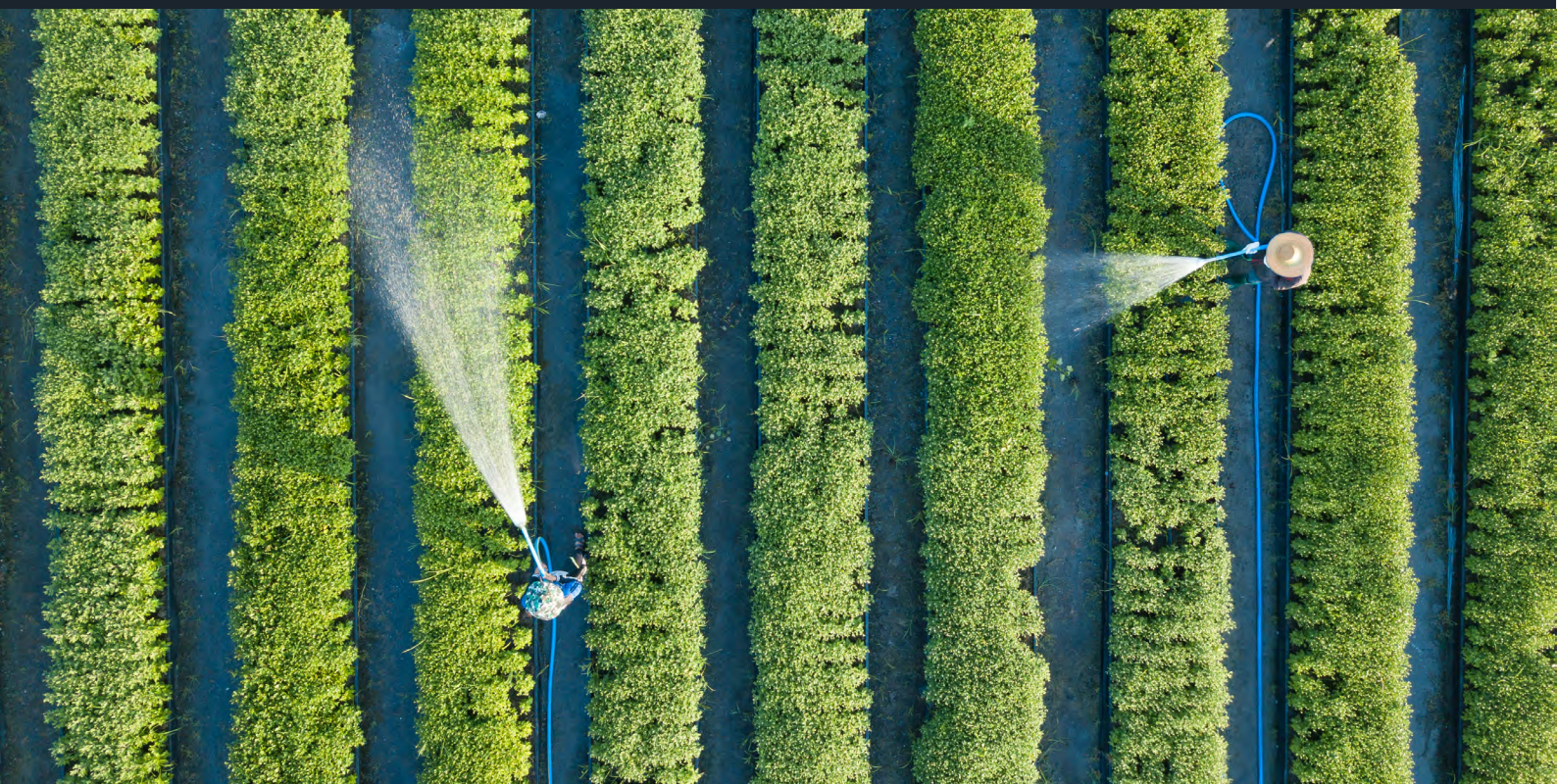
Driving Business Value through Water Disclosure and Innovation

Insights on the Food, Beverage and Agriculture sector from CDP and Ecolab

January 2026

Ecolab and CDP are partnering to position water use efficiency as a lever to improve operational water performance and support the creation of business growth and value. Our partnership aims to drive the transition from data disclosure to meaningful action for water and climate resilience.



