

WATER REUSE: SC'S SUSTAINABLE FUTURE

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SCDES Water Summit
Columbia, SC
May 2026



ENGAGE.
EDUCATE.
ADVOCATE.

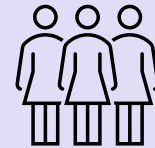


The nation's water reuse movement and South Carolina's role in it.



About the WaterReuse Association

- America's only water recycling trade association
- Founded in 1990 · 38 states · 11 countries
- Utilities, businesses, agencies, non-profits
- SC Section started in 2021



Why Were Here

- SC is at a turning point
- The State Water Plan calls for action
- From "why reuse" to implementation
- Building the case for legislation

Our SC Section Members

Utility Members

Beaufort-Jasper WSA

Charleston Water

Georgetown County
County W&S

Grand Strand WSA

Hilton Head PSD

Kiawah Island

Mt. Pleasant
Waterworks

ReWa

Industry Professional Members

SCDES

AECOM

Black and Veatch

Brown and Caldwell

CDM

Dewberry

Hazen

HDR

Seamon Whitesides

Today's Agenda

The Challenge

SC's water reality
and pressures

The Opportunity

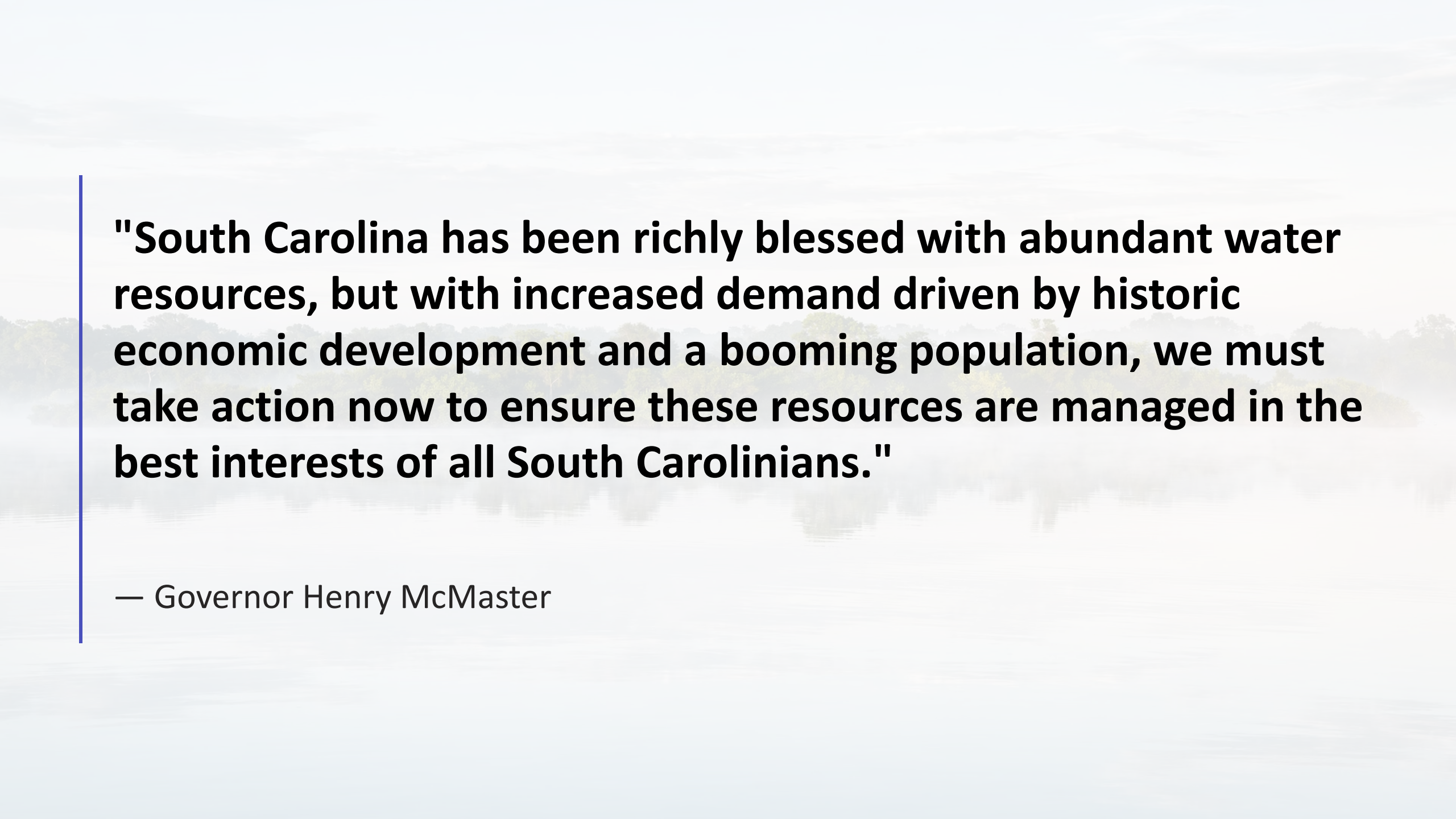
What water reuse is

The Foundation

Regional and local
success stories

The Path Forward

The call to action



"South Carolina has been richly blessed with abundant water resources, but with increased demand driven by historic economic development and a booming population, we must take action now to ensure these resources are managed in the best interests of all South Carolinians."

— Governor Henry McMaster

Water Is Finite.

