, which will be owned and governed by its participants. It is also the issuer of the **WATR utility token**.

Parity Technologies is the core blockchain infrastructure company and team of leading engineers behind Polkadot and Kusama smart contract platforms. **Parity is a Strategic Partner of the Watr Foundation and co-developing the Watr protocol**, core features, key applications, plus joint R&D on the bespoke functionality required to ultimately service the 17-trillion dollar commodities industry.

Neo Holdings is ecosystem developer for Watr Protocol. Neo's heritage and roots run deep within global commodities supermajors and vast distributed communities of Web 3 developers, startups and entrepreneurs. It convenes, translates and bridges these very different worlds, so together they can identify and operationalize tomorrow's business models - on a common set of digital protocols for ethical commodities: Watr.

Industry Giants: Neo executives come from global commodities (Shell, Maersk) and world first, at-scale adoption of blockchain and new technologies for commodities in ventures such as Vakt, Paxos and Komgo. Building on that trust and history, companies in the commodities industry have joined Watr as both Co-founding Investors, Strategic Partners and users, to pioneer the next iteration of their industry. The shared mission is to bring defined tranches of their commodities on Watr and create new classes of programmable commodities.

Developer and Startup Community: Neo's co-founder previously co-founded Startup Weekend, Startup America and helped launch the Stacks developer ecosystem. This history and longstanding relationships with developer communities help Neo mobilize the same playbook and access those vast communities - this time with commodities and Watr as the platform.

Modus Operandi: Watr gives developers, entrepreneurs and investors direct access to **commodities as a platform**: to build on or alongside the distribution channels of giants, monetize and co-create the next generation of commodities: transparent, tokenized, programmable and transacted on-chain.

We partner with, and enable, dApp teams to participate and build a range of core infrastructure and new ventures around traceability, financing, liquidity, trading, post-trade, emissions and ESG footprint, identity and privacy.

Because **they are on a common platform and interoperable**, the ecosystem will over time become an end-to-end elevated commodities ecosystem of its own - creating arbitrage between Watr commodities and the rest.

The way to see what's truly possible is to put the enabling infrastructure and open communication channels in place with curated first dApps that demonstrate end-to-end value creation - then let a thousand flowers bloom around them. The App Store is a great example of this model.

Watr Protocol is the core infrastructure … the bed for a thousand flowers.

To prove fertile ground and solve real-world issues, its ecosystem is a curated set of partnerships each with key building blocks, carefully designed and orchestrated with pioneering commodities market participants at the table.

Building Blocks

Watr combines leading technology, industry and open blockchain market expertise with co-created development models into a toolkit for ethical commodities.

Polkadot Relayer Technology - Watr is developed as a sovereign Polkadot Parachain in collaboration with its strategic partner Parity Technologies.

Polkadot and Kusama together make up the Dotsama ecosystem. Dotsama is an ecosystem of more than 60 sovereign but interoperable Parachains with 180 dApps, focused on enterprise-grade applications.

In the Dotsama ecosystem, a central relay chain acts as a communication, security, and control layer between multiple connected but self-contained chains that are called Parachains.[6] This shared decentralized relayer is a powerful offering of the Polkadot ecosystem, relieving Watr from having to do duplicative work so it can focus on value-added features and curated ecosystem growth.[7]

Security - Significant decentralized security infrastructure and technology is essential in introducing a new asset class with the scale of ethical commodities. Watr opted to leapfrog by launching into this substantive security network and thriving ecosystem - while maintaining governance and financial sovereignty. This was a key decision criteria in choosing the Dotsama environment.

Interoperability between chains, low-friction flow of liquidity and business models plus the collective ethos of driving real world adoption in open and public blockchains were also key decision criteria.

Finally and importantly, Parity Technologies, the engineering powerhouse that supports the DotSama ecosystem stepped in as a key strategic partner to Watr. Leveraging that braintrust and community has, and will continue to be, a game changing and high-value asset.

Onboarding physical commodities requires significant development, a large developer ecosystem and innovation in features and functionality. Our partners (Parity and other Parachains in the Dotsama ecosystem) are key enablers of this development.

