

Water Credits Bulletin

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In collaboration with

hypercube 



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EXECUTIVE SUMMARY

Water Credits are an innovative **market-based instrument** that fosters responsible water stewardship and drives progress toward a restorative water economy. Developed in response to the escalating global challenges of water scarcity and deteriorating water quality, this system recognizes and rewards organizations that demonstrably reuse or conserve freshwater through **traceable and independently verified processes**.

By converting quantifiable improvements in water efficiency into a tradable environmental asset, Water Credits support alignment with the UN Sustainable Development Goals, particularly SDGs 6, 12, 14, and 15.

Each Water Credit represents a specific volume of water that is either reused or not withdrawn from natural sources. This volume is tokenized into Water Tokens (WTR) on a public blockchain, guaranteeing transparency, traceability, and auditability. The system operates on a platform that oversees the entire Water Credit lifecycle: measurement, verification, tokenization, and retirement. It is built on certified data, a publicly immutable blockchain registry, and AI-powered monitoring. Hypercube®, a Swiss group, developed the core technology and launched the first international Water Credit system, while BDO is the pioneering consulting firm with a dedicated unit that supports companies (across the entire value chain), financial institutions, NGOs, and Governments in adopting the system.

“Water Credits are not just a market tool” says Carlo Luison, BDO Sustainable Innovation Partner “they are the foundation of a future where water regains its role as a regenerative force for life and prosperity. By transforming conservation into a transparent, tradable asset, we are unlocking a global movement that aligns technology, finance, and sustainability to restore one of our planet’s most vital resources.”

The system delivers **multiple benefits** for stakeholders: companies can strengthen their ESG credentials and comply with evolving water-impact regulations; institutions can direct funding towards effective conservation and restoration projects; communities gain improved water security, socio-economic resilience, and enhanced capacity to adapt to droughts and floods.

It is worth noting that at COP30 in Belém, water was recognized as a central element in climate resilience discussions, with strong emphasis on integrating it into both mitigation and adaptation strategies.

Pilot initiatives in Brazil and other countries, alongside legislative advances such as Italy’s move toward “blue certificates,” highlight the increasing momentum of Water Credits as a scalable mechanism to mobilize finance, drive innovation, and foster collaboration for sustainable water management.





WHY WATER CREDITS MATTER

A NATURAL CRITICAL RESOURCE

Water is increasingly recognized as a critical global resource: essential for human survival, ecosystem stability, and economic development. Yet, water scarcity and quality challenges are escalating worldwide, impacting societies, economies, and nature.

The UN Sustainable Development Goals - particularly SDG 6 (Clean Water and Sanitation) and SDG 14 (Life Below Water) - highlight how sustainable water use and reuse is central to achieving long-term environmental and social resilience.



In 2023, the World Bank released [Scaling Up Finance for Water](#), a strategic framework and roadmap for action that emphasizes the need for coordinated, programmatic efforts in the water sector to unlock private sector expertise, innovation, and capital.

Additionally, the [Scaling Water Reuse](#) report (May 2025) highlights that water reuse remains underutilized but is approaching a turning point, with the potential for an eightfold increase by 2040 - reaching 430 million mc/day, equivalent to 25% of municipal freshwater withdrawals.

According to a [recent study by the European Central Bank](#) (ECB), water scarcity poses a significant risk to economic output in the euro area, to the point that the banking sector is urged to allocate financing more effectively to address the issue. The analysis of bank loan portfolios shows that 19% of loans are exposed to surface-water scarcity and 22% to groundwater scarcity, with the highest concentrations in the real estate, manufacturing, and wholesale and retail trade sectors.

Public institutions are working to reduce negative impacts and are implementing strategic plans that promote and support private and public initiatives aimed at strengthening water governance and directly addressing the main challenges currently affecting the resource. A notable example is the European Union's [Water Resilience Strategy](#).





A NATURAL CRITICAL RESOURCE

Adopting Water Credits generates broad benefits, enabling stakeholders to collaboratively strengthen sustainable water systems and transform water challenges into shared opportunities for environmental and social value.