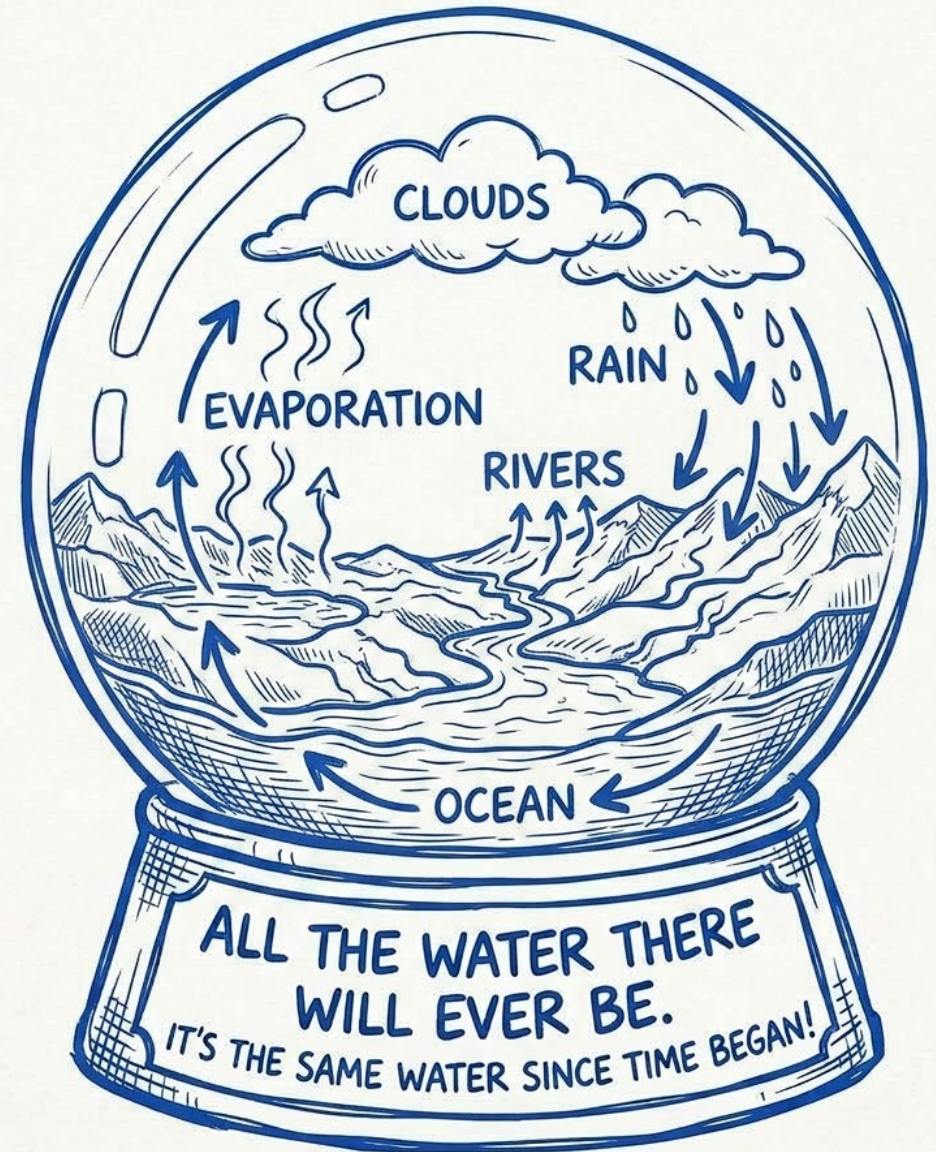
No new water is being made

“Think of water like a bank account. For years, South Carolina has been depositing more than it withdraws.

But now, withdrawals are rising more quickly, with more