Operational Efficiencies

Great Lakes WISE
Water Innovation and Stewardship Exchange

POWERED BY
COUNCIL OF THE GREAT LAKES REGION
Solving for Sustainability

Operational efficiency is a cornerstone of corporate sustainability and long-term resilience. By streamlining processes and reducing water resource consumption, companies not only lower direct and indirect costs but also minimize environmental impact and meet stakeholder expectations for responsible growth. Leading on efficiency today signals a commitment to innovation and a sustainable future.

Efficiency as the First Step Toward Stewardship

Operational water efficiency forms the foundation of effective corporate water stewardship. By reducing waste, optimizing use, and maintaining discharge quality, companies can significantly lower their environmental footprint while improving financial and operational performance.

Implementing these principles yields multiple benefits:

- **Cost savings:** Reduced water and energy bills, lower wastewater treatment costs, and fewer regulatory fines.
- **Competitive advantage:** Enhanced brand reputation
- **Risk mitigation:** Reduced exposure to water scarcity, supply disruptions, and climate-related risks.
- **Sustainability outcomes:** Significant short-term gains in environmental performance and resource conservation.

These benefits make operational water efficiency a high-impact, high-feasibility lever for corporate sustainability.

Recommendations for Improving Water Efficiency

Getting started with water efficiency doesn't require major capital. Begin small, build momentum, and scale solutions that deliver operational and financial value. The following table highlights a range of practical, high-impact actions that companies can take to strengthen operational water efficiency.

Recommendations	Description	Recommendations	Description
Upgrade systems and fixtures	Install low-flow fixtures and efficient appliances to reduce baseline consumption.	Adopt smart technologies	Deploy sensor-based leak detection, smart irrigation, automated controls, and heat-recovery systems.
Reuse water where feasible	Treat and repurpose water for cooling, irrigation, or other non-potable uses.	Strengthen onsite water management	Reduce waste from treatment processes and explore opportunities for by-product reuse.
Improve measurement and insight	Use meters and monitoring tools to track use, detect leaks, and validate savings.	Upgrade high-use equipment	Replace washers, dishwashers, sterilizers, and other water-intensive equipment with high-efficiency models.
Optimize cooling and process systems	Enhance recirculation, blowdown management, and system maintenance for major efficiency gains.	Reduce outdoor water demand	Use native landscaping, drip irrigation, and soil-moisture sensors to minimize irrigation needs.

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Improve chemical and rinse management	Optimize chemical dosing and rinse cycles in cooling and industrial systems.	Develop a structured water plan	Assess current use, set practical targets, identify priority actions, and track progress with simple KPIs.
Use low-water or dry alternatives	Consider air-cooled systems, dry sweeping, or closed-loop cleaning where feasible.	Strengthen preventative maintenance	Repair leaks, valves, and sensors promptly; schedule routine inspections to prevent hidden losses.
Lower hot-water demand	Insulate pipes, maintain heating systems, and optimize temperature settings to reduce water and energy use.	Use recognized frameworks to guide progress	Apply AWS, WAVE, NPWI, VWBA, or CDP to benchmark performance and demonstrate credible stewardship.

Call to Action on Water Efficiencies

The Great Lakes region faces increasing water challenges due to climate change, population growth, aging infrastructure, and emerging contaminants. As a result, corporations in the region are recognizing the critical need to improve water use efficiency and stewardship across their operations and supply chains.

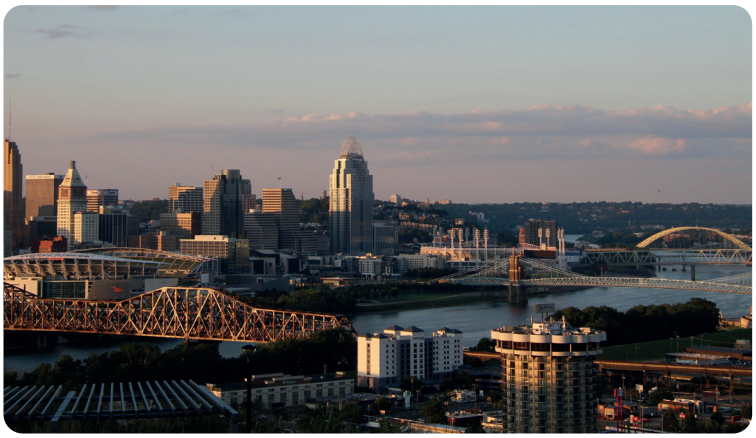
Key Operational Efficiency Strategies:

Water Efficiency and Reuse Initiatives:

Restroom Fixture Upgrades: Installing low-flow toilets, faucets, and urinals significantly reduces water consumption with relatively low capital investment.

On-site Water Treatment and Reuse: Capturing and treating stormwater or process water for reuse in irrigation, cooling, or industrial processes reduces freshwater withdrawals and mitigates runoff impacts.

Policy Development: Emerging regulations and building codes increasingly require or incentivize water reuse systems, supporting broader adoption.



Best Management Practices (BMPs):

Corporate Actions: Executive advocacy is essential to integrate water efficiency into strategic goals and secure resources. Setting water quality targets alongside efficiency goals ensures sustainable water use. Investing in R&D for advanced treatment technologies (e.g., membrane filtration, biological treatment) supports long-term efficiency gains.

Site Actions: Establishing baseline water use through metering enables targeted conservation. Automated "turn it off" programs reduce unnecessary water use. Continuous metering and monitoring (e.g., Advanced Metering Infrastructure) provide real-time data to identify leaks and inefficiencies. Engineering and maintenance teams play a pivotal role in implementing and sustaining BMPs. Digital technologies and data analytics optimize water management.

Engagement Actions: Public-private partnerships facilitate data sharing and coordinated water management. Engaging stakeholders, including local communities and supply chains, ensures responsible water use throughout operations and sourcing.

Regulatory and Economic Incentives:

Financial incentives such as subsidies, tax breaks, and grants encourage investment in water-efficient technologies.

Adjusting wastewater disposal rates to favor reclaimed water use promotes recycling.

Mandating circular economy water practices ensures compliance and drives innovation.

Implementing operational efficiencies reduces water consumption and costs, mitigates regulatory and reputational risks, and supports corporate sustainability commitments.

These efforts contribute to protecting regional water resources and building resilience against climate and population pressures.