Introduction: A Turning Point for Water and Industry

Water insecurity is fast emerging as one of the defining economic and ecological challenges of this decade. Global freshwater demand is projected to outstrip supply by 40% before 2030 (Global Commission on the Economics of Water, 2023), while freshwater systems have already surpassed safe planetary boundaries (Stockholm Resilience Centre, 2023). According to UNESCO (2024), as much as 60% of global GDP depends on reliable access to water, and agriculture accounts for roughly 70% of global withdrawals.

These pressures are particularly acute for the food, beverage and agriculture (FBA) sector. Research by FAIRR (2025) and Ceres (2021) highlights that water insecurity drives not only physical and regulatory risk for the sector but also direct financial exposure, with the costs of inaction far exceeding those of mitigation.

But while the risks are well established, leading companies are increasingly treating water as an opportunity and strategic enabler of value and resilience. This joint brief by CDP and Ecolab highlights how corporate disclosure and operational data can together drive measurable improvements in water performance, creating business value and supporting fair and sustainable outcomes across global supply chains.

The State of Water Resilience in FBA

CDP's 2025 dataset includes 521 companies disclosing on water from the FBA sector. Together they make up around 8% of all water disclosers, the fourth-largest industry in CDP's water sample.

Governance and targets

78%
report board-level oversight of water issues

59%
have a water-related target

11%
have none and no plans to set one within two years

Value chain visibility

95%
have mapped their value chains

61%
stop at Tier 1 suppliers, exposing vulnerabilities deeper in supply chains

54%
engage suppliers on water issues

Dependencies, impacts, risks and opportunities

55%
of disclosers identify water risks across both operations and supply chains

US$87.5bn
total reported aggregate financial risk exposure from water issues

US$1.15bn
cost to respond, suggesting major risk mitigation is possible through modest investment

Operational Insight

Advancing Water Circularity is essential for industries facing rising water demand from population growth and expanding manufacturing and digital infrastructure. By improving efficiency and scaling reuse, companies reduce their freshwater footprint while building circular systems that strengthen operations and watershed health. Better water performance also lowers total cost of operations—since up to 75% of manufacturing energy is tied to moving, heating, and treating water—and improves product quality through more consistent, controlled processes.

Water use efficiency is one of the most immediate and controllable levers available to companies operating in water-stressed contexts. In a sector as water-intensive as FBA, improving operational efficiency can reduce costs and strengthen resilience while easing pressure on shared water resources.

Disclosure provides essential visibility into water-related risks, targets and governance; **operational data shows how water use efficiency can be achieved in practice.** Analysis of anonymized and aggregated operational data observed by Ecolab across the beverage and brewery sectors within FBA indicates that sustained improvements in operational water performance depend less on isolated interventions and more on coordinated action across core operational systems: cleaning systems, utilities, wastewater management and process control.

Across the operations analyzed, a consistent pattern emerges – facilities that translate disclosure commitments into operational action are better positioned to:

- Reduce water-related risk
- Control operational costs
- Build resilience in increasingly water-stressed environments

Water Use Efficiency Beyond Initial Reduction

In beverage and brewery operations, water efficiency efforts typically begin with reduction measures, including leak elimination and process optimization. Operational performance trends observed by Ecolab indicate that many facilities reach a reduction plateau at approximately:

- ~2.5 hl of water per hl of beer produced
- ~1.75 liters of water per liter of beverage produced

Moving beyond these thresholds generally requires reuse and recycling to be integrated into plant operations, rather than treated as standalone or downstream solutions. Facilities that achieve industry-leading water use efficiency do so by combining reduction with fit-for-purpose reuse and, where necessary, recycling – reflecting a shift from linear water management toward more circular approaches.

Mapping Major Water Demands: Key Areas of Consumption in Beverage and Brew Operations

Operational evidence consistently shows that **clean-in-place (CIP) systems** represent the largest non-ingredient water demand in beverage and brewery facilities. Additional significant water uses include equipment and flavor rinsing, utilities such as cooling and heat exchange, and water associated with commodity chemistry preparation and dilution.