people, more irrigation, more industries, and more recreation all drawing from the same account.

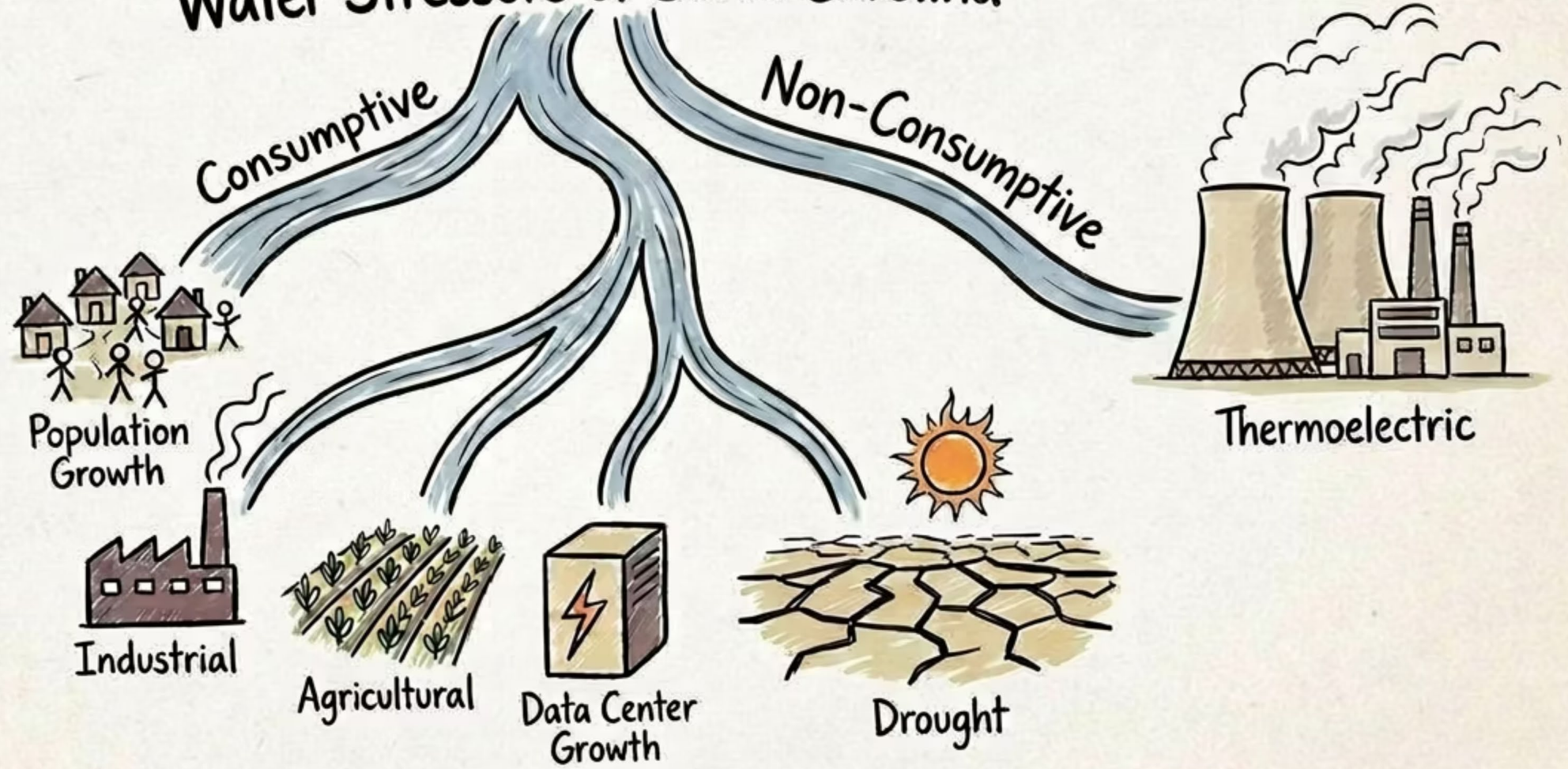
Add droughts, which act like sudden, unexpected withdrawals, and the balance can drop fast.”

