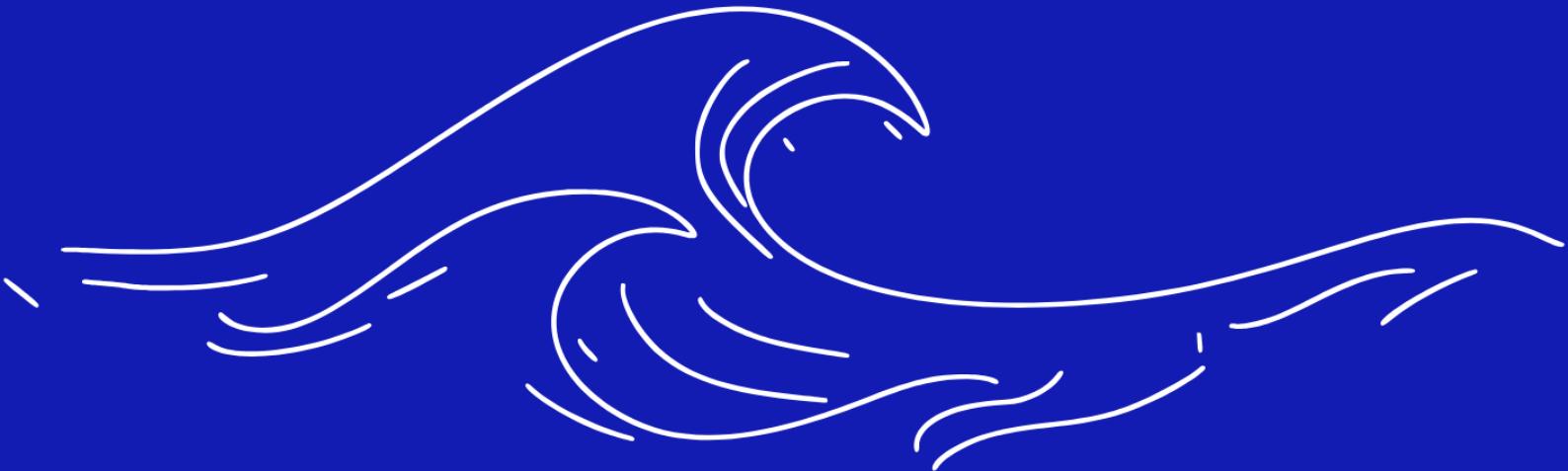




# Whitepaper



## Table of contents

1. Executive Summary	3
2. Problem Statement	5
3. Our Vision	7
4. Solution — Aquara: A Decentralized Water Fund	8
5. Ecosystem Overview	9
6. Governance & DAO Roadmap	11
7. Treasury Formation & Capital Discipline	14
8. Treasury Evolution & Investment Phases	15
9. Why Cardano	17
10. Tokenomics	19
11. Impact	22
12. Competitive Landscape	24
14. Conclusion	26
15. Risk Factors and Disclaimers	27
16. Appendix A - Estimating the Size of the Global Water Economy	28
17. References	29

# 1. Executive Summary

*Readers seeking a high-level, non-technical overview of Aquara's mission and model may wish to begin with the Aquara Litepaper.*

Aquara is building the world's first decentralized water fund — a new way for people to participate in the global water economy.

Water underpins nearly everything modern societies depend on: cities, agriculture, industry, energy production, and increasingly data centers and digital infrastructure. It is one of the world's most essential and valuable resources. The global water economy represents an estimated **\$6–7 trillion** in assets and activity — yet ordinary people have never had a way to invest in or influence how water-related capital is allocated.

Today, water finance operates through governments, utilities, corporations, and institutional investors. This structure evolved to manage large projects and long timelines, but it was never designed for broad public participation. As a result, the public has little access, limited visibility, and no meaningful role in shaping long-term water investment priorities.

**Aquara exists to change that.**

At its core, Aquara creates an open, digital treasury that allows individuals, institutions and long-term investors to collectively participate in the water economy — not by owning or trading water itself, but by financing the companies, technologies, and infrastructure that creates water access.

**The treasury follows a dual-asset model:**

- Water-related investments spanning infrastructure, technology, and innovation
- Bitcoin reserves, providing liquidity, resilience, and long-term growth potential

Through the AQA token, participants can propose, vote on, and guide how capital is deployed over time. This transforms water investment from a closed, institutional process into a transparent and open one — while keeping the treasury itself as the core value engine.

The need is clear. Over **\$1 trillion in new water investment** will be required in the coming decades to support population growth, climate resilience, food systems, industry, and digital infrastructure, while billions of people already lack access to clean water — a number projected to rise in the coming decades (BNP Paribas, 2023). Traditional funding alone has struggled to meet this challenge.

Aquara complements existing systems by unlocking a new layer of capital and coordination: global, community-driven participation.

Inspired by sovereign wealth fund principles (long-term reserves, disciplined allocation, and generational stewardship) Aquara applies these ideas in a decentralized form, governed by people rather than a single state or institution.

Aquara is not a water operator. It does not pump, treat, or distribute water. It is a financial protocol designed to finance and govern the global water economy.

**This is not just about water.** It is about opening access to one of the world's most important markets — and giving people a role in shaping its future.

To understand why this matters, we need to look at how the current water economy is funded — and why it lacks a public participation layer.

## 2. Problem Statement

Water keeps the world running — that's obvious. What's less obvious is that the system financing and governing it is not designed for broad participation.

Today, water-related capital — including utilities, agribusiness, infrastructure funds, and water technology — is primarily allocated through governments, utilities, corporations, and institutional investors. This structure concentrates decision-making within institution-only channels that require high capital thresholds and specialized access, leaving communities and ordinary people — those who depend on these systems most — with little visibility or direct voice (Barlow, 2014).

The global water market generates approximately \$880B annually across infrastructure, treatment, sewage, and utilities, and revenue is projected to grow into the trillions by the 2030s (Verified Market Research, 2024). When long-lived infrastructure, capital assets, and water-dependent economic systems are considered together, the broader water economy represents an estimated \$6–7 trillion in global economic value (OECD, 2019). Despite this scale, water remains one of the least accessible major economic domains, with no public mechanism for individuals to invest in, monitor, or influence how water-related capital is allocated.