For Companies:

- Enhances corporate sustainability and ESG performance through proactive water risk management
- Offsets of hard-to-abate water used in operations
- Creates opportunities to invest in local water delivering verifiable environmental benefits
- Supports compliance with emerging regulations on water impact and fosters positive stakeholder relations



For Institutions:

- Facilitates public-private partnerships to enhance watershed health and water security
- Supports regulatory and policy objectives for water resource management and climate adaptation
- Provides a transparent mechanism to channel non-debt funding towards effective water conservation and restoration projects
- Creates incentives for existing sustainable water processes at no public cost



For Territories and Local Communities:

- Secures water availability and quality for communities, agriculture, and industries by restoring natural water cycles
- Delivers socio-economic benefits including job creation, improved health, and enhanced resilience to droughts and floods
- Encourages participatory approaches, empowering local stakeholders in water governance



For Financial Operators:

- Create innovative financial products and trading opportunities: Water Credits can be integrated into sustainable portfolios, enabling instruments such as green bonds and ESG funds, diversifying revenue streams while combining market value with impact-driven principles
- Boost water resilience to cut claims and unlock new insurance solutions: reducing drought and flood damages lowers insurer costs and enables new products, including policies tied to Water Credit performance or comprehensive water risk management





WATER CREDITS TOKEN SYSTEM

Water Credits are a new class of voluntary environmental assets designed to promote responsible water use and support the transition to a regenerative water economy. They reward **organizations** that actively reduce freshwater withdrawals through reuse, recycling or regeneration processes, turning water efficiency into a measurable and tradable value.

Each Water Credit equals **1 cubic meter of water** reused or not withdrawn from natural sources through a verified process. This credit is digitally tokenized into a **Water Credit Token (WTR)** - a digital asset framed by FINMA as utility token - issued on a public blockchain (namely Algorand, an environmentally-friendly blockchain) that ensures:

- Traceability of every unit of water reused
- Immutability of records
- Auditability by third parties
- Insurability for reputational risks
- International market accessibility

In April 2024, WTR was **listed on a non-regulated exchange**. By July 2025 it entered **regulated markets** for banks, funds, professional and institutional investors in Switzerland and Europe through the first derivative. The financial instrument is available via Bloomberg through Six Sis and Euroclear with Swiss ISIN and is as well listed in Vienna.

WTR PRICE TREND (USD) - from November 2024 to November 2025



Figure - Water Token "Wateract" (WTR) quotation from [FORBES](#) website.

Hypercube is currently the main **operational platform that enables large-scale verification, tokenization and retirement of Water Credits**. It was designed to address the key weaknesses of traditional environmental credit systems by eliminating practices that often lead to greenwashing - such as unverifiable claims, double-counting, and the resale of credits across multiple registries.





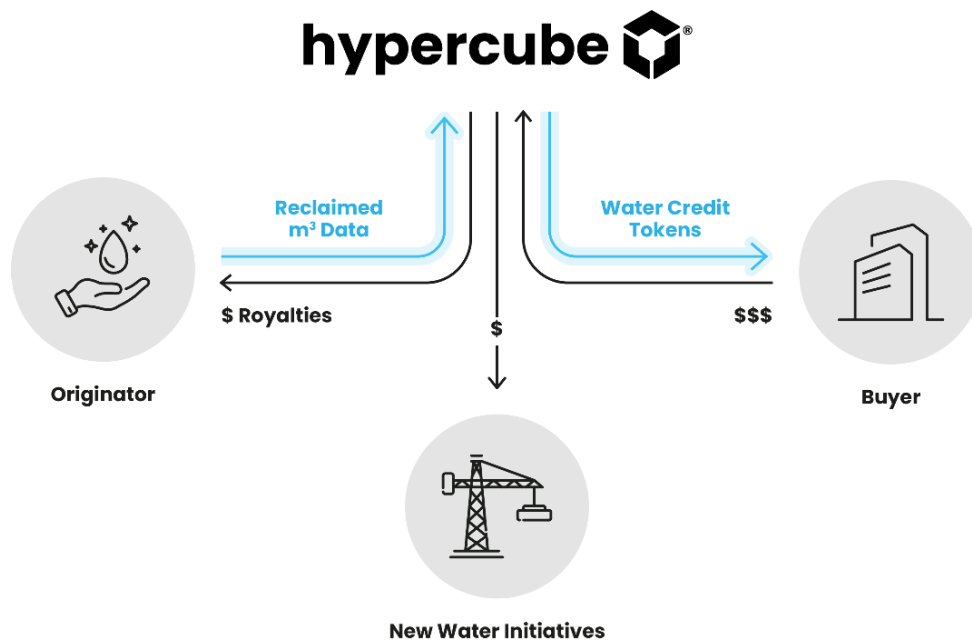
HOW DO WATER CREDITS WORK?