— 2025 SC State Water Plan



SC Water Supply

Water Stressors of South Carolina





SC's Drought Crisis

14+

Inches below normal rainfall since
September 2025

8+

Inches below normal since
January 1, 2026

46 of 46

Counties under severe to
extreme drought

September 2025–March 2026 is confirmed as the driest period in SC's 131-year record.

Sources: SC Drought Response Committee, SCDNR, SC State Climatology Office, U.S. Drought Monitor, Post & Courier, SC Public Radio — May 2026



SC's 50-Year Water Outlook

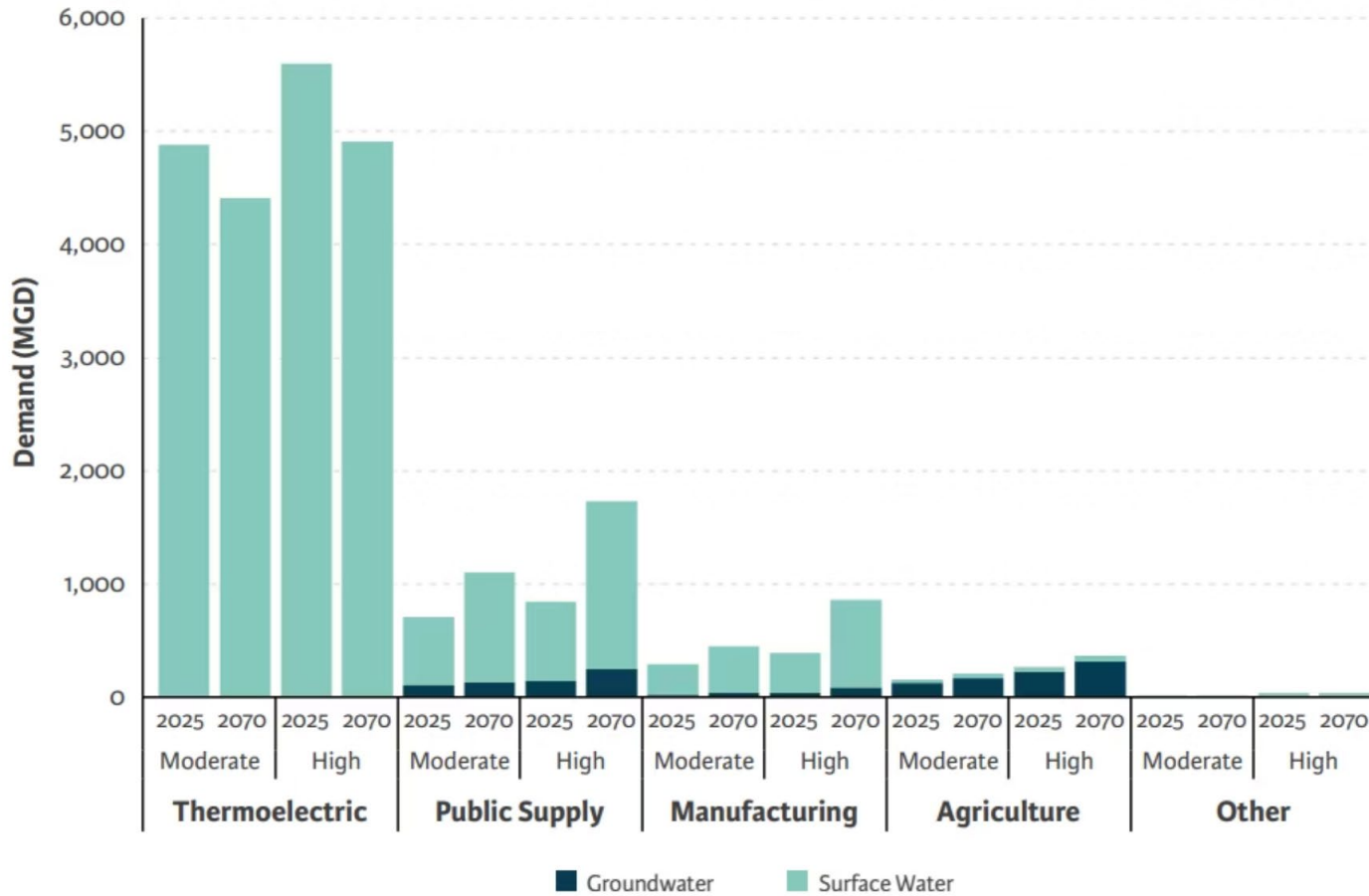


Figure 4-14. Statewide demand projections by water use category and source.

4-18

SOUTH CAROLINA STATE WATER PLAN | 2025



Statewide demand projections by water use category and source.

Source: Figure 4-14, SC State Water Plan 2025

"New natural gas plants, data centers, and potential nuclear restarts could substantially increase withdrawals. Data centers in particular use large volumes of water for cooling, both directly and through electricity demand."

- 2025 SC State Water Plan



SC's Data Center Boom

South Carolina's growing data center industry presents economic opportunities and increased water demand, requiring a state plan.

763.4M
gallons

Used by Google's Berkeley County facility in 2023.

A 15% jump from 2022, averaging 2M+ gallons per day.

(Source: Google 2024 Environmental Report, via Post & Courier)

~20–30
data centers

Estimated by SC Commerce to lawmakers in 2026 — with more planned statewide. SC does not yet formally track them.

(Source: The State, Feb. 2026)



Protecting the Coast

South Carolina's current regulations safeguard our beautiful coastlines, rivers, and wetlands, which in turn help protect:

- **shellfish harvesting**
- **fishing**
- **tourism**
- **Outstanding National Resource Waters (ORW)**

\$13.8 billion

Direct travel expenditures in Beaufort, Charleston, and Horry Counties.

