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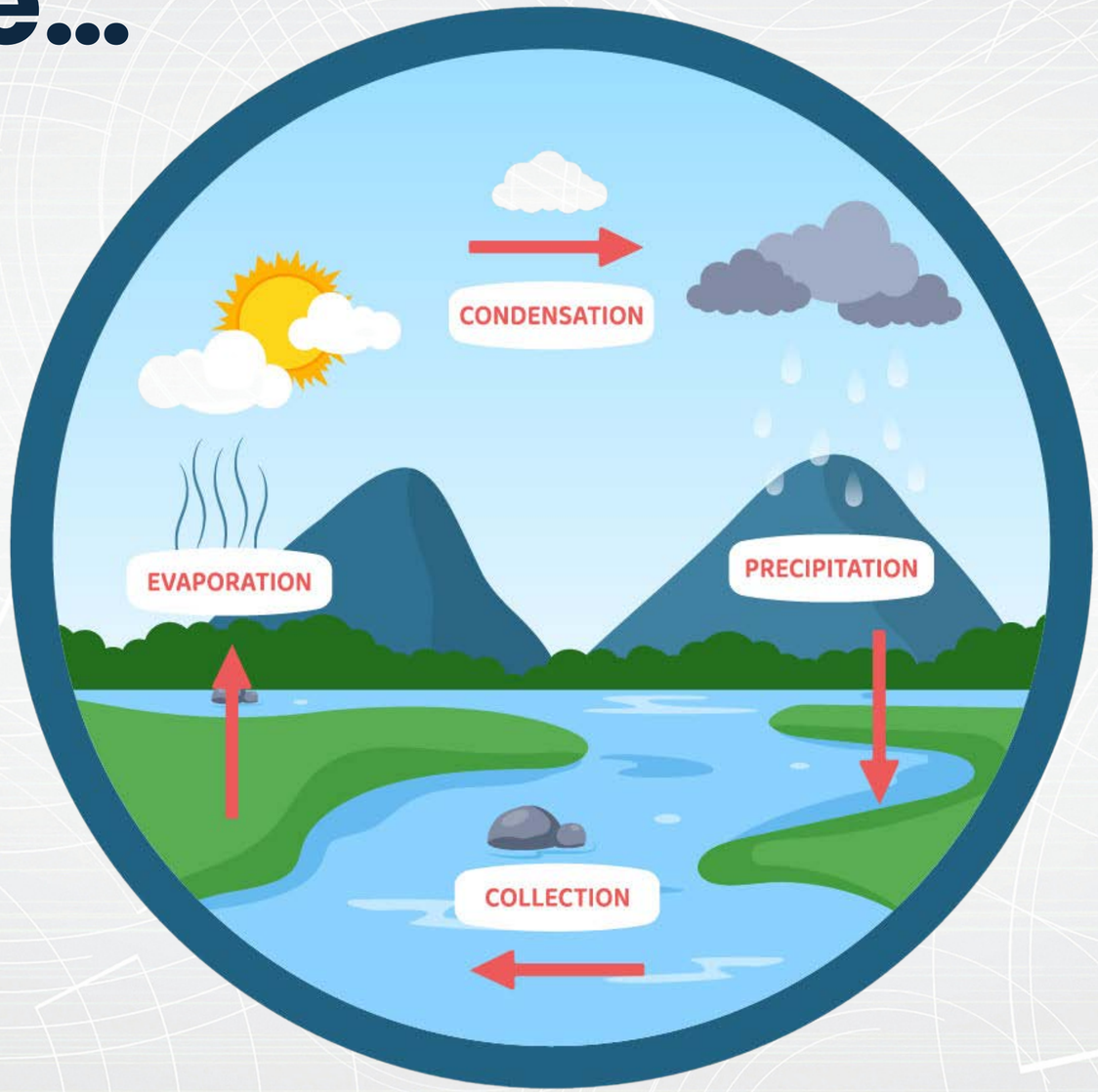
Closing the Loop with the Circular Water Economy

Water is an Endlessly Renewable Resource…



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But the way we use it is not