Overuse is commonly driven by conservative "worst-case" cleaning assumptions and limited visibility into real-time system performance. Cleaning processes that are treated as fixed – rather than measurable and adjustable – can lead to over-cleaning and unnecessary increase in water, energy and chemical consumption. In contrast, facilities that actively monitor and manage cleaning performance are better able to reduce water use while maintaining hygiene and product quality.

From Reduction to Reuse to Recycling: A Practical Operational Pathway

Across the sector, a common operational progression toward improved operational water performance can be observed:

- **Reduce:** Optimize cleaning, conveyance and utility systems to lower baseline demand before major capital investment.
- **Reuse:** Capture internal water streams and redeploy them for appropriate applications such as pre-rinses, utilities or non-product-contact cleaning.
- **Recycle:** Where further reductions are required, integrate water treatment and reclamation systems designed in parallel with cleaning and effluent management.

Facilities that pursue recycling without first reducing and reusing often face higher operating costs and complexity. A staged approach allows recycling systems to be smaller, more efficient and better aligned with operational needs.

Chemistry and Wastewater Shape Reuse Potential

As water use efficiency improves, **wastewater composition becomes more critical, particularly as reduced dilution can increase pollutant concentrations.** Higher concentrations of salts, nutrients and organic load can limit reuse potential, increase treatment costs and introduce regulatory challenges.

Operational insights drawn from Ecolab's experience across diverse beverage and brewery wastewater profiles indicate that chemistry selection and process inputs play a critical role in determining downstream reuse and recycling feasibility. In practice, what enters cleaning and production systems directly influences the stability, cost and effectiveness of wastewater treatment and water reclamation. Facilities that consider these interdependencies holistically are better positioned to expand reuse while maintaining compliance and operational stability.

The Role of Visibility and Monitoring

Sustained water efficiency gains are most evident in facilities with **visibility into water flows by process, line and product.** Analysis of operational datasets observed by Ecolab shows that such visibility enables:

- Earlier identification of losses
- Reduced reliance on static assumptions
- Real-time optimization as production conditions change

Rather than viewing operational water performance as a fixed outcome, monitoring allows facilities to adapt cleaning and utility performance dynamically – an increasingly important capability as water constraints, costs and regulatory expectations intensify.

Water Efficiency Without Trade-offs

Operational data consistently shows that water efficiency does not require trade-offs between sustainability, hygiene and production performance when systems are designed holistically. Facilities that integrate water management across cleaning, utilities, chemistry and wastewater treatment are better positioned to achieve reliable performance while reducing risk and cost.

Conclusion: From Transparency to Resilience

Water use efficiency is one of the most immediate and controllable levers available to companies operating in water-stressed contexts. In a sector as water-intensive as food, beverage and agriculture, improving operational efficiency can reduce costs and strengthen resilience while easing pressure on shared water resources.

As seen from the insights across the Beverage and Brew sector, facilities that achieve industry-leading water use efficiencies do so by combining reduction with fit-for-purpose reuse and, where necessary, recycling – reflecting a shift from linear water management toward more circular approaches.