At the same time, the world faces an estimated \$1 trillion investment gap in water infrastructure required to meet UN sustainability and resilience goals (BNP Paribas / World Bank, 2023). Traditional funding mechanisms are often slow and fragmented, constrained by public budgets, regulatory frameworks, and institutional mandates. As a result, many necessary projects — from local purification systems to large-scale reuse technologies and irrigation infrastructure — struggle to secure long-term financing (CSIS, 2022).

Historically, institutional water investment has tended to favor commercially bankable and industrial use cases, reflecting how existing financial incentives shape capital allocation. This pattern highlights a broader structural challenge: capital availability does not consistently align with long-term sustainability or community-level water needs.

Behind these dynamics are tangible consequences: billions of people without reliable access to clean water, agricultural productivity constrained by inadequate irrigation, and cities facing growing scarcity risks. The issue is not a lack of capital, but the absence of a transparent and participatory financial layer capable of directing capital toward long-term water stewardship.

Meanwhile, a new financial landscape is emerging. Global crypto markets now exceed \$3 trillion, yet less than 1% is allocated to real-world assets (CCRI, 2024). While RWA tokenization remains under \$30B today, it is widely expected to scale significantly over time.



What is missing is a transparent, global financial layer that allows people everywhere to participate in and help guide the future of water investment. Aquara is designed to build that layer.

### 3. Our Vision

Aquara's vision is to establish a permanent, community-governed capital layer for the global water economy, inspired by the long-term stewardship principles of sovereign wealth funds.

In this vision, water-related investment is no longer accessible only through closed institutional channels, but guided by transparent, collective decision-making aligned with generational outcomes rather than short-term incentives.

Functionally, this capital layer operates as a long-term allocator — pooling capital, setting investment priorities, and directing funds across water infrastructure, technology, and innovation over time. If widely adopted, it could grow into a significant and durable participant in the water sector, without owning, trading, or operating water itself.

## 4. Solution — Aquara: A Decentralized Water Fund

Aquara addresses the structural limitations of water finance by introducing a community-governed investment fund designed to allocate capital transparently across the water sector.

At its core, Aquara operates a shared treasury that pools capital and deploys it into water-related assets, while governance is distributed among participants rather than concentrated within closed institutional channels.

The model consists of three core components:

### **Treasury composition**

The treasury maintains a dual-asset structure, combining exposure to water-sector assets — including companies, funds, infrastructure, and technology — with Bitcoin reserves that provide liquidity, resilience, and long-term growth potential.

### **Governance framework**

Capital allocation decisions are proposed, evaluated, and approved through an open governance process. This process is bounded by formal guardrails, including a constitutional framework, defined proposal standards, and expert-led councils, ensuring disciplined decision-making and long-term alignment.

### **Capital cycle**

Capital flows into the treasury, is deployed into water-sector investments, and is reinvested over time to support sustainability, growth, and long-term value creation.

Together, these components form a self-reinforcing system: water assets anchor the treasury in real-world utility, digital reserves support flexibility and liquidity, and governance ensures accountability over time.

Rather than replacing existing water institutions, Aquara adds a **public participation layer** to water finance — enabling broader involvement in how capital is allocated to one of the world's most critical economic sectors.

## 5. Ecosystem Overview

Aquara is structured around three core components: the Foundation, the AQA token, and the Treasury. Together, they form a transparent and governed framework for financing water-related assets over the long term.

### 1. Aquara Foundation

The Aquara Foundation is the intended long-term steward of the Aquara ecosystem and its assets, serving as the operational and governance backbone of the protocol.

In the initial phase, Kaitiaki Systems (KAI) supports operations, treasury formation, and early asset management to establish institutional-grade processes, transparency, and stability. During this phase, treasury assets are held by the Aquara Foundation as steward and reserve owner, while Kaitiaki Systems is engaged under contract to support execution, treasury formation, and early asset management activities in accordance with defined mandates, reporting obligations, and oversight.

As the ecosystem evolves, the Foundation assumes full responsibility for treasury oversight, execution of governance-approved investments, legal and regulatory compliance, and fiduciary stewardship. The Foundation also provides proof-of-reserve reporting, transparency disclosures, audits, and supports progressive decentralization toward DAO governance.

Over time, the Foundation's role shifts from direct execution to facilitation, oversight, and safeguarding governance processes as decision-making authority is increasingly delegated to token holders.

### 2. AQA Token

The AQA token functions as the governance and coordination mechanism of the Aquara ecosystem.

Token holders can propose, evaluate, and vote on capital allocation decisions within a defined governance framework and constitutional guardrails. The token aligns participation in decision-making with exposure to the long-term outcomes of the ecosystem.

### 3. Treasury

The treasury is the **financial core** of Aquara.

It consists of diversified exposure to water-sector investments alongside digital reserves, designed to balance stability, liquidity, and long-term growth. Capital is deployed through governance-approved processes and reinvested over time to ensure sustainability, resilience, and continuity of the ecosystem.

In combination, the Foundation provides stewardship, the token enables governance, and the treasury allocates capital. Together, they form the institutional backbone of a community-governed water investment platform.

## 6. Governance & DAO Roadmap

True decentralization is an evolutionary process. Experience from large-scale blockchain ecosystems demonstrates that durable governance emerges through phased implementation, clear accountability, and progressively expanding participation.

Aquara's governance roadmap outlines a structured transition from Foundation-led stewardship with contracted execution to a constitutionally governed DAO, prioritizing stability, legal clarity, and capital discipline in early phases while enabling progressive decentralization over time.

### Core Governance Features

#### Voting Models

Aquara applies differentiated voting mechanisms based on decision type. Quadratic voting is used for financial and strategic proposals to mitigate concentration of influence, while one-address-one-vote applies to constitutional, ethical, and normative decisions.

#### Constitutional Framework

Aquara operates within the boundaries defined by the Aquara Constitution (Draft), which establishes the protocol's mission, non-negotiable principles, treasury protections, and governance constraints. The Constitution is maintained as a standalone document and supersedes all governance processes.