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[6] “Parachains · Polkadot Wiki.” 2022. Polkadot Wiki. https://wiki.polkadot.network/docs/learn-parachains.

[7] n.d. The hub for those interested in learning, building, or running a node on Polkadot. · Polkadot Wiki. Accessed November 1, 2022. https://wiki.polkadot.network.

Substrate is a development framework, written in Rust, that allows teams to build and deploy blockchains within the DotSama ecosystem. A Substrate blockchain is composed of modules called pallets which contain application-specific functionality that is added to the runtime of the blockchain state machine. The opportunity for collaboration and interaction with other projects was a significant incentive to join the DotSama ecosystem, and our partnership with Parity gives us access to the domain experts in the space to ensure Watr implementation follows best practice for a Substrate parachain.

Protocol Level Infrastructure and Functionality

1. WatrID and WatrAssetID: Self-Sovereign, Decentralized Identity

One of the key distinguishing features of the Watr chain is a pan-protocol, self-sovereign, decentralized and distributed identity for individuals and organizations (WatrID), as well as assets (WatrAssetID). An asset with a WatrAssetID becomes a WatrAsset with its attributes attested to by various market participants including the supplier.

WatrID: Opt-in verification of identity is fundamental to how we enable institutions - regulated or otherwise - and end-users to actively participate in the Watr ecosystem, while remaining fully public and open. **It is also how we lower the identity hurdle for financial, market and last-mile participation in commodities.**

The core tenet is that rather than having to manage a discrete set of identities for each piece of the ecosystem, **identity is a first-class citizen at the protocol level**, making it available to be used across the entire ecosystem to whatever extent dApp developers deem necessary and beneficial.

WatrID is being designed, developed, and deployed with our partners at Parity and open-sourced contributors as well as our institutional partners to ensure it is fit-for-purpose.

The identity pallet is designed to methodically leverage and integrate:

- ➔ various third-party providers of verification, KYC and AML services
- ➔ decentralized and centralized identity data warehouses

supported by a range of attesters to curate a robust identity ecosystem on and alongside Watr.

The depth and breadth of data attributed to any identity is designed to be self-selecting, self-accruing and adaptable for different jurisdictions and varying compliance guardrails. This is driven by individual and organization identity holders NOT the protocol. dApps can also request or provide additional identity services, verification and business models.

The endgame is to allow for the layered and nuanced needs of different market participants whilst creating a seamless and low friction identity interface between on-chain and off-chain ventures and dApps.

Over time, the complexity and network of data available on an individual or organization's WatrID will become a tapestry of verification, attestation, consumption and supply attributes (ESG, credit) and ratings, all self-defined and self-sovereign - enabling a new age of transparency alongside data sovereignty.

dApps and WatrID: The benefit of having WatrID as part of the protocol is that it allows dApp developers to interact with it as a matter of choice. Teams can take advantage of as much of the identity framework as they need to, allowing for granular and flexible permissioning of dApps without the need for direct integration with additional KYC/AML/Identity partners. dApps can also simply opt out ensuring an open and self-selecting ecosystem.

Use Case: An example use case would be for a decentralized commodities exchange, where participants might be required to have completed a specific type of KYC to participate - thereby leveraging WatrID and setting specific hurdles that fit their regulator, jurisdiction, market participants and compliance policies.

A DEX similar to Uniswap, where users transact in a truly permissionless fashion, can opt out of the WatrID layer and maintain the anonymity of its userpool. Watr ecosystem participants who wish not to be part of a permissionless environment would opt out of their identity interacting or transacting there.

Both are valid use cases on Watr and the burden of defining and configuring identity requirements is on the dApp developer - whilst the users define their own identity, access and compliance thresholds.