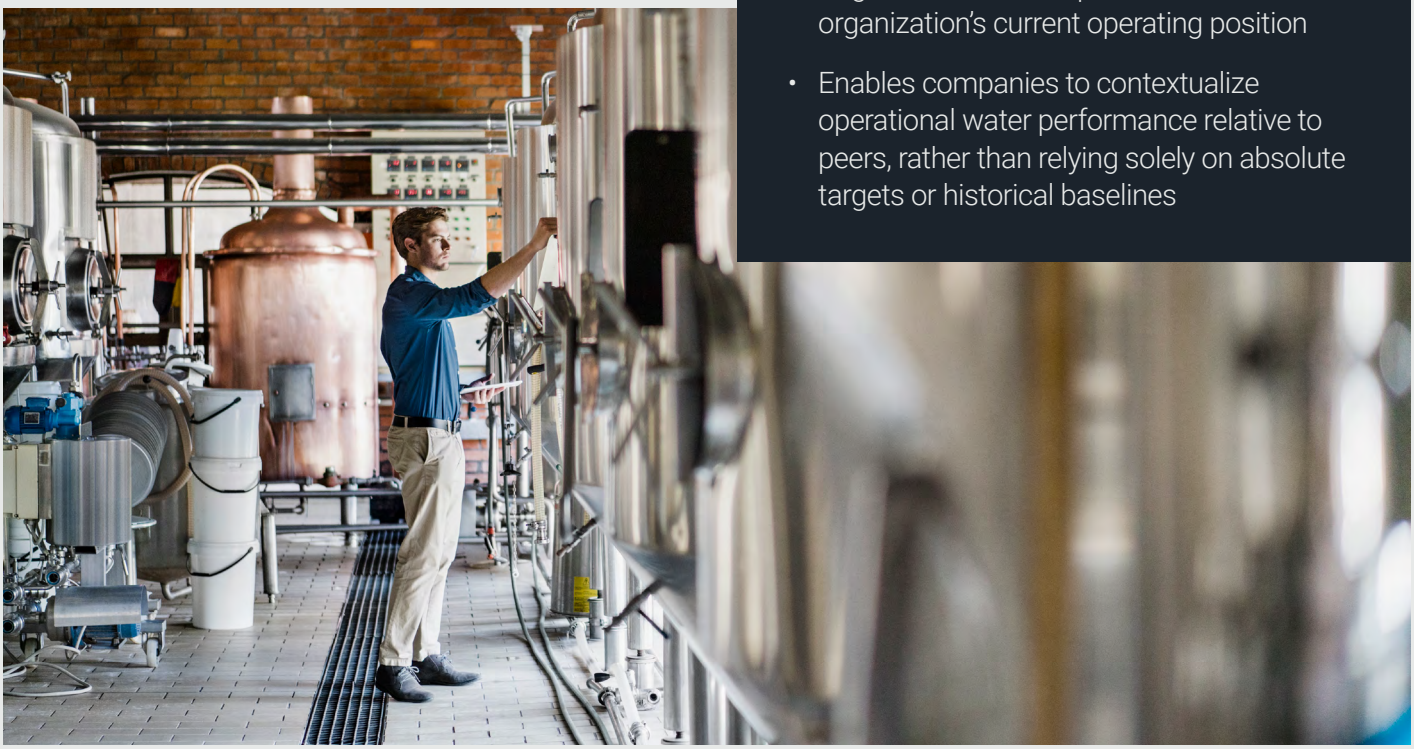
This is why CDP and Ecolab are partnering to establish Water Use Efficiency Index Benchmarks, initially for the Beverage and Brewing sectors, with an ambition to extend to other water-intensive industries.

The Water Use Efficiency Index provides a clear, data-driven view of what best-in-class operational water use looks like for specific industries. With this insight, companies can benchmark performance against peers, identify opportunities to improve efficiency and build a roadmap to scale circular water management approaches across their enterprise.

The Index draws on CDP's database of more than 10,000 annual corporate disclosures, Ecolab's insights from millions of customer engagements across 40 industries and 170 countries, and relevant data from leading trade organizations. Using this combined dataset, the Index defines best-in-class benchmarks and highlights industry-leading performance in enterprise-level water use efficiency among reporting peers.

The Water Use Efficiency Index:

- Normalizes water use efficiency by production output (e.g., liters of water per liter of beverage produced; hectoliters of water per hectoliter of beer produced)
- Reflects observed sector-wide ranges and targets, best-in-class performance and an organization's current operating position
- Enables companies to contextualize operational water performance relative to peers, rather than relying solely on absolute targets or historical baselines



By placing facility-level operational water performance within an industry context, the index helps translate monitoring data into actionable insight, supporting more informed prioritization of reduction, reuse and recycling efforts over time.

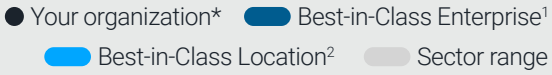
Investments in improved water use efficiency must take place alongside a broader set of actions if companies are to develop true water resilience. The Fair Water Footprints framework highlights that sustainable water use extends beyond operational performance to encompass impacts and dependencies deep into global supply chains. In addition to delivering on improved efficiency, leading companies are committing to sustainable withdrawals and zero pollution, ensuring the provision of WASH for workers, supporting ecosystem restoration and building resilience to climate change.