#### Layered Governance Structure

Governance authority is distributed across four interconnected layers:

- **Constitutional Layer** — Defines mission, boundaries, and long-term principles.
- **Council Layer** — Constitutionally mandated expert bodies that enforce eligibility, mandate compliance, and risk discipline before proposals may proceed to community vote.
- **Operational Layer** — Executes governance-approved decisions under predefined mandates, policies, and transparency requirements.
- **Holder Layer** — AQA token holders act as the sovereign decision-makers for strategic, treasury, and governance frameworks within constitutional boundaries.

Certain foundational parameters — including treasury custody, dissolution conditions, and core constitutional principles — are protected by heightened approval thresholds or non-amendable provisions to ensure long-term stewardship.

## Governance pool

Aquara includes a governance sustainability mechanism to ensure the DAO can operate reliably as responsibilities transition from the Foundation to community governance.

This mechanism covers the ongoing costs of governance — including administration, tooling, audits, reporting, and oversight — and maintains reserves to support operations during periods of market stress or transition.

Funding levels and activation are defined through treasury and governance policy and may adjust over time as the ecosystem grows and governance responsibilities expand.

## DAO Evolution (12-Year Roadmap)

### Phase 1 (Years 1–4): Foundation-led

The Aquara Foundation serves as the legal steward and asset holder of the treasury. Kaitiaki Systems supports treasury formation, execution, and early asset management under defined mandates, reporting obligations, and oversight. Community participation is introduced through transparency reporting, on-chain signaling, and governance testing. The focus is compliance, stability, and reserve formation.

### Phase 2 (Years 5–8): Hybrid DAO

Token holders gain expanded proposal and approval rights within constitutional guardrails. Expert Councils formally review proposals for eligibility and mandate compliance. Strategic frameworks are approved by the community, while execution continues under policy-defined mandates.

### Phase 3 (Years 9–12): Full DAO

The DAO assumes primary governance authority over treasury strategy, mandates, and rule updates. Councils continue to enforce constitutional and risk boundaries. Kaitiaki Systems transitions into a non-executive support role, providing audit, tooling, or advisory services as required. Smart contracts increasingly automate reporting, mandate enforcement, and execution logic where appropriate.

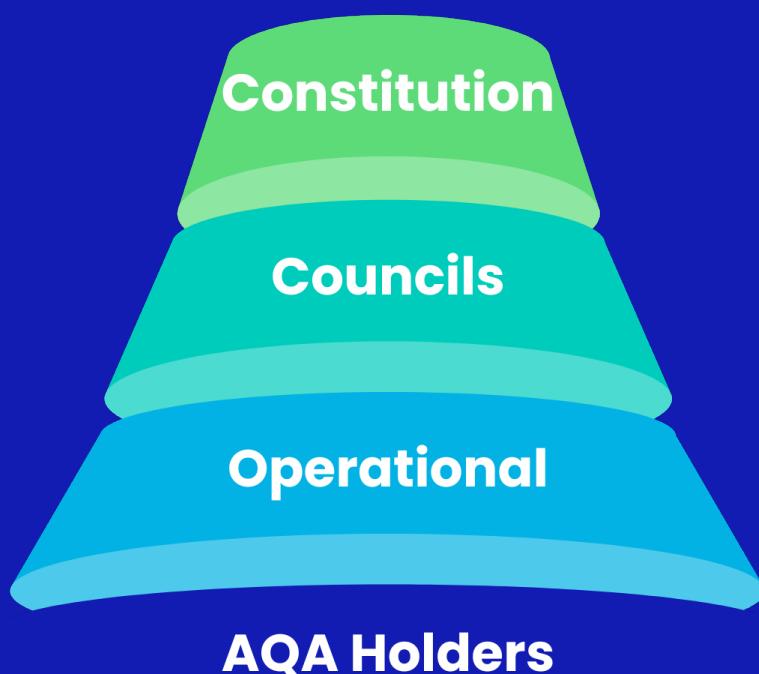
### Year 12 milestone

Aquara operates as a mature, community-governed system with DAO-led strategic authority, constitutionally bounded governance, and mandated execution. The Foundation remains as legal steward and interface where required.

Aquara's governance model is multi-layered, mandate-driven, and phased over time. The Constitution defines boundaries, Councils enforce guardrails, token holders approve strategic direction, and execution proceeds without governance bottlenecks. The framework draws inspiration from sovereign wealth fund governance structures adapted for decentralized water finance.

The governance framework is inspired by sovereign wealth fund structures — including constitutional guardrails, specialist advisory bodies, and transparent long-term reporting — adapted for decentralized water finance.

***Full governance mechanics, constitutional drafts, mandates, and council models are available in the Doc Hub.***



## 7. Treasury Formation & Capital Discipline

Aquara's treasury is designed to function as a long-term capital base rather than a reactive funding pool. Consistent with institutional fund structures, the treasury is seeded prior to broad public participation, ensuring the ecosystem launches with real economic substance.

### Phase 0 — Treasury Formation (Pre-Launch)

Before the AQA token is made widely available, Aquara focuses on establishing an initial, fully capitalised treasury through private and strategic funding channels. This phase separates capital formation from token liquidity, avoiding common early-stage risks such as forced token sales, price instability, and misalignment between token holders and treasury growth.

The objective of Phase 0 is to:

- Capitalise the treasury before public token trading
- Establish operational, custody, and reporting infrastructure
- Define initial investment and risk management frameworks
- Ensure regulatory and governance readiness

This approach mirrors how traditional funds, ETFs, and sovereign vehicles are structured: capital is committed first, the vehicle is stabilised, and participation is opened only once the foundation is in place.

**Initial treasury formation and asset deployment will be conducted through private and strategic capital, with public participation introduced progressively as governance and regulatory readiness are established.**

## 8. Treasury Evolution & Investment Phases

Aquara's treasury strategy evolves over time, gradually increasing complexity, impact, and decentralisation while preserving capital discipline.

### Phase 1 — Liquidity & Resilience

In its early operational years, the treasury prioritises liquidity, transparency, and risk management. Capital is allocated to liquid, institutionally legible instruments that allow for clear valuation, rebalancing, and reporting. During this phase, Aquara behaves closer to a professionally managed thematic treasury rather than a fully decentralised fund.

