



# CORPORATE WATER STRATEGY

Water quality and healthy watersheds

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# Corporate Water Strategy: The Journey

Water management and regulatory compliance alone is no longer a viable corporate water strategy, as there is a pressing need to address “outside the fence line” water issues. These outside the fence line issues include; supply chain water risk, poor water quality, and inequity in access to safe drinking water. These issues along with operational water risks are compounded by the impacts of climate change. While regulatory compliance for water management is the cornerstone of a corporate water strategy, they do not deliver the full value to corporations, communities, and other stakeholders that a more expansive corporate water strategy can deliver.

For a historical perspective on the corporate journey from water as operational management and compliance issue to a more complex business risk issue, we need to start with the early work of The Coca-Cola Company’s (TCCC) and their “Replenish” strategy. TCCC set an aspirational goal to safely return to nature and to communities an amount of water equivalent to what the company uses in all its beverages and their production by 2020 (Water Stewardship and Replenish Report). They beat their 2020 goal by about five years.

This was an important development because it was likely the first time a company set a volumetric water reduction goal, with what was to become, a “term of art” for a corporate water strategy - “replenish.” To this day many corporations have “replenish” strategies (volumetric water goals) focused on their operations and in some cases their supply chains. Since the launch of TCCC’s replenishment strategy, many more companies have moved to water stewardship strategies which now include a focus on their value chain

- supply chain, operations, and consumer product use.

Most recently there have been three new corporate water strategies and narratives, not intended to replace the fundamentals of water stewardship, but instead to refine their focus or align with popular initiatives such as “net zero” for carbon. The two most significant trends are the move to “net zero” for water (Does net zero hold water? | Greenbiz) and a focus on watershed health.

**FIRST** net-zero for water. Several companies are now approaching water strategy in a similar manner as they approached climate change. The primary challenge with a net-zero strategy for water is that; 1) water is not fungible and the spatially and temporally dynamic nature of water means that, unlike a common, global carbon pool, water is not the same from one location to another; 2) net-zero is a concept rooted in target-setting and reporting. Water is more complex than carbon and has attributes such as social and spiritual dimensions making a net-zero strategy for water more complex. Also, with regards to net-zero goals, water quality improvements are often not included.

**SECOND** is a focus on watershed health. Companies such as PepsiCo, ABInBev, Diageo and The Coca-Cola Company are focusing on investments in watershed health to build sustainable and resilient communities and supply chains. This is an important movement as several companies are looking at watersheds holistically and supporting the scaling of innovative digital technologies to measure water quality, quantity, supply chain performance, and productivity on a real-time basis.

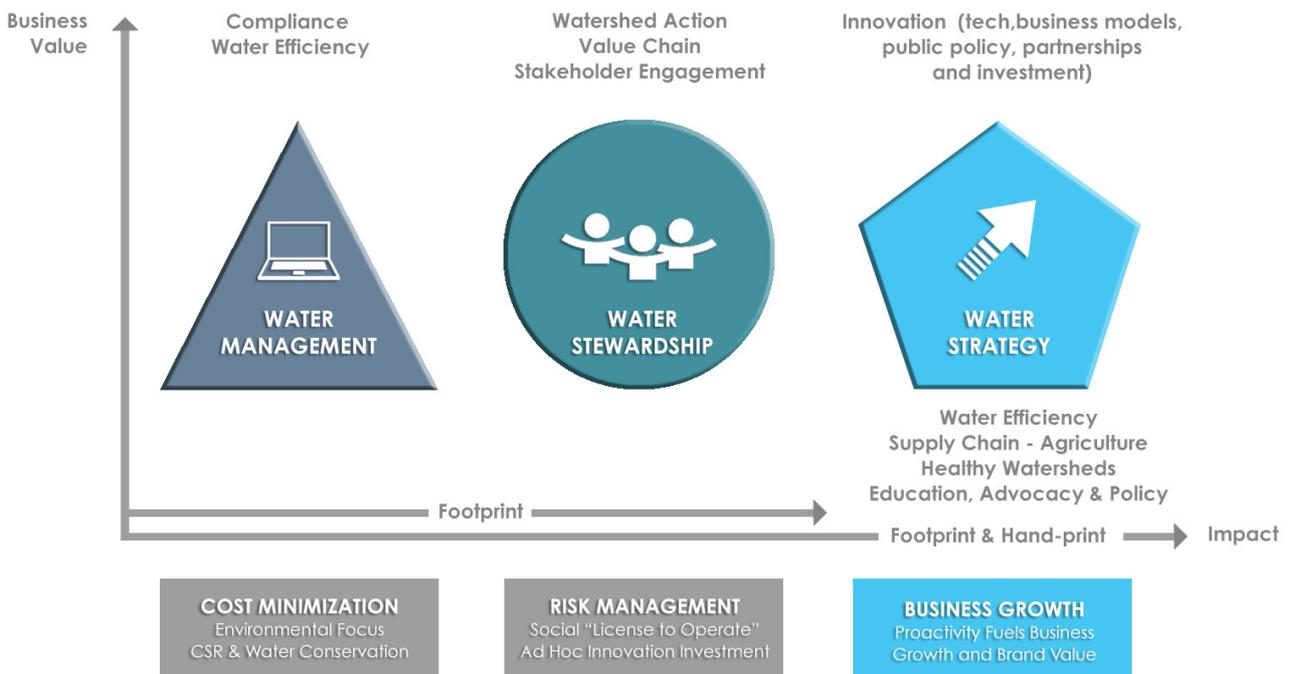
Water is finite, in increasing demand, poorly governed, undervalued and there is no replacement. The water “crisis” is current and projected to have an increasing negative impact on economic development, business growth, social well-being and ecosystem health. The recently released World Economic Forum Global Risk Report 2020 identified the water crisis as fifth in terms of social impact. A focus on “net-zero” for water and watershed health can be considered an element or extension of corporate water stewardship strategies.