THE HYPERCUBE MODEL

The Hypercube's model is based on:

- Direct measurement via certified sensors
- Real-time data registration on the blockchain
- Public and immutable records of each credit
- Automated AI-based anomaly detection system
- Second-party remote & on-site audits on off-chain assets

Hypercube blockchain-based tracking technology covers the entire life cycle of Water Credits, starting with the qualification of plants eligible for credit generation. Flowmeters, pumps, and upstream/downstream meters are installed to accurately measure treated cubic meters and their subsequent intended use. All data is recorded on a public, immutable blockchain registry, ensuring transparency and trust.



Originator

A company or organization that generates Water Credits Token (WTR) by qualifying a water reuse, collection, or recycling system. These systems - called Sources - must meet strict eligibility criteria and undergo both technical and environmental audits.

Buyer

An entity that purchases Water Credits Token (WTR) to:

- offset its water footprint by retiring equivalent WTR;
- support sustainable water projects;
- invest in ESG-compliant financial products.

Buyers may include water-intensive corporations, banks, funds and institutional investors.





HOW DO WATER CREDITS WORK?

FOCUS ON THE ORIGINATION PROCESS

The origination of Water Credits follows this workflow:

- 1) Source Submission.** Eligible Sources are processes owned by public or private organizations (Originators) that actively recycle, collect, reuse or generate water for self or third-party consumption as a direct alternative to a primary source withdrawal. To qualify, the process must include direct measurement systems (especially for input/output), ensure transparency in output usage and avoid negative impacts on other resources. The Originator must grant Hypercube exclusive rights to generate Water Credits and other impact derivatives on such data, provide full documentation, accept third-party inspections and support data traceability via blockchain.
- 2) Source Onboarding.** Onboarding is carried out through a digital procedure on Hypercube's platform, requiring detailed documentation: company and plant profiles, process flow maps, measurement systems, and designated internal monitoring personnel. Periodic updates (e.g., invoices, discharge declarations) may be requested to validate data integrity. BDO provide technical support and advisory throughout the process.
- 3) Data Collection and Registration.** Hypercube collects primary and secondary data via proprietary APIs and records them immutably on the blockchain, creating a public registry of reclaimed cubic meters—the basis for WTR generation.
- 4) Tokenization and WTR issuing.** Each registered cubic meter triggers the issuing of a WTR token (Algorand Standard Asset or ASA). Tokens represent 1 m³ of water and are irreversibly retired through a swap transaction to Hypercube's master wallet (off market) to create Water Credits, ensuring traceability and preventing double-counting. A four-level monitoring system (two internal, two external) guarantees data integrity for both token and credit generation. Auditors can verify each transaction either in real time on the blockchain, or access detailed transaction logs (xls/csv) periodically.



Source
submission

Water reuse activities (i.e., the recovery and reintegration into the cycle of previously used water)



Source
Onboarding

Registration via Hypercube's digital platform, requiring the upload of detailed technical documentation



Data collection
and registration

Collects primary and secondary data on reused water volumes and records them immutably on the blockchain



Tokenization
and WTR issuing

Each registered cubic meter triggers the issuing of a WTR token





WHERE DO WATER CREDITS APPLY?

ADOPTION OF CREDIT TRADING MECHANISMS IN WATER RESOURCE MANAGEMENT

Several countries have implemented certification and trading systems for environmental water improvement. Notably, Australia, the United States (especially the western states), South Africa, and Chile have established formal [water trading schemes](#), which generally revolve around water rights allocation and exchange rather than impact-based crediting. India and other South Asian countries are developing pilot projects for Water Benefit Certificates - tradable units linked to water savings and ecosystem benefits.