The focus is on:

- Capital preservation and downside control
- Building credibility with partners, regulators, and the water sector
- Establishing performance and reporting history

### Phase 2 — Expansion & Asset Depth

As the treasury matures, Aquara progressively expands into less liquid and higher-impact water investments. This includes greater exposure to innovation, infrastructure-linked assets, and structured water finance. Governance involvement increases, supported by expert review and strengthened due diligence processes.

### Phase 3 — Decentralised Water Investment Fund

In the long-term end state, Aquara transitions into a DAO-governed water investment platform with exposure across the full water value chain. At this stage, the community becomes the primary allocator, while execution is carried out by specialised partners under DAO mandates. The treasury supports long-duration assets, innovation financing, and system-level water resilience.

This phased approach reflects established sovereign wealth and endowment strategies: build reserves first, expand thoughtfully, and secure long-term strategic assets only once governance, scale, and credibility are established.

**Full treasury mechanics and asset strategy are detailed in the Treasury Doc Hub.**

Phase	Years	Focus
Phase 0 – Seed Value	0	Treasury seeding, custody, and reporting infrastructure
Phase 1 – Capture Value	1 - 5	Liquid, transparent assets; capital preservation
Phase 2 – Expand	6 - 9	Higher-impact, less liquid investments; infrastructure & innovation
Phase 3 – Secure Value	10 +	Long-duration strategic water assets

## 9. Why Cardano

Aquara is built on Cardano, a blockchain designed for long-term sustainability, formal governance, and real-world asset integration. These characteristics align closely with Aquara's requirements as a capital allocator operating across regulated, long-duration water assets.

Unlike short-cycle, transaction-focused networks, Cardano places emphasis on protocol stability, decentralized governance, and incremental evolution—a design philosophy that mirrors Aquara's phased transition from Foundation-led stewardship to DAO governance.

Cardano's architecture enables Aquara to implement verifiable governance, accountable participation, and auditable treasury operations, all of which are critical for institutional trust and regulatory alignment in real-world asset finance.

### Infrastructure Supporting Aquara's Requirements

- **Identity and participation** — Atala PRISM enables verifiable credentials, supporting governance integrity, role-based participation, and accountability without relying on centralized intermediaries.
- **Privacy and confidentiality** — Midnight supports selective disclosure and confidential computation, allowing sensitive governance and financial decisions to remain private while preserving auditability.
- **Scalability and execution** — Hydra provides a pathway to high-throughput execution, enabling global participation without compromising decentralization or cost predictability.
- **Data integrity** — Oracle infrastructure such as Charli3 supports the integration of verifiable real-world data, a prerequisite for transparent treasury reporting and asset tracking.
- **Real-world asset integration** — Cardano's RWA tooling, including frameworks such as Originate, enables compliant on-chain representation of off-chain assets, supporting Aquara's long-term treasury strategy.

### Architectural Alignment

Cardano provides Aquara with a **unified and governance-aware technology stack** capable of supporting identity, privacy, scalability, and asset verification within a single ecosystem. This reduces integration risk, avoids fragmented infrastructure, and supports

Aquara's long-term objective of operating a transparent, auditable, and institutionally credible water treasury.

In this sense, Cardano is not merely a deployment layer, but a foundational governance and infrastructure partner aligned with Aquara's mandate for disciplined capital allocation and generational stewardship.

## 10. Tokenomics

The AQA token is designed as a governance and coordination mechanism that aligns participants around the long-term stewardship of Aquara's treasury and ecosystem. Token ownership does not represent a direct claim on underlying assets or cash flows. Instead, it provides participation rights within Aquara's governance framework, enabling holders to guide capital allocation, policy evolution, and ecosystem development over time.

AQA's supply structure, vesting schedule, and allocation model are designed to support long-term alignment, capital discipline, and transparency, consistent with Aquara's role as a multi-decade water-focused capital platform.

**Total Supply:** 333,000,000 AQA

The total supply is fixed and capped. No additional tokens may be minted beyond this amount.

### Supply Structure

Category	%	Purpose
<b>Locked Treasury</b>	60 %	Gradually released over 10 years to support reserve growth, ecosystem expansion, and DAO development.
<b>Initial Treasury</b>	17 %	The Aquara Foundation acts as treasury steward and asset holder, while Kaitiaki Systems is engaged under contract to manage execution, operations, and early partnerships.
<b>Community &amp; Ecosystem Growth</b>	10 %	Adaptive release — 2% base launch, up to 10% if demand warrants. Distributed to holders and ecosystem programs to drive early adoption.
<b>Locked Liquidity</b>	5 %	Permanently reserved for decentralized liquidity pools to stabilize price and ensure long-term liquidity.
<b>Founding Team</b>	5 %	Vested over 4 years with a 12-month cliff to ensure long-term alignment with Aquara's mission.
<b>Milestone Pool</b>	3 %	Rewards major milestones — treasury expansion, decentralization, global partnerships. Unused tokens revert to the Treasury.

## Vesting & Release Schedule

AQA tokens subject to vesting are released on a monthly schedule over a 10-year period, equivalent to 1/120th of the locked supply per month (approximately 1,665,000 AQA).

Vesting and release mechanics are enforced via smart contracts to ensure transparency and predictability. Contract addresses and release progress are disclosed through public reporting channels.

Year	Tokens Released Annually	Cumulative Total	% of Locked Supply Released
1	19,980,000	19,980,000	10 %
2	19,980,000	39,960,000	20 %
5	19,980,000	99,900,000	50 %
10	19,980,000	199,800,000	100 %

## Treasury Relationship

The Aquara treasury is collectively governed by AQA holders and deployed across a diversified set of assets, including digital reserve assets and water-sector investments, in accordance with treasury policy and governance decisions.

Allocation ranges, asset composition, and risk parameters are defined and adjusted through governance, rather than hard-coded into token mechanics. This separation ensures that token supply design does not constrain prudent treasury management as the ecosystem matures.