WatrAssets and WatrAssetID

The concept of decentralized identity and attestation will also be applied to assets - becoming a core pillar of creating **footprint visibility for Ethical Commodities** in the Watr Ecosystem. A WatrAsset is a specific asset; for example a lot of Aluminum, a specific farm's annual yield of cashews, a specific carbon removal project's voluntary carbon credits for a specific vintage, etc.... Systemic insight into the footprint is urgently needed and **Watr connects, not rebuilds, the ecosystem.**

A WatrAsset has a corresponding WatrAssetID. The WatrAssetID provides title, provenance, footprint data and lineage of assets and is combined with the tokenized

representation of physical goods on the protocol. **Attestation to the quantified and unique environmental, social and governance attributes of each lot of a commodity is provided originally by its producers and suppliers.**

The WatrAssetID follows a WatrAsset from origin to consumer with data added by shippers and other handlers enroute. Initially, the end-to-end lifecycle will not be fully captured as all of the data does not exist - or exists only in siloed systems with varying data definitions, quality and security. **This will create a price incentive for entrepreneurs and market participants to capture it, where there has not previously been one. Over time this will change, as WatrAsset commodities begin to command a premium or a simple buyers' and financier's preference.**

Consumers and market participants have the option to request further data and verifications from third party attesters (on-chain and off-chain). These attestations add to and build on the supplier-created WatrAssetID providing a more and more robust identity narrative for a WatrAsset as it travels from source to consumer.

Buyers can also initiate a request for the creation of a certain WatrAsset - this sees a supermarket or manufacturing giant requesting the provision of a commodity with their very specific attribute needs. If a supplier deems it viable and attractive to supply, they then create a corresponding WatrAsset backed by a WatrAssetID and proceed to serve this need. This establishes a two way communication channel and necessary feedback loops.

Pricing, WatrAssets and WatrAssetID: The additional benefit of having WatrAssetID as part of the protocol is that it allows live and immediate price discovery for WatrAssets based on various attributes. **It allows the market to assert values-based purchasing and create a race to the top without any participant having to guess what 'good' is.** Over time, attributes themselves can become an asset like the traded market that exists today in voluntary carbon, Nox, Sulphur and Water. Watr does not judge, the market does and prices accordingly.

2. Selective Privacy

Due to the nature of commodities trading and the potential of market-moving information held in trade flows, commodity transactions and proprietary trading behavior is very closely guarded in the industry. For both regulatory and commercial reasons.

This is one of the reasons physical commodity trading has not yet adopted open systems including blockchain technologies and it is a significant limitation of existing public chains.

Watr's selective privacy is implemented through on-chain and off-chain data storage and API integration with commodity partners for secure and customized data management. This

approach ensures that only relevant and essential data goes on-chain and any potentially commercial or sensitive data is cryptographically and programmatically obfuscated when it does need to go on-chain.

Zero-Knowledge Proofs

One implementation path is zero-knowledge (ZK) proofs combined with off-chain data storage. ZK proofs give us a way to verify the result of a computation without actually needing to see the input data. We would apply this principle, where appropriate, to ensure that sensitive data is not visible or able to be deduced.

Obfuscation Via Secure Computation

ZK proofs, combined with a secure execution environment, such as Intel SGX, to obfuscate data allows a dual safety mechanism.

Privacy and identity (for compliance reasons) are the cornerstones of onboarding global commodities and making public blockchains home to this colossal asset class. R&D capabilities inherent in the Watr ecosystem will uniquely address the complexity brought by new flows and onboarded use cases.

Watr's Privacy pallet is co-created by the Watr team in collaboration with a range of individual and organizational contributors from both the open source community and institutional users.

Over time, a network of partner chains and dApps will make up the WatrID, WatrAsset and Privacy services - each becoming a booming ecosystem of their own.

3. Ink & EVM Smart Contracts

Watr is an open ecosystem that supports participants running their own smart contracts, tokens, and supply chains. In order to provide the most options, flexibility, and interoperability, we support multiple types of smart contracts.

EVM Compatible: Watr supports the deployment of smart contracts written in Solidity from launch. This will make it easy for dApp developers from the Ethereum ecosystem to bring their applications to Watr. This feature is available on our testnet.

Ink: Ink is a set of macros that act as the smart contract language for Substrate-based chains. Ink-based contracts are compiled to web assembly (WASM) for deployment and executed via the contracts pallet.

Hybrid: The ultimate goal of supporting both EVM and Substrate native contracts is to allow for the extension of EVM contracts with Ink, allowing dApp developers to interact

with the wider DotSama ecosystem while leveraging Watr as the home from which they do that.