58% of total spent in SC.

Source: South Carolina Department of Parks, Recreation and Tourism

So What Exactly Is Water Reuse?

**Used water is not wasted water,
it's an *untapped resource*.**

Water reuse involves treating and recycling water that has already been used. It returns water to beneficial purposes instead of simply discharging it.

Let's break down how it works!



The Language of Reuse

SC law, regulators, and utilities may use any of these terms. They all mean the same thing.

Three terms. One concept. Used interchangeably.

Recycled Water

Treated domestic wastewater used more than once before returning to the water cycle.

Reclaimed Water

Water that has been treated to be fit for purpose.

It's **reclaimed** when it's ready — **recycled** when someone uses it.

Reused Water

Water used more than once, treated to a level that allows for beneficial reuse.

Same water. New purpose.

Source: WaterReuse Association Glossary, watereuse.org

Where Does the Water Come From?

Every drop of reused water has a story — and a second purpose.



Municipal Wastewater

Water from homes, businesses, and institutions.

The most common and abundant source for reuse programs.



Industrial & Commercial Wastewater

Process water from manufacturing, food production, and commercial operations.

Often treated on-site before entering the reuse stream.



Stormwater

Rainwater and runoff are captured before they reach waterways.

Can be collected, treated, and reused — especially for non-potable applications.



Greywater

Lightly used water from showers, sinks, and laundry.

Separated from sewage and reused on-site for irrigation or toilet flushing.



Source: WaterReuse Association Glossary, watereuse.org

Types of Reuse

Non-Potable Reuse

Irrigation, cooling water, industrial processes, golf courses, and wetlands recharge use water that **doesn't need drinking-water quality**.