## Use of Treasury Outcomes

Treasury outcomes may be:

- Reinvested to support long-term reserve growth
- Allocated to ecosystem sustainability mechanisms
- Deployed in accordance with governance-approved treasury and operational policies

No guarantees are made regarding returns, distributions, or token value appreciation.

## Summary

AQA's capped supply, long-duration vesting, and governance-centric design are intended to support alignment, transparency, and long-term stewardship, rather than short-term incentives. The token functions as a coordination layer within Aquara's governance system, ensuring that those shaping the ecosystem are aligned with its long-term objectives.

Detailed treasury policy, allocation frameworks, and execution mechanics are maintained in the Tokenomics & Treasury Documentation and evolve through governance and regulatory considerations.

## 11. Impact

Aquara's impact is driven by how capital is allocated, not by charitable distribution. By directing long-term, governed capital toward water infrastructure, technology, and system-level resilience, Aquara seeks to align financial sustainability with measurable outcomes in the global water economy.

Rather than separating "impact" from investment, Aquara integrates impact considerations directly into treasury policy, governance processes, and reporting standards.

### Impact Framework

Aquara's impact approach is structured around four core principles:

#### **Capital deployment**

Treasury capital is allocated to water-sector assets and initiatives that support infrastructure development, efficiency, access, and resilience. Investment decisions are evaluated through both financial and system-level lenses, with governance oversight and expert review.

#### **Transparency and accountability**

Treasury composition, capital deployment, and reserve status are reported transparently through on-chain verification and periodic disclosures. Impact reporting is designed to evolve alongside treasury maturity, aligning with recognized infrastructure and sustainability reporting practices.

#### **Participatory governance**

AQA holders participate in shaping capital allocation priorities through governance processes bounded by constitutional guardrails and expert review. This introduces a public participation layer into water finance without compromising capital discipline.

#### **Long-term stewardship**

As the treasury matures, Aquara may support longer-duration water-related assets and financing structures that contribute to system-level water security and resilience, subject to governance approval, regulatory context, and local considerations.

### Long-Term Objectives

Aquara's impact objectives are aligned with the scale of the global water challenge, including the estimated multi-trillion-dollar investment requirement in water infrastructure identified by institutions such as OECD.

Over time, Aquara aims to:

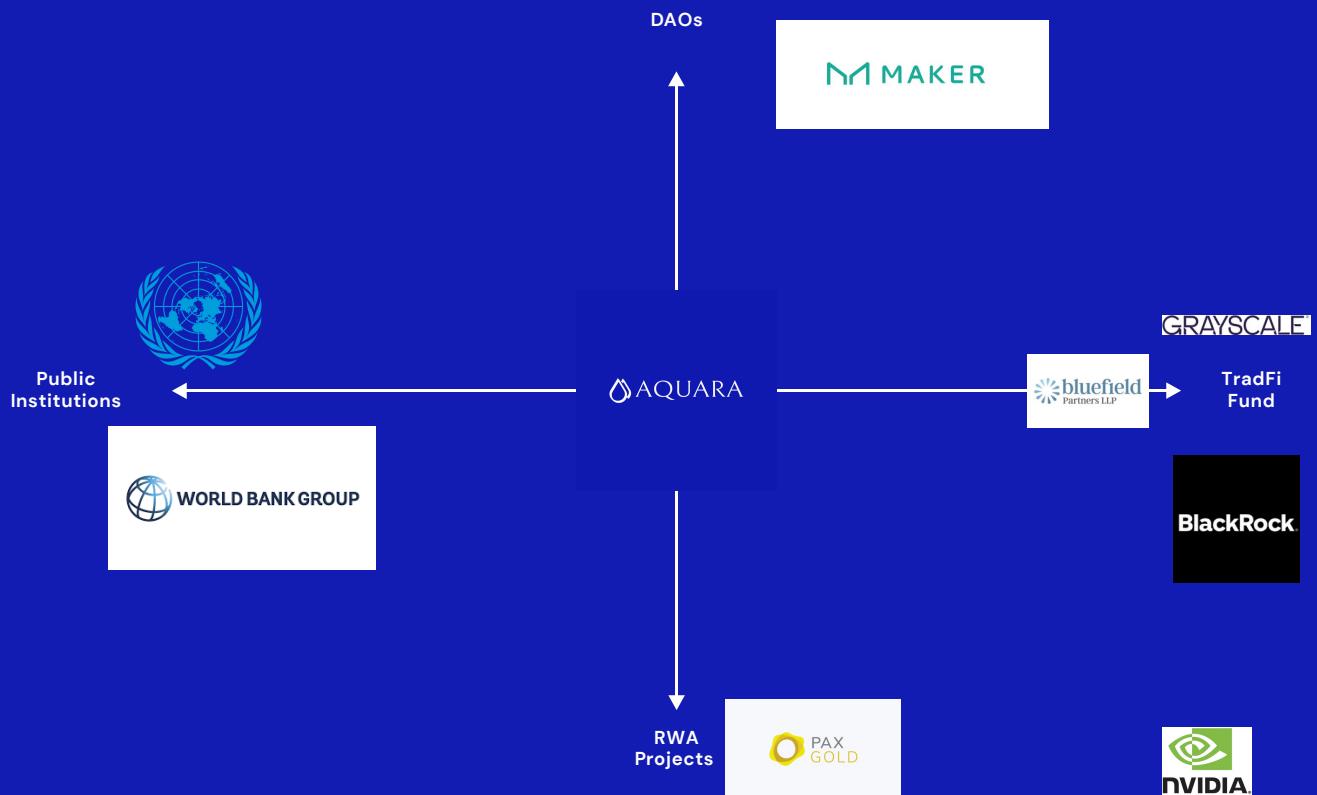
- Contribute capital toward water-sector innovation, infrastructure, and efficiency
- Support the development of scalable water technologies and systems
- Increase transparency and public participation in water-related capital allocation
- Build a treasury aligned with long-term water security and resilience outcomes

Impact targets, metrics, and reporting standards are expected to evolve as the treasury grows, governance matures, and regulatory and sector standards develop.