The other trend is a proactive and more engaged commitment to innovation which aligns with the focus on watershed health and achieving “net-zero” water goals. This investment in innovation provides companies with the opportunity to have an impact beyond their value chain water footprint. This strategy of investment in innovative technologies, public policy and working with entrepreneurs has been termed a company’s “handprint” (The water footprint versus the water handprint | Greenbiz).

This expansion from water stewardship to a water strategy that includes innovation is illustrated in Figure 1.

## Water Strategy Maturity Model

CREATING VALUE BEYOND STEWARDSHIP



Adapted from *Water Stewardship and Business Value*, Sarni, W. and Grant D. 2018. Routledge.

Figure 1: Water Strategy Maturity Model

Examples of companies directly investing in innovation include AB InBev, PepsiCo, and DIAGEO. These companies are investing in innovative digital and water treatment technologies to measure water quantity and quality on a real-time basis, along with forecasting capabilities using AI solutions, and also addressing complex water challenges. These initiatives focused on innovation and investment are typically led by a blend of corporate sustainability and water teams coupled with expertise from corporate ventures. What this looks like are programs such as the 100+ Accelerator launched by AB InBev, and PepsiCo Labs launched by PepsiCo. Notable is that the 100+ Accelerator program now includes The Coca-Cola Company, Unilever, and Colgate Palmolive.

## The Importance of Water Quality Innovation

While more and more companies build upon water stewardship programs and invest in innovation there remains a relatively neglected aspect of water strategy: water quality. Water quality is overshadowed by the attention to water scarcity as a dominant aspect of a corporate water strategy. One only needs to reflect upon the attention given to water footprint strategies such as “replenish,” “net-zero,” and “water positive.” Few of these strategies include any water quality metrics for watershed health with the exceptions being companies such as AB InBev (“Our goal: 100% of our communities in high-stress areas will have measurably improved water availability and quality by 2025) and Cargill (By 2030, Cargill will: restore 600 billion liters of water in priority watersheds and reduce 5 million kg of water pollutants in priority watersheds).

In our view, water quality has historically been a regulatory compliance issue and as a result, the broader importance of water quality within a watershed for communities, supply chains, and operations has taken a back seat to water quantity. Even companies that are maintaining compliance with their permit discharge levels have an opportunity to improve the quality of water discharged to the watershed, putting it back at a level that is as good as or better than incoming water.

## The Value of Waste

As long as wastewater is viewed primarily as a compliance issue, actions will be limited. Wastewater is typically viewed as a non-core part of the business, which does not have the same level of investment and attention as other areas of business. Instead, companies that view wastewater holistically as a strategic piece of their water strategy, value wastewater higher than the pure costs to dispose or treat to permitted discharge levels. Viewing it as a resource rather than a waste product provides new opportunities and a different perspective on how to manage it. Wastewater contributes not only to costs, water usage, and impact on the community but also to carbon reduction goals.