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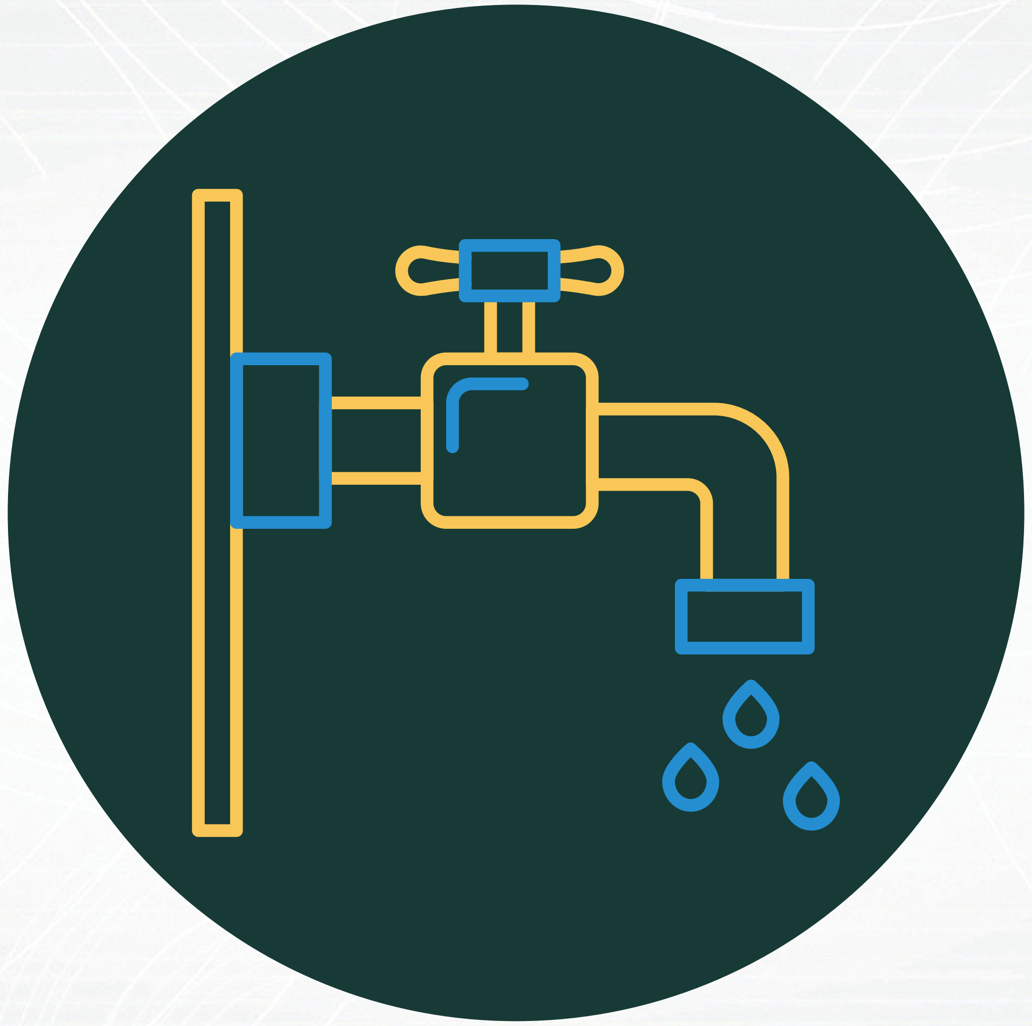