## 12. Competitive Landscape

Aquara operates at the intersection of capital allocation, decentralized governance, and long-term water stewardship. Existing approaches address elements of this challenge individually, but none combine these dimensions into a single, participatory capital framework that enables early, transparent involvement in capital formation and allocation.

### Competitive Analysis



### Existing Approaches

#### Decentralized governance protocols

Protocols such as MakerDAO (Sky) demonstrate that decentralized governance over large treasuries is feasible. However, most DAO treasuries remain focused on crypto-native collateral and financial primitives, rather than real-world resource systems such as water infrastructure and physical assets.

#### Real-world asset tokenization

RWA initiatives, including tokenized commodities and financial instruments, expand

access to off-chain assets by representing existing exposure on-chain. These models typically retain centralized control over asset selection, custody, and management, with limited or no role for community-level governance in capital allocation or portfolio construction decisions.

### **Traditional finance and institutional investors**

Large asset managers and infrastructure investors — including BlackRock, Blackstone, and Grayscale — allocate significant capital to water, infrastructure, and related sectors. While many of these institutions offer public investment products, access is typically provided after capital has been deployed and mandates defined, offering exposure to mature portfolios rather than participation in capital formation, allocation decisions, or governance processes. Portfolio construction and strategic direction remain centralized within institutional investment committees.

### **Multilateral and public institutions**

Organizations such as the World Bank and the United Nations play a critical role in funding and coordinating water and infrastructure projects globally. Their mandates, however, are constrained by public funding cycles, political considerations, and limited mechanisms for direct citizen participation in capital allocation or long-term portfolio governance.

### **Water-focused token initiatives**

Several projects have explored token-based representations of water or water-adjacent assets. These efforts have generally focused on symbolic representation, narrow use cases, or single-asset exposure, without integrating long-term treasury management, structured governance, and scalable capital deployment within a unified framework.

## 14. Conclusion

Aquara is designed as a long-term, community-governed capital platform for the global water economy. By combining a shared treasury, structured governance, and disciplined capital allocation, Aquara introduces a public participation layer into water finance that has historically been reserved for institutions.

Rather than operating water systems or trading water as a commodity, Aquara focuses on financing and governing the companies, technologies, and infrastructure that underpin water access and resilience. Governance participation through the AQA token enables holders to influence how capital is formed, allocated, and stewarded over time, within a framework defined by constitutional guardrails, expert review, and phased decentralization.

Aquara's dual-asset treasury model is designed to balance long-term stability with adaptive capital deployment, while maintaining transparency and accountability through on-chain verification and structured reporting. This approach aligns financial sustainability with system-level water outcomes, without relying on short-term incentives or extractive models.

The global water sector faces a substantial and well-documented investment gap, while existing funding mechanisms remain constrained by institutional, political, and structural limitations. Aquara complements these systems by enabling coordinated, participatory capital formation at a global scale.

This whitepaper defines Aquara's mandate, governance architecture, and capital discipline. Detailed investment policies, allocation frameworks, and execution strategies are intentionally maintained in separate documentation and evolve through governance processes and regulatory considerations.

Aquara's objective is not to replace existing water institutions, but to add a durable, transparent capital layer capable of supporting long-term water stewardship in an increasingly complex and resource-constrained world.

## 15. Risk Factors and Disclaimers

Acquiring AQA tokens involves certain risks, and it is essential for prospective tokenholders to understand these considerations. While Aquara's dual asset-backed model aims to provide stability, AQA tokens remain subject to cryptocurrency market risks, which may impact token value and liquidity. For a detailed outline of risks and conditions, please consult the full Terms and Conditions on our website. Key risks include:

- **Market Volatility:** Cryptocurrency markets are highly volatile, and AQA token values may experience rapid and significant fluctuations, resulting in potential gains or losses.
- **Regulatory Changes:** The regulatory environment for cryptocurrencies and asset-backed tokens is evolving. Future changes in laws or regulations could impact Aquara's operations, reserves, or governance model.
- **Asset-Backed Limitations:** While AQA tokens are backed by assets, this does not eliminate all risks or guarantee protection against market fluctuations. The asset-backing provides some stability but is not a complete hedge.
- **No Ownership Rights:** Holding AQA tokens does not grant ownership of Kaitiaki systems or Aquara Foundation's assets, including water assets or Bitcoin. Tokenholders have no equity interest or claim to the foundation's holdings.
- **Risk of Total Loss:** AQA tokens are speculative, and holders should be prepared for the potential risk of total loss of value.
- **Technology and Security Risks:** As a digital asset, AQA tokens are subject to technology risks, including potential cybersecurity issues and blockchain vulnerabilities. Transactions are irreversible, and users are responsible for ensuring transaction details are accurate.
- **Note on Water Ownership:** Aquara does not own water itself nor speculate on it as a commodity. Our investments focus solely on companies, technology and later land, and rights that secure access to water resources. This distinction is key to our mission of protecting water as a vital resource and returning control to communities and holders.

For a full list of risks and important details, please refer to the comprehensive Terms and Conditions available on our website.

## 16. Appendix A - Estimating the Size of the Global Water Economy

Estimates of the global water economy vary widely depending on scope and methodology. The commonly cited range of \$6–7 trillion reflects an aggregation of multiple water-dependent sectors rather than a single, discrete market.

This estimate typically includes:

- Water infrastructure and utilities (treatment, distribution, wastewater, desalination)
- Industrial water use across manufacturing, energy production, and mining
- Agricultural water use, which accounts for the majority of global freshwater withdrawals
- Water-related technology and services, including monitoring, efficiency, recycling, and digital water management
- Associated capital assets and long-lived infrastructure, such as networks, plants, reservoirs, and rights frameworks

Industry analyses from multilateral institutions, consultancies, and financial institutions commonly place annual global water market activity in the range of \$800–900 billion, while the total asset base and economic value of water-dependent systems extends into the multi-trillion-dollar range when infrastructure stock, capital intensity, and downstream economic reliance are considered.

Aquara uses the \$6–7 trillion figure as a high-level, directional representation of the scale and importance of the global water economy, not as a precise or investable market size. The purpose of this estimate is to contextualize water as one of the world's largest and most systemically important economic domains — and to highlight the absence of public participation mechanisms within it.