Indirect Potable Reuse (IPR)

Treated water enters a reservoir, aquifer, or **environmental buffer** before reaching the **drinking-water** system.

Direct Potable Reuse (DPR)

Purified water enters the **drinking-water system directly** through multiple treatment barriers and advanced purification.

De Facto Reuse

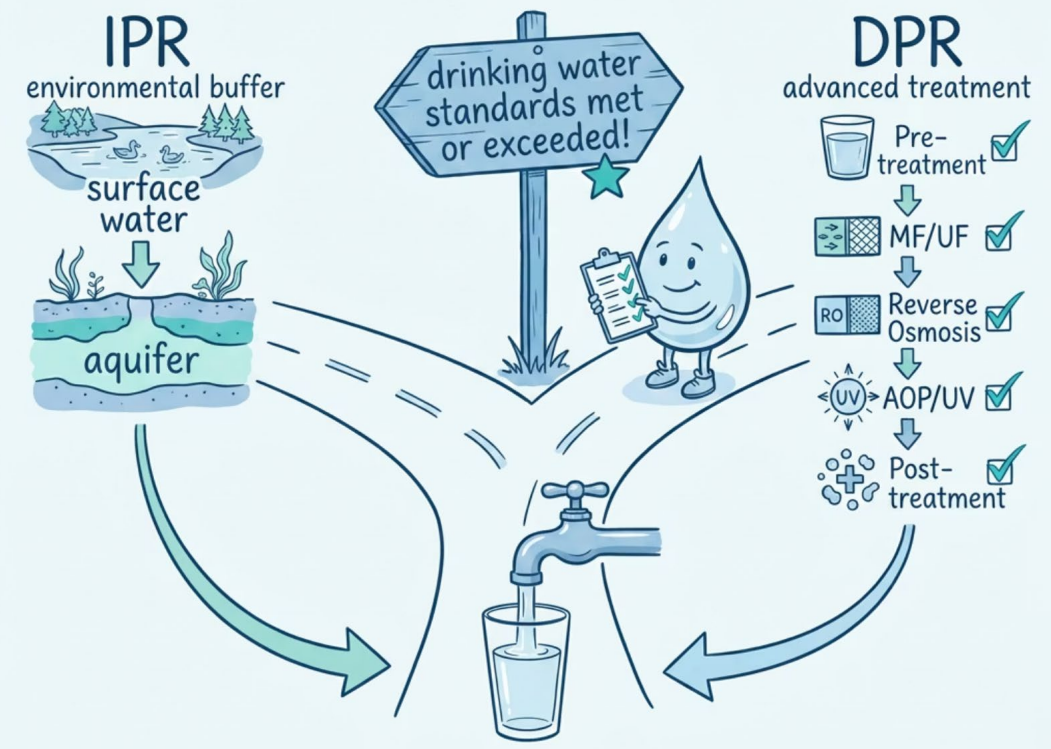
Upstream wastewater discharges become downstream drinking-water sources.

Reuse that's already happening, just without formal treatment standards or regulatory oversight.

Non-Potable Reuse: Water With Places to Be.



Potable Reuse: Water Going the Extra Mile.



Fit for Purpose:

Match the treatment level to the use. ***Not all water needs to be drinking-water*** quality
 Making reuse cost-efficient, energy-efficient and scalable.

A background image showing a dynamic splash of water with many bubbles and droplets, creating a sense of movement and freshness. The water is clear and bright, with some darker areas where the splash is more intense.

**"Water should not be judged by its
history, but by its quality."**

— Dr. Lucas Van Vuuren

National Institute of Water Research, South Africa

***Modern water treatment technology can take any source to any quality level we
need—including drinking water quality.***

Reuse Success SC and Our Neighbors



Clermont, FL



Beaufort Jasper Water and Sewer Authority

300M+

Gallons for Irrigation

Over 300 million gallons of treated wastewater used for irrigation at 15 golf courses in 2025



500

Acres Restored

500 acres of wetlands restored in the **Great Great Swamp** using treated effluent, including including 30,000 cypress trees planted



1st

Residential Reclaimed Water System

South Carolina's first residential dedicated **purple pipe** delivers treated effluent to homes for homes for yard irrigation and car washing





Mount Pleasant Waterworks: Direct Potable Reuse (DPR) Pilot Study

We Demonstrated the Technology Works — On Our Own Wastewater

In 2020, CDM Smith conducted benchtop treatability testing on MPW's HCD Water Resource Facility wastewater effluent using a multi-barrier advanced treatment train.



