

# Trading water scarcity for sustainability

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*Water trading via a cap-and-trade model can be one way to use market signals to allocate resources, reduce scarcity, and enhance ecosystem sustainability.*

UNITED STATES, May 19, 2021 /EINPresswire.com/ -- The United Nations defines water scarcity as a lack of availability due to the physical shortage, such as drought, or the failure of institutions and infrastructure to ensure a regular water supply. The UN World Water Development Report in 2020 reported, "four billion people currently experience severe physical water scarcity for at least one month per year, a situation that the climate crisis has exacerbated." Water scarcity has devastating effects on public health, food security, economic development, education, community stability, and in some countries, safety for women and children.

The Paris Agreement's aim to limit global warming to 1.5 Celsius above preindustrial levels could reduce water scarcity issues in some regions. However, even though water scarcity is linked to at least six UN Sustainable Development Goals (SDGs), the concept of water preservation is rarely documented in company climate target statements. Credit Suisse's recently commented that the "reason why the issue of water scarcity has not received the necessary attention by the global community to date might be because water scarcity is perceived as more a local issue than climate change."

Edward Barbier, the author of "The Water Paradox," argues that water scarcity is primarily the result of inadequate water management practices where outdated governance structures and inefficient pricing structures have resulted in overuse, undervaluation, and lack of innovative technology and ideas.

One response to the water scarcity issue is to cap water extraction to balance water availability between users (irrigation, farmers, industry) and the volume required to ensure the long-term health of the regional water source – ultimately to manage future scarcity. This model is often referred to as a cap-and-trade, where the government determines a cap on water availability and regulates how water rights can be traded.

Water trading benefits include the ability to buy and sell water rights on a temporary or permanent basis, the formation of a market-driven price for water, and the reallocation of water resources to where it is required the most.

The Nature Conservancy reports, "37 water-scarce countries around the world have some kind of system in which a central authority issues water rights, but many will require further regulation

to make them run smoothly.”

Australia has led the way for water trading schemes with the Murray-Darling Basin water market. This cap-and-trade system has enabled water users to increase water supplies when required, maintain production flexibility, and earn income by selling rights when considered more valuable to another user. According to the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), the A\$2bn of annual water trades provide A\$117m of benefits related to managing drought and climate change.

Compared to Australia, the US does not have homogeneous water rights between States, which has inhibited the development and maturity of water trading markets. Regardless, ground and surface water trading is active in many Southern and Western States where water scarcity is a significant issue.

In California, The Fox Canyon Groundwater Management Agency and The Nature Conservancy launched a conservation-oriented cap-and-trade scheme in 2020 to enable the trading of groundwater allocations, including an online, anonymous, algorithm-driven matching platform. Early results show a fair and sustainable way to balance water conservation agricultural needs. In Nevada, a newly considered Bill will allow surface and groundwater rights holders to sell or credit water conserved to help prevent future shortages and offer water rights holders a monetary option beyond using.

Cap-and-trade isn't a perfect model either. By treating water as a commodity, Australia experienced theft, hoarding, lack of user clarity, excessive withdrawals, and a disconnect between a river's actual characteristics (flow, level) and the design of tradable water rights.

Independent reviews of Australia, the US, Chile, and South Africa water trading platforms suggest appropriate governance (surveillance, reporting, action), access to detailed water data, transaction transparency, and stakeholder consensus is necessary for success.

Alleviating water scarcity provides health, economic, gender, and environmental benefits. Appropriately designed water trading platforms, using caps and market-driven pricing, has the potential for the efficient allocation of water between users and the environment and the sustainability of water ecosystems.

#### About the author

James Rees has over 25 years of international experience developing and executing corporate growth, transformation, and transaction strategies. James has worked both as a trusted professional advisor and senior business operator. Over the past six years, James assisted in scaling a water technology business from a minimal viable product to a commercialized offering in the US.

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