4. Interoperability

As part of the Polkadot ecosystem, Watr Protocol will interact natively with Polkadot parachains through XCM (cross-consensus messaging), enabling secure access to liquidity and interchain transactions across the Polkadot ecosystem.

Watr is also working with the **Cosmos ecosystem** to analyze and evaluate a bridge between Watr and Cosmos chains. The first bridge, pending security risk assessment, would be to our partners at **Osmosis** to:

- ➔ Enable the introduction of new, real world assets and ethical commodity tokens into the Cosmos ecosystem
- ➔ Make the Watr token and Watr-native assets and stable coins available in Cosmos
- ➔ Provide Watr ecosystem dApps access to the Cosmos ecosystem
- ➔ Enable Watr as a route for other Polkadot chains seeking interoperability with Cosmos-based dapps, flows and utility
- ➔ Enable Watr as a route for Cosmos-based assets and dapps to access the Dotsama ecosystem, assets, flows and utility.

Watr is also contractually linked to, and is assessing the risk and reward profile of bridging to its Co-founding Partner Archblock's deFi lending protocol.

Active investigations and risk assessment of bridging to other key dApps and Layer 2s on Ethereum is ongoing and will form part of the 2023 implementation roadmap.

5. Stablecoins

Archblock is the creator of decentralized finance's first credit protocol and the first asset-backed stablecoins. Archblocks is a Co-founding Strategic Partner. The goal of the partnership is to develop a powerful and compliant strategy to bring DeFi liquidity and stablecoins to the commodities industry on-chain on Watr.

Asset-backed stablecoins with a proven track record are a critical first step in bringing commodity giants on-chain due to their stablecoins' regulatory clarity and relative stability. Archblock will launch a native USD backed stablecoin on Watr in 2023.

The USDC stable coin is also planning to launch on both Polkadot in Q3 2023 - making it available to Watr.[8]

[8] Lutz, Sander, Mitchell Preffer, and Andrew Throuvalas. 2022. "Circle Expands USDC Stablecoin Support to Five New Blockchains." Decrypt. https://decrypt.co/110800/circle-expands-usdc-stablecoin-support-to-five-new-blockchains

6. Carbon Negative

WatrAssets will play a key role in helping commodities achieve a reduced carbon footprint; well beyond on-chain emissions.

For the Parachain itself, Polkadot is already a leader in environmental performance due to the low carbon footprint of its blockchain technology. Watr will amplify this by running a carbon-negative chain and contributing to Polkadot ecosystem initiatives to audit and reduce the ecosystem's emissions. Where the availability of infrastructure allows, the Watr collator network will be run on renewable electricity. Any remaining footprint will be offset 10x through verified carbon credits. This approach will be certified and audited annually by a third-party certification provider.

Adoption Roadmap

Tokenized Exchangeability

As a flagship use case, the Watr Ecosystem will be leveraging tokenization, provenance attestations and the transferability of WatrID and WatrAssetIDs throughout dApps on Watr Protocol and sister chains to enable the end-to-end journey of physical commodities. This will leverage an ecosystem of existing partners, dApp teams and global producers.

In the early stages, Watr and partners will focus on executing on-chain contracts of physical commodities, bundled with tokenized and verified carbon credits where requested by the buyer. Watr's common market infrastructure and dApp ecosystem will evolve to enable ecosystem participants to achieve novel trading and settlement mechanisms either partly or fully end-to-end.