Met All Drinking Water Standards

Passed all primary standards.



120+ Contaminants Evaluated

19 PFAS, pharmaceuticals, endocrine disruptors, and unregulated DBPs all removed **below detection levels**



Technology Is Ready

Pilot-scale facility (~30–40 gpm) recommended as next step

i The proposed ~2,500 sq ft demonstration facility at the RRR WWTP site would test UF, RO, and UV-AOP side by side with multiple vendors — building regulatory confidence and reducing full-scale costs.

More Than a Facility — A Community Conversation



*Rendering by CDM Smith

Florida

Jacksonville



Jacksonville Electric Authority (JEA)

- Established in 1999, the treatment capacity has increased from 1 mgd to 30 mgd, using over 300 miles of pipeline for landscaping irrigation.
- Reduces pressure on the Floridan aquifer and keeps treated wastewater out of the St. Johns River.
- **JEA H2.0** initiative is testing advanced purification for future aquifer recharge

Source: <https://www.jeaonewater.com/>

Orlando



Stanton Energy Center

- 13 million gallons of reclaimed water each day for cooling towers.
- The power plant receives high-level disinfected reclaimed water from the Orange County facility in Orlando.
- On-site stormwater is used for cooling towers.

Source: <https://floridadep.gov/water/domestic-wastewater/content/industrial-uses-reclaimed-water>



Virginia

Loudon County

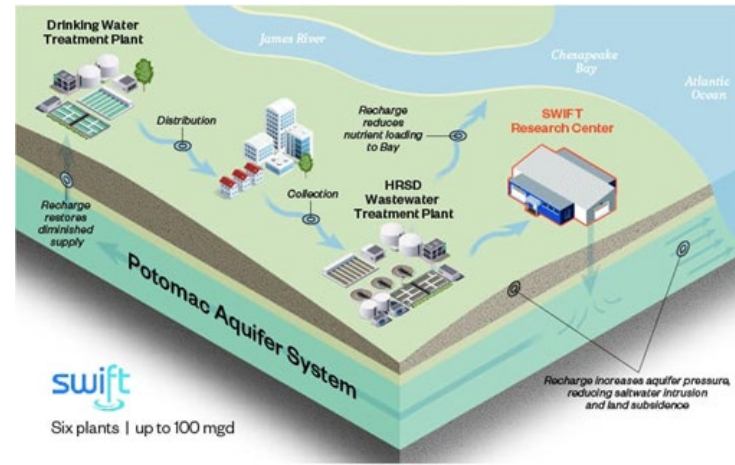


Data Center Alley

- 3400 tech companies in Loudon County's Data Center Alley
- 20 miles of reclaimed pipelines
- 736 million gallons of recycled water used for data center cooling

Source: <https://watereuse.org/educate/types-of-reuse/artificial-intelligence-reuse/>

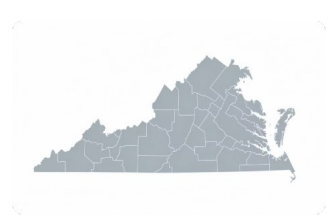
Hampton Roads



SWIFT: Aquifer Replenishment

- Sustainable Water Initiative for Tomorrow
- Instead of discharging to the Jame River, SWIFT puts water through additional rounds of advanced carbon-based treatment.
- Injected into to Potomac Aquifer to reduce land subsidence and increase water supply.

Source: <https://www.hrsd.com/swift>



Georgia

Newton County



Economic Development

- Meta Data Center
- Rivian manufacturing facility under construction
- Reverse Osmosis treatment facility under construction for industrial water treatment.

