Blue Bonds & Blockchain-Enabled Water Credit Marketplace

Secure Your Future, Save Our Planet: Invest in Water Conservation

Problem Statement

The water scarcity crisis in the Colorado River Basin is a dire situation, affecting millions of people. According to data from the Bureau of Reclamation, the basin has experienced a 20-year drought, causing the reservoir levels to decline by an average of nearly 20%[1]. This has resulted in a decrease of over 3 million acre-feet of water, which is enough to supply 6 million people for a year[2]. Additionally, the population of the southwestern United States, which relies heavily on the Colorado River, has grown at least twice the pace of the United States as a whole[3], putting even greater demands on the already stressed water supplies. There exists an urgent need for action to address water scarcity in the Colorado River Basin and ensure access to safe and reliable water sources for current and future generations.

Market Failure

The water scarcity crisis in the Colorado River Basin highlights the importance of investment in water-saving technologies. Despite the availability of innovative solutions, such as rainwater harvesting, greywater reuse, and water-efficient appliances, their implementation has been limited by a lack of investment and awareness[4]. With growing demands on water resources due to population growth and climate change, it's crucial that investment in these technologies is increased in order to conserve water and ensure a sustainable future.

The need for federal assistance in funding water supply projects in the western US is significant and surpasses the currently available resources. Based on data gathered from public statements, reports, and federal agencies, as well as input from western water users and state officials, an inventory of water supply projects has been compiled with a total estimated cost of nearly $60 billion[5]. While some of these projects may be eligible for funding from existing federal programs, others may require additional planning or authority before they can pursue available funding. The inventory provides a clear picture of the pressing need for water infrastructure investment in the region, highlighting the urgency for greater federal support in addressing this critical issue.

The Solution: BlueCert

BOND STRUCTURE

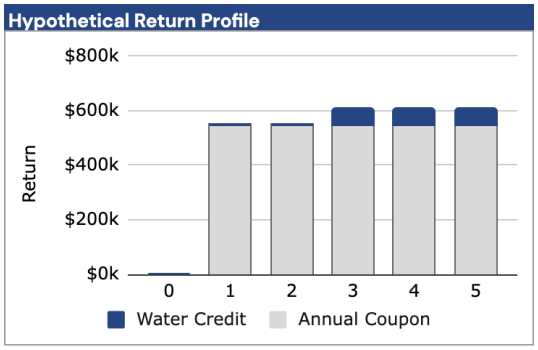
BlueCert is a 5-year water saving fixed coupon bond with a coupon floor with the addition of a water credit kicker. The coupon rate will be fixed at 5.5% for 5 years. This structure was decided on to keep this bond competitively priced with other green and sustainable bonds. The Face Value of the bond is an estimate based on the usual construction cost of a water saving project in California.

WATER CREDIT

The water credit kicker comes in when a project has started to contribute to water saved in the river basin. The floor is set the recent Inflation Reduction Act and backed by the US Federal Government. They will pay an amount between $330 and $400 per acre-foot of water saved above the baseline for the Colorado River Basin depending on how many years the project plans to save water[10]

Hypothetical Terms	
Maturity	5 years
Coupon Rate Type	Fixed
Coupon Rate	5.50%
Face Value	$10 Million
Target Investors	Institutional Investors, Impact

Hypothetical Returns at Maturity	
Projected Nominal Bond Return	$12,750,000
Minimum Water Credit Payout	$163,556
Projected Bond + Water Credit Return	$12,913,556
Projected Bond Yield	5.50% - 5.83%



HOW IT WORKS/FUND FLOWS

The intermediary raises capital from institutional investors and provides liquidity to a portfolio of water conservation projects related to the Colorado River Basin. The impact of water conservation projects is measured and indexed, and water credit offsets are generated commensurate with the amount of acre-feet of water saved. Credits are exchanged between credit holders and credit consumers on a separate, decentralized smart contract node.

Additionally, BlueCert Investors will receive water saving credits through funding of projects representing multiple developers and technology types. Unlike traditional water saving agreements, which are made between a single buyer and developer, this diversification reduces supply and delivery risks and enables buyers to build an evolving portfolio that will maintain targeted water saving credit volumes by project type and price. By utilizing BlueCert, companies can contribute to impactful water-saving projects over time and play a crucial role in addressing the water scarcity crisis in the Colorado River Basin.

[1] https://www.usbr.gov/climate/secure/docs/2021secure/basinreports/ColoradoBasin.pdf
[2] https://www.watereducation.org/western-water/colorado-river-flows-drop-and-tensions-rise-water-interests-struggle-find-solutions#:~:text=During%20recent%20public%20briefings%2C%20federal,electricity%20or%20deliver%20water%20downstream
[3] https://www.census.gov/library/stories/2019/02/fast-growth-in-desert-southwest-continues.html
[4] https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/us-water-infrastructure-making-funding-count
[5] https://www.wga.com/sites/default/files/6.3.21_Infrastructure_Package_Funding_Proposal_with_Justification_Absolutely_Final.pdf
[9] https://www.usbr.gov/watersmart/bsp/docs/finalreport/ColoradoRiver/CRBS_Executive_Summary_FINAL.pdf
[10] https://www.doi.gov/pressreleases/biden-harris-administration-announces-new-steps-drought-mitigation-funding-inflation