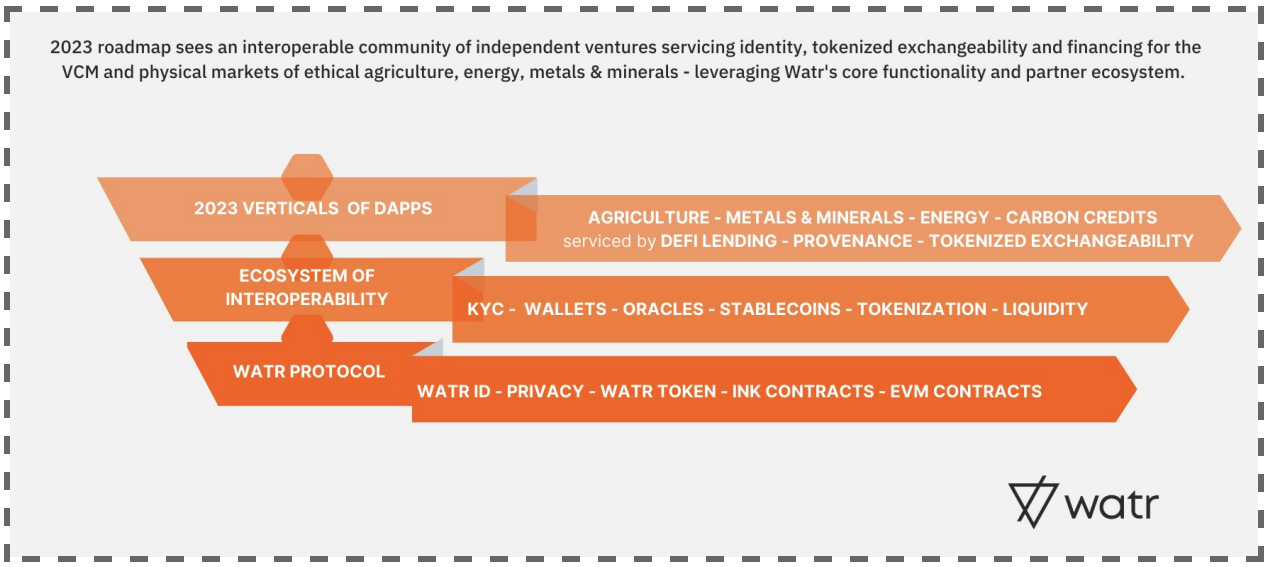
Leading up to launch, Watr Ecosystem and partners are focused on API integrations with both on-chain and off-chain partners to achieve critical mass across priority verticals:

1. **Agriculture and food security** - providing last mile access to capital (through DeFi and tokenized agriculture marketplaces), high-grading agriculture yield and ushering in the efficiency of digitized supply chains. **Watr's work in Agriculture starts with African producers and farmers** - the home of immense potential and arguably the greatest opportunity for impact.

2. **Metals and Minerals** - introduction of new classes of ethical materials essential for the energy transition (Aluminium, copper, cobalt and lithium-ion) and for

institutions to achieve their own net-zero and sustainability objectives. **Watr's work here is global from the onset.**[9]

3. **Voluntary carbon credits** - partners leveraging Watr's technology stack and the Watr Ecosystem's networks to create on-chain voluntary carbon markets with greater accessibility, transparency, and price discovery. This will enable tokenized carbon credits to be used in multiple ways, such as traded as an asset on its own, bundled with other tokenized assets, access to DeFi lending for upstream carbon origination, supplying commodities' significant demand for verified and high quality offsets.



Current partners building and delivering these verticals include global producers (eg metals), last mile collectives (such as farmers) and financiers, trading houses and wholesalers (for example of metals, carbon credits and agriculture) as well as Web 3 ventures (eg tokenized carbon and agriculture marketplaces, carbon tokenization platforms) and Web 2 partners (eg digitized agriculture supply chain management). Each one is a case study in innovation and value. Together and interweaved, they create a whole new tapestry.

2023 will be focused on bringing this tapestry to life while expanding to Energy and Fuels.

Cross-commodity infrastructure and liquidity underpin the network of dApps, teams and ventures in the commodity verticals. Core infrastructure includes:

- ➔ Stablecoins - starting with USDC.
- ➔ Bridging and access to DEXs for Watr-native assets

[9] "United Nations, Net Zero Coalition

- ➔ Bridging and access to DeFi liquidity pools with KYC functionality
- ➔ **Bridging to bespoke off-chain capital looking for provenance-verified goods**
- ➔ WatrID and selective privacy[10]

The above will be leveraged to do world-first proofs of concept in DeFi to trade finance and on-chain sales and purchase of provenance and attribute-enabled metals and agriculture. Watr's ecosystem will evolve to enable novel contracting and post-trade settlement mechanisms.