**Indicative sources commonly referenced in estimating the scale of the global water economy include:**

- World Bank — global water infrastructure investment needs, utility finance, and capital stock
- OECD — water governance, infrastructure valuation, and long-term investment frameworks
- UNESCO / UN-Water — global water use, agricultural and industrial dependency
- McKinsey & Company / Boston Consulting Group — water sector capital intensity and market structure
- BNP Paribas / other financial institutions — water as a long-term investment theme

These sources do not define a single, unified “water market size,” but collectively support the scale and economic significance reflected in the \$6–7 trillion estimate.

## 17. References

This reference list covers not only the sources cited in this whitepaper but also the broader Aquara Document Hub, including governance, treasury, tokenomics, and impact papers. Together, they provide the research foundation behind Aquara's design, strategy, and long-term roadmap.

**PUB, Singapore's National Water Agency. (2024).** *Singapore NEWater journey*. PUB.

**United Nations. (2023).** *World Water Development Report 2023: Leaving no one behind*. United Nations.

**Barlow, M. (2014).** *Blue future: Protecting water for people and the planet forever*. The New Press.

**Barlow, M. (2011).** *Blue covenant: The global water crisis and the coming battle for the right to water*. The New Press.

**Center for Strategic & International Studies. (2022).** *Liquidity crisis: Strengthening funding mechanisms for resilient water systems*. CSIS. <https://www.csis.org/analysis/liquidity-crisis-strengthening-funding-mechanisms-resilient-water-systems>

**Gleick, P. H. (2014).** Water, drought, climate change, and conflict in Syria. *Weather, Climate, and Society*, 6(3), 331-340.

**UNESCO. (2022).** *The United Nations World Water Development Report 2022: Groundwater – Making the invisible visible*. United Nations Educational, Scientific and Cultural Organization (UNESCO).

**Blackstone. (2019, February 5).** *Blackstone Energy Partners announces its partnership with Waterfield Midstream – a Permian Basin oil & gas water management platform* [Press release]. <https://www.blackstone.com/news/press-release-20190205-waterfield-midstream/>

**World Health Organization (WHO) & United Nations Children's Fund (UNICEF). (2021).** *Progress on household drinking water, sanitation and hygiene 2000–2020: Five years into the SDGs*. WHO and UNICEF.

**Bakker, K. (2010).** *Privatizing water: Governance failure and the world's urban water crisis*. Cornell University Press.

**UNESCO. (2023).** *World Water Development Report 2023: Leaving no one behind.* United Nations Educational, Scientific and Cultural Organization.

**MicroStrategy Incorporated. (2024).** MicroStrategy's Bitcoin strategy. MicroStrategy Incorporated.

**World Bank. (2019).** Water scarcity in the Middle East and North Africa: Challenges and opportunities. The World Bank.

**Foley, S. (2023).** The volatility of cryptocurrency markets and why it matters. CoinTelegraph.

**IMARC Group. (2023).** Cryptocurrency market: Global industry trends, share, size, growth, opportunity, and forecast 2023-2028. IMARC Group.

**Statista. (2024).** Cryptocurrency market volume worldwide from 2017 to 2024. Statista.

**Azizi, S., & Fazlollahi, S. (2023).** Linkages between ESG indices and emerging decentralized finance (DeFi) assets.

**Precedence Research. (2023).** Water and wastewater treatment market: Global industry analysis, size, share, growth, trends, and forecast 2023-2032. Precedence Research.

**BNP Paribas. (n.d.).** Water: The trillion-dollar investment gap. <https://cib.bnpparibas/water-the-trillion-dollar-investment-gap>

**World Bank. (2024, October 23).** Remarks by Axel van Trotsenburg, Senior Managing Director, at the Financing Water Security: Increasing Investments to Close the Gap Event.

**Savage, K. (2023, November 7).** Bitcoin could support renewable energy development. Cornell Chronicle. <https://news.cornell.edu/stories/2023/11/bitcoin-could-support-renewable-energy-development>

**Cointelegraph. (2024, January 18).** Bitcoin mining boosts the transition to renewable energy. Cointelegraph. <https://cointelegraph.com/news/bitcoin-mining-renewable-energy-transition>

**Cardano. (n.d.).** Cardano: The blockchain platform for change makers, innovators, and visionaries. <https://cardano.org>

**Algorand. (2022, April 21).** Algorand pledges to be the greenest blockchain with a carbon-negative network now and in the future. Business Wire. <https://www.businesswire.com/news/home/20210422005075/en/Algorand-Pledges-to-be-the-Greenest-Blockchain-with-a-Carbon-Negative-Network-Now-and-in-the-Future>

**Amrous, S. (2018).** *The Bitcoin Standard: The Decentralized Alternative to Central Banking*. Wiley.

**Toledo, M. (2024, October 2).** *Liquid asset: Investing in water is good for returns, good for the planet*. Top1000Funds. <https://www.top1000funds.com/2024/10/liquid-asset-investing-in-water-is-good-for-returns-good-for-the-planet/>

**Viska Digital. (2024, February 15).** *Bitcoin's remarkable resilience: Only 3 down years in history*. Viska Digital. <https://viskadigital.com/en/articles/bitcoins-remarkable-resilience-only-3-down-years-i>

**Blockchain.News. (2024, February 25).** *Bitcoin's historical resilience during macroeconomic shifts*. Blockchain.News. <https://blockchain.news/flashnews/bitcoin-s-historical-resilience-during-macroeconomic-shifts>

**Input Output Global. (2023, December 4).** *IOG contributes Atala PRISM to Hyperledger Foundation*. <https://iohk.io/en/blog/posts/2023/12/04/iog-contributes-atala-prism-to-hyperledger-foundation/>

**Atala PRISM. (n.d.).** *Atala PRISM: Empowering individuals with decentralized identity*. <https://www.atala.io/prism>

**United Nations. (2020).** *The United Nations world water development report 2020: Water and climate change*. UNESCO. <https://www.unwater.org>

**Shannon, M. A., Bohn, P. W., Elimelech, M., Georgiadis, J. G., Mariñas, B. J., & Mayes, A. M. (2008).** Science and technology for water purification in the coming decades. *Nature*, 452(7185), 301-310. <https://doi.org/10.1038/nature06599>

**Elimelech, M., & Phillip, W. A. (2011).** The future of seawater desalination: Energy, technology, and the environment. *Science*, 333(6043), 712-717. <https://doi.org/10.1126/science.1200488>

**Steduto, P., Hsiao, T. C., Fereres, E., & Raes, D. (2012).** *Crop yield response to water*. Food and Agriculture Organization of the United Nations (FAO).