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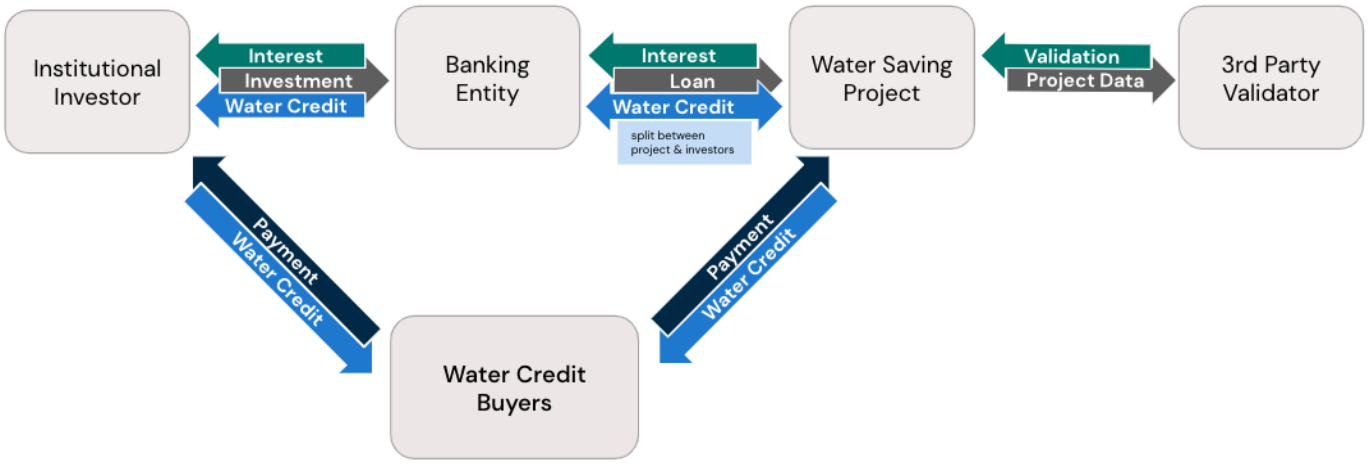


BOND STRUCTURE BENEFITS

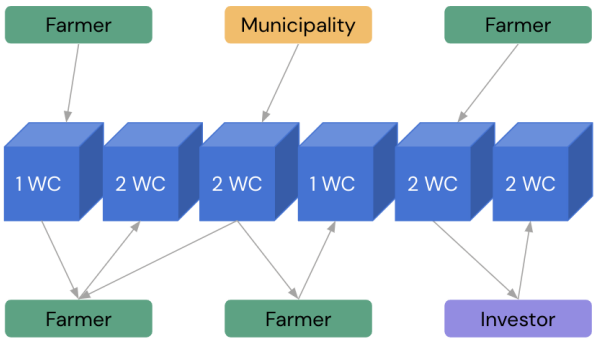
For Institutional Investors: BlueCert provides investors with an unique and innovative way to finance water-saving projects in the Colorado River Basin while earning a competitive return on their investment. Water credit offsets are a growing market with increasing demand[6], as companies and individuals seek to reduce their water usage and support water conservation efforts. These bonds may appeal to high-net-worth individuals or institutional investors looking to both fund a sustainable investment and be an early adopter of water saving credits.

Banking Entity: The banking entity will act as an intermediary between the Water Saving Project Developers and Institutional Investors. They will benefit by charging a service fee to originate the loans and bonds.

For Water Saving Project Developers: BlueCert offers a one-stop financial product for companies to support and grow a collection of vital water-saving solutions, and empowers project developers to quickly scale their solutions and secure funding for multiple years. BlueCert offers companies a way to support and grow a collection of vital, water-saving solutions. Water saving project developers can convert these agreements into funding and secure revenue for multiple years, providing them with the resources they need to increase production capacity and achieve meaningful water conservation.

3rd Party Validator: Currently, the main validator for water saving projects in the Colorado River Basin is the Bureau of Reclamation. This Bureau is funded by the US federal government and approves water saving funds for projects. This system would help to incentivize developers to pitch their projects to the Bureau of Reclamation which would give them a large amount of projects to choose from, enabling the Bureau to select the most impactful projects.

Why does this financial instrument need to be on the blockchain?

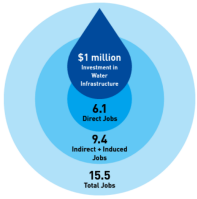


For financial instruments focused on creating social impact, it is often unclear who is responsible for the costs, which leads to problems when they fail[6]. The cost burden is often placed on someone other than the person or entity that initially took on the investment. A smart contract for water offset credits would automate the process of buying and selling water-saving credits, ensuring that the transactions are secure, transparent, and tamper-proof, and providing an efficient and effective way to promote and reward water conservation efforts[7]. This would enable a secure platform to transfer ownership of water credits, creating a **water credit marketplace**.

BlueCert automatically executes pre-determined terms and conditions between the buyer and seller of water-saving credits. The terms of the smart contract, such as the price and quantity of credits to be exchanged, would be coded into the contract and executed automatically on a blockchain network. The buyer of the credits would pay for the right to offset their own water usage through the purchase of credits generated by water-saving projects in the portfolio. BlueCert would also ensure that the credits include the validation source to ensure they accurately represent the amount of water saved; increasing transparency and trust in the water-saving credit market.

Impact Metrics

Water savings: Tracked by monitoring water usage before and after the implementation of the water-saving projects.
Environmental impact: Improved water quality and protected aquatic habitats via reduction in water waste
Economic impact: Job creation, reduced water bills, and increased investment in the water-saving sector.



[6] https://hbr.org/2020/09/social-impact-efforts-that-create-real-value
[7] https://www.reuters.com/business/environment/exclusive-world-banks-ifc-taps-blockchain-carbon-offsets-2022-08-17/