In 2023, Neo and Watr Ecosystem partners will be designing, applying for licenses and - pending regulatory approval - **developing a regulated and decentralized exchange for tokenized commodities.** This is done in a cross-industry coalition and intended to bring tokenized exchangeability, democratized contracting, new liquidity and better price signals to traded commodities.

DeFi Lending and Trade Finance

Trade finance gaps in commodity markets are an undeniable global opportunity. Institutions of various sizes are struggling to obtain adequate financing solutions. The trade finance gap is composed of historically underserved last mile and crossborder opportunities in developing countries due to lack of support and stringent capital adequacy requirements, in combination with compliance and evolving ESG requirements from financial institutions.[11]These combine to severely impact access to, and availability of, trade financing capital.

Watr Ecosystem will contribute to reducing the financing gap by commissioning, supporting and coaching DeFi lending dApp teams so they can service lending for commodity borrowers. Through partners, the Watr ecosystem will provide access to uncollateralized lending as well as commodities-based collateralization, unlocking new economic opportunities for market participants. Lending dApps will help KYC-d liquidity providers enjoy attractive, sustainable rates of return, while giving commodity borrowers a new source of liquidity.

Asset Provenance & Supply Chain Features

Provenance tracking and traceability are core instruments enabling the on-chain characterization of ethical commodities. Watr works in tandem partners to attract and

[10] Kaplan, Alex, Heike Figge, and Jake Hirsch-Allen."The next evolution of digital identity: Scalable, secure, and trusted digital credentials." 2022. IBM. https://www.ibm.com/downloads/cas/PEZANJ1N.

[11]Fung, "Reconceiving the global trade finance ecosystem.

convene teams developing traceability and provenance solutions that would work for commodities.

As this ecosystem of dApps, digital ventures and off-chain partners grows, Watr will be able to provide an unprecedented ecosystem of visibility and verifiability. An interoperable suite of tools and resources with on-chain proofs to attest to and substantiate the diverse attributes associated with each class of ethical commodities. The resulting data can provide a far more accurate and nuanced price discovery for ethical commodities and send price signals on the attributes the market genuinely values and those it does not.

Impact Economy

Watr aims to meaningfully contribute to the new economy of impact by firstly providing access to financing and digital identity for the last mile and then by bridging the physical and digital in its partner supply chains.

Over time, Watr can provide key infrastructure to trade tokenized impact outcomes. This opens the space for parametric Sustainable Development Goals (SDG)-related investables and tradeables such as tokenized outcome bonds and ecosystem services covering themes such as climate, gender, education, biodiversity, marine life, etc.

The Endgame

- ➔ Consumers' awareness and demand for choice have unleashed a land grab for the future of resources and commodities. Values-based consumption and pricing is unavoidable - with a whole new breed of participants redefining commodities trade.

- ➔ Provision of energy, metals, agriculture will be governed by smart digital contracts created by suppliers as well as large global customers and individual consumers - able to define the very specific and tailored footprint they want their consumption to finance. All the way upstream.

- ➔ Creation of contracts, pricing, definition of sustainability metrics and launching contracts are democratized - no longer defined by a centralized exchange, one or two bespoke contracts, indices set by pricing agencies or the most powerful incumbents.

- ➔ Every smart contract will have externalities (carbon, supply chain characteristics and ESG attributes) embedded, priced and made transparent per the Customer's specific requirements. There will be no single standard of 'good'. 'Good' becomes personalized, defined at an individual, organizational or municipal level: x tons of GHGs, y% female participation, SDG 1, 6, etc... vs top down.

- ➔ Market making is democratized (minimizing need for intermediaries) and those fees are shared with customers and the producers.

- ➔ KYC-d liquidity from crypto markets will come into play in commodities - with each actor having a sovereign verifiable WatrID.

- ➔ Defi: decentralized credit, financing through asset tokenization and peer-to-peer lending will be a viable and attractive alternative to bank and balance sheet financing.

- ➔ A first regulated, tokenized and decentralized exchange for ethical commodities, will go live on Watr. It will be co-owned by industry participants (including tech), for mutual profit.

It will bring inescapable innovation, efficiency and transparency to resources.

This will happen with pioneers from industry, trade and the legends of the last hundred years' prosperity - fueled by energy security, supply chain integrity (and all the hard lessons learnt from painful mistakes made along the way) - at the table.