Disclosure plays a critical role in identifying water risks, setting targets and enabling accountability. By translating disclosure into coordinated operational improvements, companies can strengthen resilience, protect shared water resources, and generate long-term business value in an increasingly water-constrained world.

The opportunity ahead is therefore not to choose between transparency and implementation, but to connect them. Through the combination of robust disclosure, operational efficiency and a Fair Water Footprint lens, companies can move from understanding water risk to delivering lasting and meaningful impact.

Water Use Efficiency Index

Powered by Ecolab Best-in-Class



Carbonated Soft Drinks

Water Use Efficiency Index (WUEI) unit =
Liters of water / Liter of beverage produced

Annualized average

Brewing

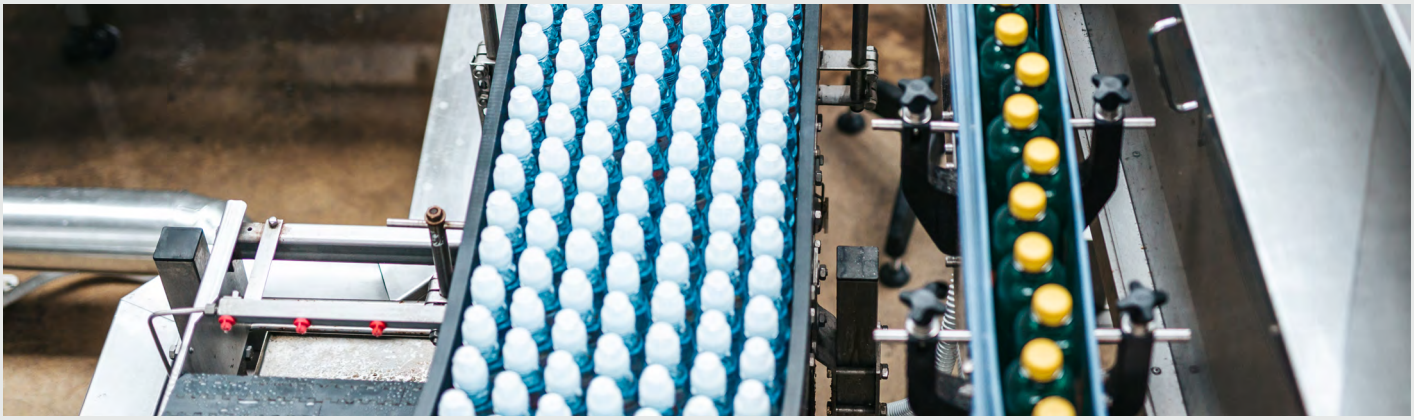
Water Use Efficiency Index (WUEI) unit =
Hectoliters of water / Hectoliter of beer produced

Annualized average

* Value presented solely for illustrative purposes.

1 The Best-in-Class Enterprise range represents industry-leading performance in enterprise-level water use efficiency among reporting peers.

2 The Best-in-Class Location range represents the minimum practically achievable volume of water withdrawn per unit of production output for a specific sector activity based on operational water performance achieved at leading production locations. These benchmarks reflect optimized practices that consider operational feasibility and production efficiency.



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About CDP

CDP is a global non-profit that runs the world's only independent environmental disclosure system. As the founder of environmental reporting, we believe in transparency and the power of data to drive change. Partnering with leaders in enterprise, capital, policy and science, we surface the information needed to enable Earth-positive decisions. We helped more than 22,100 companies and over 1,000 cities, states and regions disclose their environmental impacts in 2025. Financial institutions with more than a quarter of the world's institutional assets use CDP data to help inform investment and lending decisions. Aligned with the ISSB's climate standard, IFRS S2, as its foundational baseline, CDP integrates best practice reporting standards and frameworks in one place. Our team is truly global, united by our shared desire to build a world where people, planet and profit are truly balanced.

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