The largest value of wastewater is the water itself. In water-stressed areas, companies have been reducing water use ratio for decades, through training, design, and process changes, and now most of the low-hanging fruit is gone. Depending on the facility and water needs, they can reuse wastewater for applications such as irrigation, truck washing, or cooling towers which may not need the same quality of water as the production process.

By minimally treating the wastewater to levels required for a given reuse application, companies reduce freshwater demand. Excess treated wastewater can be used to recharge the watershed. This has an impact on operational costs, as well as the surrounding community, and reduces reputational risk.

Another value that companies recognize from onsite wastewater treatment is biogas generation, which can be used to offset energy demand. As companies consider the energy-water nexus, some treatment options can help to meet carbon reduction targets, but it depends on the type of treatment and level to which it needs to be cleaned.

Depending on the composition of the effluent, there could be an additional value from the streams, such as nutrient recovery.

## Positive Examples

One example of a multinational being proactive on wastewater recovery is Danish brewer Carlsberg, at its Fredericia brewery 1.5 hours away from the capital city Copenhagen. Once completed, the site will recover 90 percent of the process water, making it the company's most efficient brewery. Furthermore, biogas generation will be used to help the site go beyond self-sufficiency, to become an energy-positive installation.

Elsewhere, French cosmetics giant L'Oréal has also set the target that 100% of the water used in its industrial processes will be recycled and reused in a loop by 2030. This follows the company's first "Waterloop factory" established in 2017 at its Burgos plant in Spain.

All of the water used in the industrial processes, including cleaning tanks and steam production, is cleaned and recycled on-site in a closed loop. A combination of technologies ensures a zero liquid discharge (ZLD) approach and the only water extracted from the public supply is for the composition of its products or for employee consumption.

## Trends in Water Quality Technology Innovation

We believe the view of water quality is changing as poor water quality in watersheds and the emergence of innovative technologies in treatment and water quality analytics provide companies with greater insights on water quality associated risks and also opportunities to contribute to watershed health and resiliency.

Companies such as gybe (gybe.eco) utilize satellite data and on-the-ground sensors to monitor surface water quality on a real-time basis and provide forecasting capabilities. In addition to the collection of real-time data, True Elements (trueelements.com) has emerged as a unique universal mesh model that learns and provides localized water quality intelligence and visual insights dynamically. The ability for stakeholders to monitor real-time quality coupled with models of flow and climate change impacts is what is needed to ensure sustainable and resilient water management for the private and public sectors, and ecosystems.

These data analytics technology companies complement innovative water treatment technology companies such as Aquacycl (aquacycl.com). Aquacycl provides energy-neutral industrial pretreatment as a service, improving water discharge quality, enabling onsite reuse, and reducing demand for incoming freshwater. Their waste-to-energy system helps companies sustainably treat their most challenging industrial wastewaters while mitigating greenhouse gas emissions by up to 90% relative to alternative processes.

## Recommendations

We recommend that every corporate water strategy include water quality goals and non-volumetric goals (e.g., water education, access to water, etc.) alongside addressing water quantity (e.g., replenishment). Non-volumetric and water quality goals include ensuring equitable access to safe drinking water, sanitation, and hygiene, and promoting innovation and entrepreneurship. Companies need to make sure that the water they are discharging is at least as good as the receiving water body.

New technology plays a critical role in this piece, and corporate water strategies should continuously seek, trial, and implement innovations that help monitor, treat and measure water quality (in addition to quantity).

The growing sense of urgency and pressure from investors and consumers related to water scarcity, greenhouse gas (GHG) emissions, and water quality means the status quo is no longer good enough. Companies with robust corporate water stewardship strategies need to act quickly to change current practices and adopt new approaches. This doesn't mean rushing past foundational work, but they need to be willing to experiment with new technology and learn and share and replicate successes within their company and peers.

A more comprehensive, proactive, and innovative approach to corporate water stewardship strategies is critical if we are to build and maintain healthy, sustainable, and resilient watersheds, supply chains, and communities as we adapt to the impacts of climate change.