Watr Token

Utility

WATR is the native token issued by the Watr Foundation for use on the Watr Protocol.

The token is classified as a Utility token under Swiss and international laws. The primary utility of the token is to regulate use of the Watr identity (individuals, organizations or assets) on Watr.

The Watr token allows for access to the Watr protocol. It also represents voting power in governance, and is the primary mechanism for status, rating, fees and staking in the Watr ecosystem.

At launch, the WATR token serves a number of crucial purposes:

- ➔ Network Usage
  Resources such as storage and computation on a blockchain network are limited. Transaction fees are a method of regulating the consumption of these resources by the users. WATR is used to facilitate native transactions and smart contract execution. This means users enjoy controlled and predictably low transaction fees on a scalable and secure network, analogous to gas fees on an EVM chain.

➔ Access to Infrastructure Services

The Watr Protocol will provide unique infrastructure level services, such as WatrID, WatrAssetID, and selective privacy, which will rely on using and staking WATR to underpin the storage and cost of usage and enable developers to build enterprise level applications that are not easily deployable on existing blockchains.

➔ Parachain Interoperability

Polkadot enables communication between parachains via a mechanism called cross-consensus messaging. This allows for tokens to be moved between parachains in the DotSsama ecosystem and for Watr to make use of the features of other chains. An example interaction would be the movement of an asset across chain boundaries, for example a tokenized carbon credit. The process requires the asset to exist, at least notionally as a potential entity, on both sides of the cross-chain boundary. A portion of tokens will be available to support this mechanism and used by other parachains to secure storage and services on Watr.

➔ Incentive Rewards for Collator Nodes

WATR is also utilized to incentivize the running of collator nodes. This is the mechanism that maintains and powers the decentralized node infrastructure of the network. Collator nodes retain all necessary information of the protocol, and produce new block candidates to pass to the Relay Chain validators for verification and inclusion in the shared state of Polkadot.

➔ Collateral / Lockups

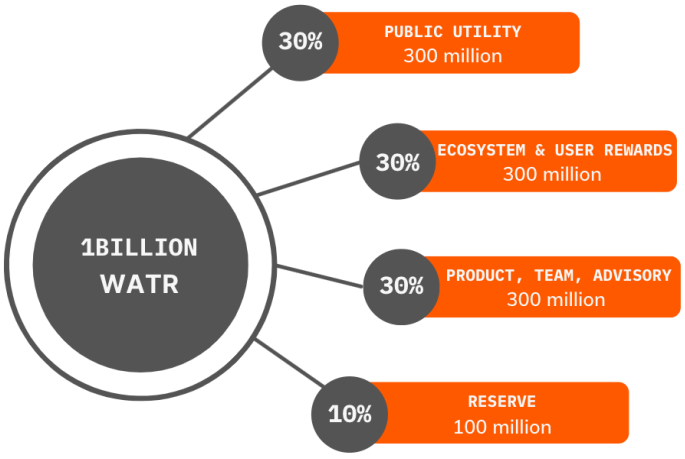
The WATR token can be used as collateral in ecosystem dApps and locked-up.

➔ Governance

Watr will follow the example of many other entities within the DotSama ecosystem by having a three-pronged approach to on-chain governance. The three parties involved will be the governance council, the technical committee, and token holders - roles further defined below.

Token Distribution

Finite Amount of Tokens - At launch, there will be 1 billion WATR tokens minted. This is a capped amount and there is no foreseen increase in token supply with the exception of potential minimal inflation which might be required for long-term collator rewards.



Distribution of WATR Tokens involves the following five groups of holders:

For Public Utility 30%
Tokens traded, in-use by participants, the public and in circulation. The allocation starts with strategic investors spread across commodities, technology and capital investors plus contributors with aligned interests to create long-term and sustainable growth in the Watr ecosystem. The sale of these tokens is governed by the Foundation Council and sold in seed, private and auctions to accredited investors and key strategics.