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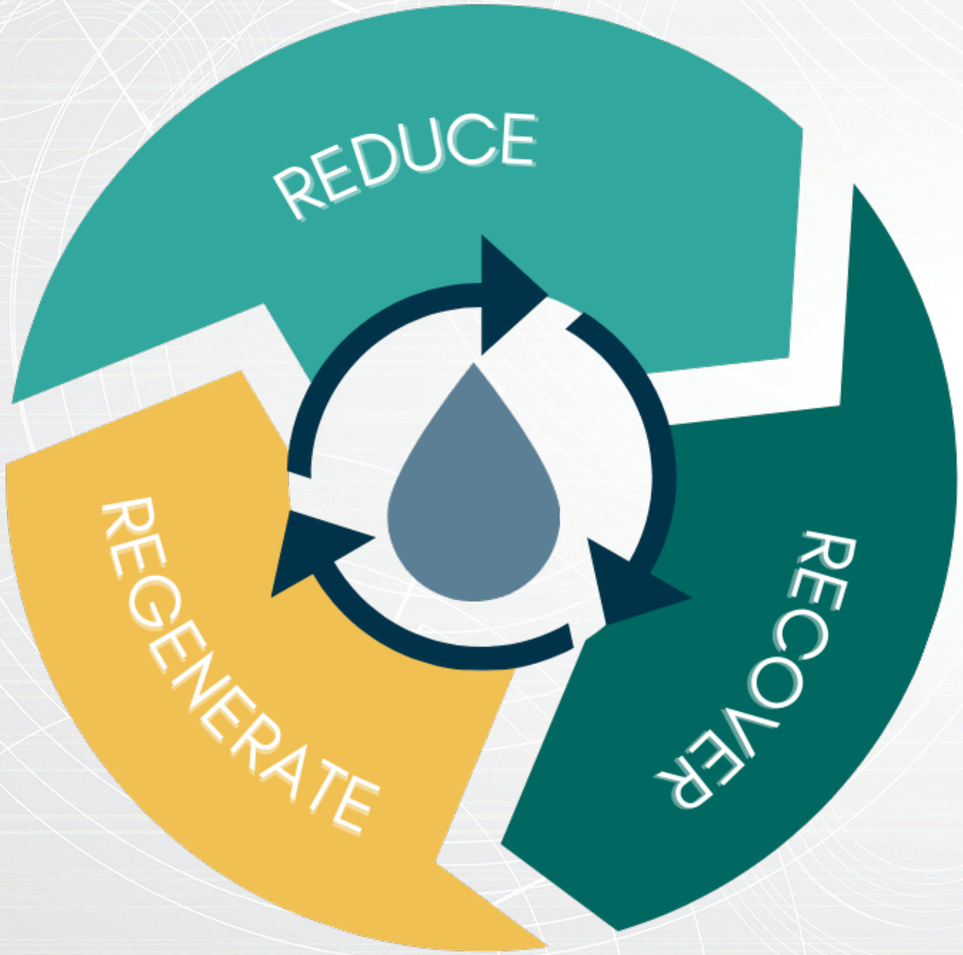
The Circular Water Economy provides the path forward



Economic growth

Job creation

Stronger environment

Greater resilience

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Minimizing Waste, Maximizing Value

High resource consumption, large waste output, no recovery

Resource recovery reduces waste and regenerates nature, creating a circular water economy

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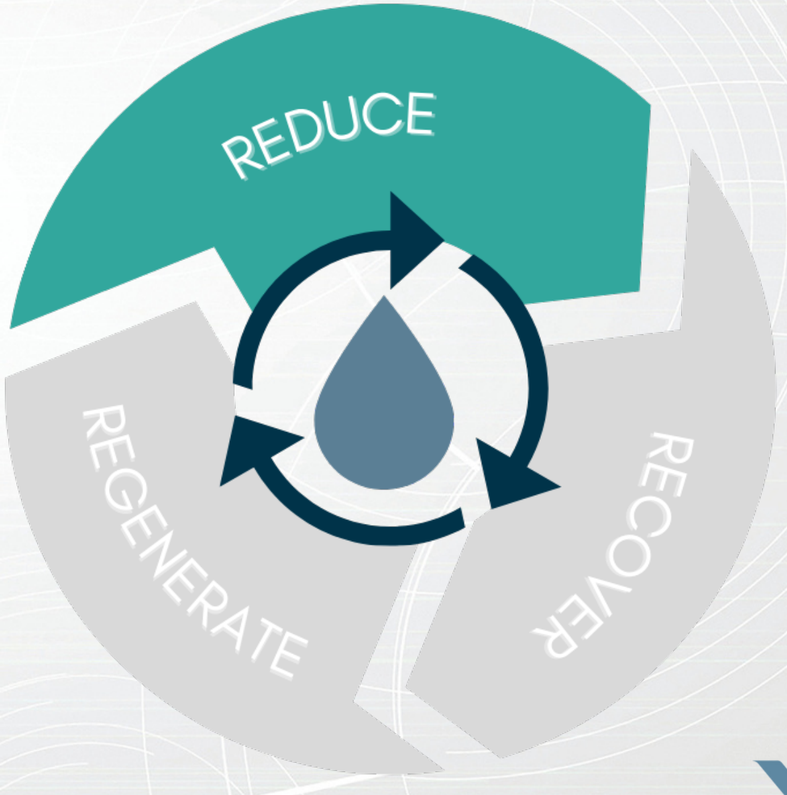
Reduce