**National Research Council. (2012).** *Water reuse: Expanding the nation's water supply through reuse of municipal wastewater*. National Academies Press. <https://doi.org/10.17226/13303>

**Rodríguez, C., Van Buynder, P., Lugg, R., Blair, P., Devine, B., Cook, A., & Weinstein, P. (2009).** Indirect potable reuse: A sustainable water supply alternative. *International Journal of Environmental Research and Public Health*, 6(3), 1174-1203. <https://doi.org/10.3390/ijerph6031174>

**Sood, A., Smakhtin, V., & Srinivasan, V. (2017).** Global water quality monitoring: Past, present, and future. *Environmental Monitoring and Assessment*, 189, 579. <https://doi.org/10.1007/s10661-017-6308-y>

**Merriam-Webster. (n.d.).** Water reserve. In Merriam-Webster.com dictionary. Retrieved March 21, 2025, from <https://www.merriam-webster.com/dictionary/water%20reserve>

**U.S. Environmental Protection Agency. (n.d.).** Water infrastructure investments. Retrieved March 21, 2025, from <https://www.epa.gov/infrastructure/water-infrastructure-investments>

**Cheever, F. S., & Hayes, B. E. (2014).** Water rights and the law: A legal overview. *The Water Law Review*, 18(1), 1-50.

**Lithgow, D. (2025, March 5).** Collaboration, investment needed to address water issues. *Midland Reporter-Telegram*. <https://www.mrt.com/business/oil/article/midland-water-crisis-planning-20205054.php>

**World Bank. (n.d.).** Water and sanitation PPPs. Public-Private Partnership Legal Resource Center. Retrieved March 21, 2025, from <https://ppp.worldbank.org/public-private-partnership/water-and-sanitation/water-sanitation-ppps>

**U.S. Environmental Protection Agency. (n.d.).** Water Infrastructure Finance and Innovation Act (WIFIA). Retrieved March 22, 2025, from <https://www.epa.gov/wifia>

**Liu, J., & Zhi, X. (2021).** Blockchain applications in water management: Opportunities and challenges. *Journal of Environmental Management*, 279, 111476. <https://doi.org/10.1016/j.jenvman.2020.111476>

**United Nations General Assembly. (2010).** Resolution 64/292: The human right to water and sanitation. United Nations. [https://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/64/292](https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/64/292)

**Ostrom, E. (1990).** *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press.

**Sachs, J. (2015).** *The age of sustainable development*. Columbia University Press.

**Sen, A. (1999).** *Development as freedom*. Alfred A. Knopf.

**Shiva, V. (2002).** *Water wars: Privatization, pollution, and profit*. South End Press.

**Intergovernmental Panel on Climate Change. (2022).** *Climate Change 2022: Mitigation of Climate Change*.

**International Conference on Water and the Environment. (1992). *The Dublin statement on water and sustainable development*.** International Conference on Water and the Environment, Dublin, Ireland.

**Global Water Partnership. (n.d.). *Vision and mission*.** Global Water Partnership.

**OECD. (2015). *Water governance in the world: The water governance initiative*.** Organisation for Economic Co-operation and Development.

**International Water Resources Association. (n.d.). *About us*.** IWRA.

**IBM. (2023, February 15).** How blockchain enables trust in water trading. *IBM Think*.

**Bluefield Research. (2024).** U.S. water infrastructure investment outlook: 2024–2030. Retrieved from <https://www.bluefieldresearch.com>

**World Economic Forum. (2023, June 22).** Thematic insights: Blue gold. Retrieved from <https://www.weforum.org/agenda/2023/06/blue-gold-water-investment/>

**Rothschild & Co. (2023, June 22).** Thematic insights: Blue gold. Retrieved from <https://www.rothschildandco.com/en/newsroom/insights/2023/06/thematic-insights-blue-gold/>

**Silverwood, A. (2025, July 25).** Blue gold: Why water stocks could be your portfolio's lifeline. Retrieved from <https://explore.nemo.money/en/insights/blue-gold-portfolio>

**Barlow, M., & Clarke, T. (2008).** Blue gold: The fight to stop the corporate theft of the world's water. The New Press.

**CoinDesk. (2025, June 26).** Real-world asset tokenization market has grown almost fivefold in 3 years. Retrieved from <https://www.coindesk.com/business/2025/06/26/real-world-asset-tokenization-market-has-grown-almost-fivefold-in-3-years>

**Verified Market Research. (2024).** Water market – Global industry analysis, size, share, growth, trends, and forecast 2024–2032. Retrieved from <https://www.verifiedmarketresearch.com/product/water-market/>

**GMI Insights. (2023).** Water purification systems market size, share & trends analysis report, 2023–2032. Retrieved from <https://www.gminsights.com/industry-analysis/water-purification-systems-market>

**Precedence Research. (2024).** Water treatment systems market size, share & growth forecast, 2024–2034. Retrieved from <https://www.precedenceresearch.com/water-treatment-systems-market>

**Zion Market Research. (2024).** Water filtration systems market by product and region – Global forecast to 2034. Retrieved from <https://www.zionmarketresearch.com/report/water-filtration-systems-market>

**CoinMarketCap. (2025).** Live cryptocurrency charts & market data. Retrieved October 17, 2025, from <https://coinmarketcap.com/charts/>

**BNP Paribas. (2023, September 7).** Water: the trillion-dollar investment gap. BNP Paribas CIB. <https://cib.bnpparibas/water-the-trillion-dollar-investment-gap/>

**OECD. (2019).** Making blended finance work for water and sanitation: Unlocking commercial finance for SDG 6. OECD Publishing. <https://doi.org/10.1787/5efc8950-en>