Watr Ecosystem and User Rewards: 30%
Community and ecosystem tokens reward and incentivize faster adoption, strategic infrastructure and community participation. This allocation is earned by participants pro-rata to their contribution and value-add to the growth and scale of Watr's ecosystem. In the early stages, they are used to incentivize development and onboard of strategic dApps, first mover flows and key infrastructure.

Tokens allocated to the Watr ecosystem are initially managed by the Foundation and later transitioned to community governance.

Foundation reserve: 10%
A portion of the tokens is held in reserve by the Foundation to address any unforeseen requirements of the Protocol and Ecosystem.

Product, Team and Advisory: 30%
This fund is used to design and define the product, develop the ecosystem through ecosystem developers and secure interest and talent from the best individuals in both the

commodities industry and decentralized systems. This includes advisors and applicable members of the advisory board.

Governance Council

This is currently in its first iteration and will evolve as we learn more about what is necessary to continue onboarding commodities. As such it might change.

Watr will have a governance council with a maximum of 48 of long-term and short-term seats. This allows Watr to take a longer-term approach, guided by the diversity of the ecosystem, that is more aligned with the planning and implementation timeframes of real-world assets and commodities.

Initial Composition

The initial composition of the Watr governance council will be Watr Foundation's founding partners who represent a cross-section of commodities, web 3, financial, last mile and sustainability partners as well as investors. All council members will be required to stake WATR tokens in order to secure and maintain their seats.

Expansion Mechanism

As Watr onboards more key strategic partners to the network, the number of active governance seats will be expanded to accommodate these new market participants in the decentralized governance of the protocol up to the upper limit of 48 council seats. The intent is for all but the long-term seats to rotate pending participation, WATR holdings and delegation outcomes from the community to enhance diversity and decentralization.

Council Elections

Once the network has been established and live for 1 year, community delegated seats will be made available on an annual basis for community election. In order to submit candidacy, a participant must agree to lock up a minimum to-be-determined amount of WATR for a year to participate in governance. The election period will run for the duration of one month, with the newly elected seatholders added to the governance council at the beginning of the following month. Elected members will hold their seat for a period of one year, at which point they will have the option to stand for re-election.

Technical Committee

The technical committee is made up of technical experts and core protocol developers. The role of the technical committee is to evaluate technical proposals and provide opinions to the council at large on their feasibility, fit to Watr tech stack and security. Members of the technical committee can veto proposals.

The technical committee can also fast-track specific technical proposals in order to safeguard the network from harm.

Proposal Mechanism

Any token holder can create a proposal by submitting it and locking up a to-be-determined amount of Watr tokens. A proposal can then be backed by other token holders. If the proposal meets the threshold of the to-be-determined amount of Watr tokens in backing then it will be passed forward for governance council review. The governance council can then refer the proposal to the technical committee for review, veto the proposal, or approve the proposal for referendum. In the case of a unanimous vote in favor, the vote can be quorum-based, whereas if the proposal has detractors, a simple majority vote is required.

Voting

Voting is carried out by locking up a portion of tokens for a specific period of time. The longer the tokens are agreed to be locked up for, the greater weight the vote will carry. Users can delegate to specialists who vote on their behalf.

Network Participants

Collator Partners

The Watr network will initially be running on a Proof of Authority (PoA) based consensus, where authorized partners will be permitted to run collator nodes to help to distribute and secure the network. The collator nodes take advantage of the shared security of the Polkadot relay chain.

Bootstrap Nodes

The Watr Foundation will maintain a set of geographically distributed bootstrap nodes to ensure that the network can be conveniently reached across all regions.

Postscript

Look again at that dot. That's here. That's home. That's us.

The aggregate of our joy and suffering, thousands of confident religions, ideologies, and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilization, every king and peasant, every young couple in love, every mother and father, hopeful child, inventor and explorer, every teacher of morals, every corrupt politician, every "superstar," every "supreme leader," every saint and sinner in the history of our species lived there-on a mote of dust suspended in a sunbeam...

There is perhaps no better demonstration of the folly of human conceits than this distant image of our tiny world. To me, it underscores our responsibility to deal more kindly with one another, and to preserve and cherish the pale blue dot, the only home we've ever known."

— **Carl Sagan,** **Pale Blue Dot: A Vision of the Human Future in Space**

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