Source: <https://ncwsa.us/engineering/water-reclamation/>

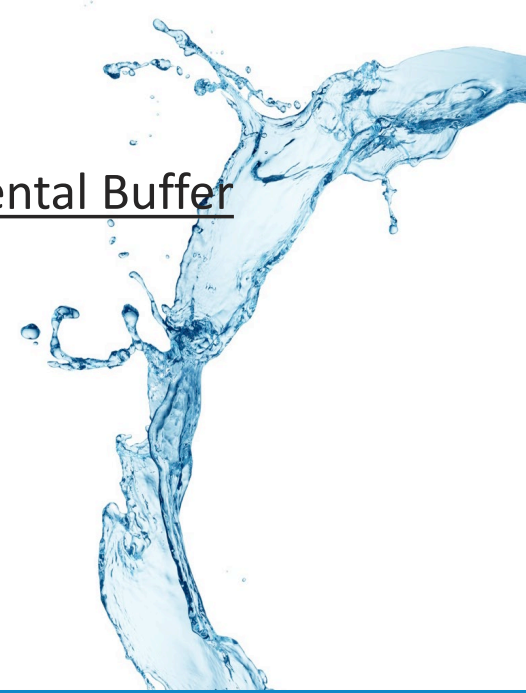
Clayton County



Constructed Wetlands: Environmental Buffer

- Final treatment stage after wastewater plant
- Discharges to drinking water reservoir.
- Local water cycle keeps valuable resource in Clayton County.
- Drought resilience
- Bird sanctuary

Source: <https://www.ccwa.us/195/What-We-Do>



Other States Do It. SC Needs It.



Agriculture

SC's Edisto Basin is the fastest-growing agricultural water user in the state.

Reclaimed water can reduce pressure on stressed streams and aquifers during drought.



Industry & Data Centers

Data centers are rapidly expanding across SC's Upstate, Midlands, and Lowcountry. Google's Berkeley County facility used over 763 million gallons in 2023 alone.



Landscaping and Green Spaces

Move beyond growing grass to all landscaping. Reuse offers a direct opportunity to reduce demand on drinking water supplies.



Coastal & Groundwater Recharge

Saltwater intrusion threatens aquifers near Hilton Head, the Pee Dee coast, and the greater Charleston area.

Reuse reduces pumping pressure and protects long-term supplies.



Municipal & Environmental

In SC, water quality protections restrict new wastewater discharges into designated waters. That makes reuse the only viable path for communities near protected ecosystems.





SC Leadership Agrees: Advance Water Reuse

*"WaterSC supports beneficial water reuse and robustly pursuing the concept where feasible and appropriate. New regulatory programs may be needed to implement and expand **water reuse** in the state."*

— WaterSC Recommendation: 2025 SC State Water Plan

"With the support of current research suggesting that water recycling options in industrial applications provide sustainability benefits, South Carolina should lean into these options to maximize the economic, agricultural, and conservation values of the state's water."

— SC Surface Water Study Committee, March 2026

The Regulatory Landscape: SC's Opportunity

No Federal Regulations Exist

- No national water reuse regulatory framework exists.
- EPA provides some guidance, but states set the rules.
- Each state must build its own pathway.
- **This is an open door, not a gap.**

SC Gets to Write Its Own Rules

- Existing SC regulations are unclear or limited for the variety of reuse opportunities.
- Our challenges are real: coastal saltwater intrusion, agricultural demand, industrial growth, and data centers.
- We can draw from the best of what's working nationally and tailor it for SC

Legislative Path to Advance Reuse in SC

WateReuse SC is creating a comprehensive legislative framework for water reuse tailored to South Carolina's needs.

Authority

Enable SCDES to develop regulatory programs for all kinds of reuse in SC

Standards

Fit-for-purpose standards all reuse categories.

Clarity

A framework that gives utilities, industries, and communities the tools to act.

2027

Target introduction of legislation for the 2027 General Assembly session.

The Future of Water Starts Here.

Water is plentiful. But not limitless. Smart management today protects prosperity tomorrow.
-SC State Water Plan



A large, dynamic splash of water in shades of blue and white, forming a circular shape that frames the central text. The water is captured in mid-air, with many small droplets and bubbles visible.

Questions?

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