Brazil and some other regions combine Water Credits with clean energy projects. In Europe, certification efforts focus more on water quality rather than on widespread Water Credit trading. These markets often rely on use digital platforms to facilitate transparent exchanges and encourage efficient water use.

Despite this progress, most existing systems are not impact-based water-credit mechanisms. In many cases, they operate through water rights trading (e.g., California) or water-loan instruments (such as concessional financing).

Despite these developments, few institutions have fully implemented a Water Credit system like the one described, and this Bulletin aims to monitor its diffusion and implementation. Among the legislations currently considering Water Credits, the state of Ceará in Brazil deserves special attention.

WATER CREDITS IN BRAZIL



The World's First Regulated Water Credits Market

In Brazil, the State of Ceará has announced its efforts to draft the world's first Water Credit Law, establishing a fully regulated market for tradable, verifiable Water Credits.

The law will establish the local Water Credit System, setting the standard for a potential broader South American Water Credit market as several other countries in the continent are starting feasibility studies on this matter. Being a non-debt mechanism, the water credit system could drastically accelerate water resilience plans in the region without burdening local government budgets, often already strained by excessive public debt.

With this law, the State of Ceará is set to become the [first jurisdiction](#) to formally recognize Water Credits as environmental assets, drawing a blueprint for national and international replication, fostering the development of a global regulated market alongside the rapidly growing voluntary market based on Hypercube Water Credit standard.

Furthermore, the Distrito Federal (a federative unit of Brazil) and the Regulatory Agency for Water, Energy, and Basic Sanitation Services (ADASA) signed a Memorandum of Understanding with Hypercube on December 12, 2025, to initiate collaboration on the implementation of the “Sistema de Créditos Hídricos do Distrito Federal” (SCH-DF). The agreement aims to strengthen water security in the region and promotes the use of water credits by the private sector as a tool for environmental compensation and value creation. With this initiative, the Federal District takes a strategic step toward innovation in water resource management, consolidating a model that integrates sustainability, technology, and governance.





WHERE DO WATER CREDITS APPLY?

WATER CREDITS IN ITALY: INSIGHTS AND FIRST IMPLEMENTATION



Italian Blue Book from utilities

Reducing the water footprint of production processes by promoting water conservation and reuse is a global challenge that demands strong policies and effective monitoring tools to ensure water security for future generations, with a focus on innovation.

Italy can address this by using both the legislative tool of Blue Certificates and the voluntary mechanism of Water Credits linked to water reused. These insights emerged during a thematic session organized by **Fondazione Utilitatis** and **Utilitalia** at the 28th edition of **Ecomondo** - International Exhibition for Ecological Transition and Circular Economy, held in Rimini from November 4 to 7, 2025.

The event previewed key points from the fourth “[Blue Book](#)”, developed by Fondazione Utilitatis and Utilitalia with contributions from Bioreal, Hypercube, and Gruppo CAP. It highlights that globally, the only voluntary tool capable of credibly and effectively enhancing Water Credits is Hypercube’s protocol for generation and tokenization.



First Italian project

CAP Holding, a public green utility in Milan, is the first in Italy to join the [voluntary Water Credits system](#), converting treated wastewater into tradable tokens. These tokens can be purchased by water-intensive companies to offset their residual water footprint.

The initiative promotes **water reuse** and reinvests part of the proceeds into local environmental projects. CAP’s 40 treatment plants process 350 million m³ of wastewater annually, with **45.4% reused** for non-potable purposes. The **Bresso-Niguarda plant** plays a key role, supplying reclaimed water to **Parco Nord Milano**, with reuse capacity set to increase tenfold. Each reused cubic meter generates a **blockchain-certified WTR token**, aligned with ESG standards. The project supports **circular economy goals**, reducing groundwater extraction and enhancing water efficiency. CAP’s leadership in this field marks a **new chapter in sustainable finance** for utilities. The growing value of WTR reflects strong public and private interest in scalable water-saving solutions.



CONTATTI

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