Minimize waste in service delivery and enhance water system efficiency

Energy Efficiency - Reducing the energy used to provide water and wastewater services

Source Control - Preventing pollution at the source to reduce the costs of treatment

Stormwater Management - Investing in stormwater infrastructure to reduce financial impacts of natural disasters



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Milwaukee Metropolitan Sewerage District (MMSD)

MMSD implemented innovative strategies to reduce waste and enhance energy efficiency, aligning with its 2035 Vision to meet 100% of its energy needs with renewables

Economic Value:
Cost savings of ~$1.68 million annually from methane gas utilization

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Recover

Convert waste that cannot be eliminated into valuable resources

Water Reuse – Using treated wastewater for agriculture, irrigation, and municipal purposes

Nutrients– Extracting valuable resources like nitrogen and phosphorus

Energy – Harnessing energy from wastewater

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Loudoun Water

Loudoun Water in Virginia provided 815 million gallons of recycled water in 2023 for cooling data centers, conserving freshwater resources and reducing nutrient discharge into Potomac River and Chesapeake Bay.

Economic Value:
Cost savings of ~$3.26 million compared to potable water

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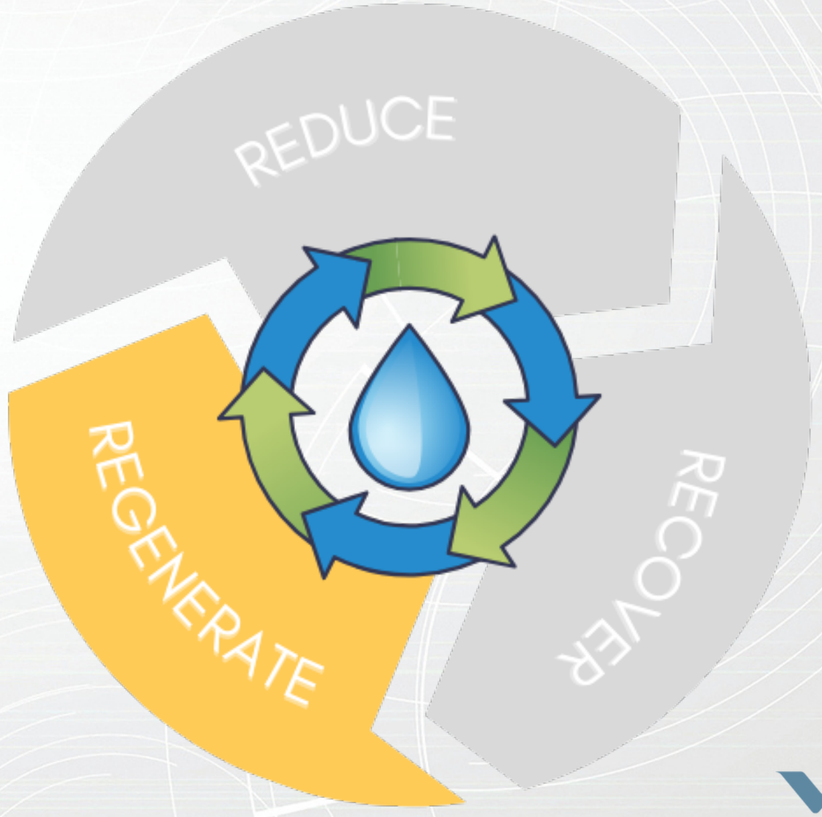
Regenerate

Strengthening nature while using and treating water

Water Resource Management - Ensuring a rational and resilient approach to using water

Watershed Restoration – Protecting and revitalizing water sources

Nature-Based Solutions - Providing water services while delivering co-benefits for the environment



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Clean Water Services

Clean Water Services Fernhill Natural Treatment Systems use engineered wetlands to naturally treat water, restore habitats, enhance biodiversity, and improve water quality in the Tualatin River.

Economic Value:
Cost savings of ~$18 million compared to traditional treatment system

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Making Circular Water Work

Scarcity & Resilience

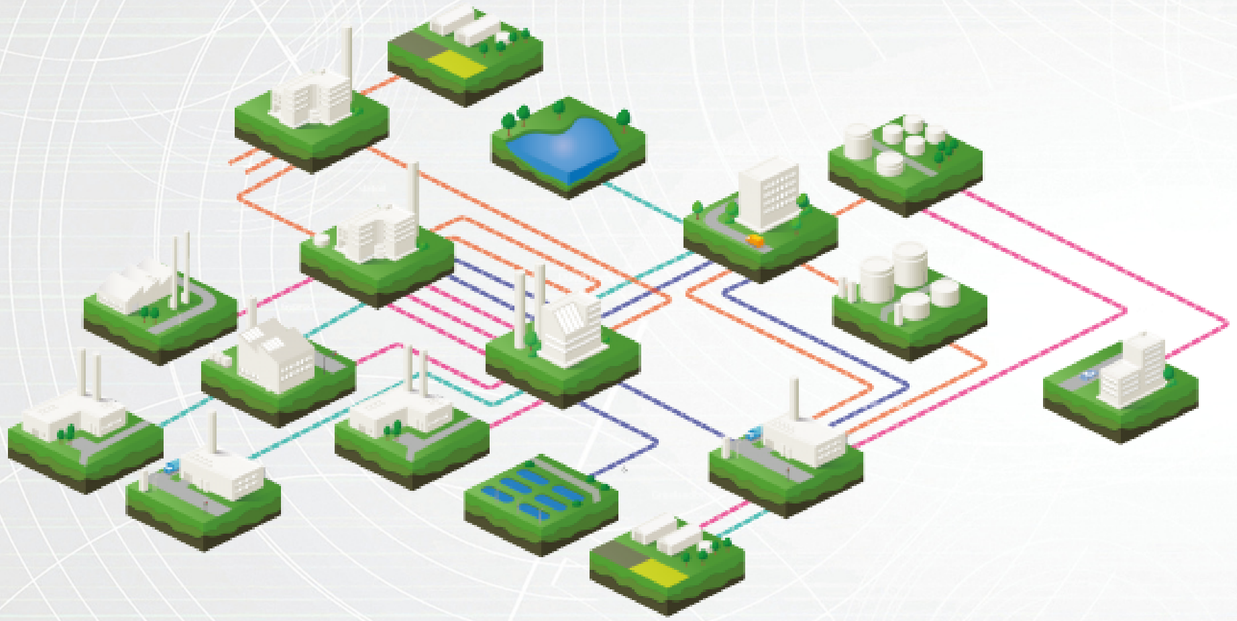
Innovation & Technology

Regulations & Incentives

Corporate Commitments

Economies of Scale

Kalundborg, the Platinum Standard for Circular Water



1 billion gallons of water saved

635,000 tons of greenhouse gases eliminated

100 gigawatt hours of energy saved

5,000 jobs created

Since inception, generated ~$370 million in savings

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Get Involved Today

Join WEF in leading the transformation to the Circular Water Economy!

LEARN

- Sign up for Circular Water Economy 101 Course
- Explore Circular Water case studies

ENGAGE

- Join a WEF Community
- Participate in a study tour
- Become a WEF Circular Water Ambassador

TRANSFORM

- Propose a topic-specific workshop in a box idea
- Present at an upcoming WEF event

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