

Reclaimed Water Project Portfolio

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About

As demand for cloud computing grows, so does the need for more sustainable infrastructure. Data centers often use water-based cooling, one of the more energy-efficient methods available. But freshwater is a shared resource, and in many communities, a scarce one. Amazon Web Services (AWS) is leading the industry in finding a better way.

This portfolio details how AWS is driving global leadership in the use of reclaimed water for data center cooling. The aim is to transparently share progress, serve as a resource for others on their water stewardship journey, and convey the positive impact AWS is having in communities where it operates. As the portfolio evolves, it will be updated regularly.

What Is Reclaimed Water?

Reclaimed water is municipal wastewater that has been treated and repurposed for beneficial uses like data center cooling, preserving valuable drinking water for communities. AWS partners with local utilities and stakeholders to source reclaimed water through dedicated infrastructure, often called "purple pipe" systems, and use it to cool data centers instead of freshwater.

Our Reclaimed Water Approach

AWS started using reclaimed water in its data centers for cooling in 2018. We were the first data center operator to work with Loudoun Water in Virginia to gain approval to use reclaimed water in its highly water efficient direct evaporative cooling (DEC) design, which often only needs water for cooling single-digit percentages of the year. Evaluating reclaimed water as a potential cooling source is a standard part of AWS's due diligence process for new data center locations. By using reclaimed water instead of potable water for cooling, AWS helps preserve freshwater for families, farmers, and communities.

As of 2024, AWS led the top data center operators with the most locations using reclaimed water for cooling, with 24 operational locations, as detailed in a [report by Koomey Analytics](#). By the end of 2025, that number had grown to 26 operational locations, with contracts in place to expand reclaimed water use to more than 130 locations across nine jurisdictions.

How Reclaimed Water Fits into the Water Positive Strategy

The use of reclaimed water is part of a broader commitment to be water positive by 2030, meaning AWS will return more water to communities and the environment than it uses in direct data center operations. By the end of 2024, AWS was 53% of the way toward being water positive.

We measure progress using the equation below and as detailed in the [Water Positive Methodology](#):

% Towards Water Positive = (Reused Water + Water from Replenishment) / (Total Water Withdrawal – Water from Sustainable Sources)

Reclaimed water is classified as a **Sustainable Source**, meaning it directly reduces the denominator of this equation. Every gallon of reclaimed water used in place of potable water shrinks AWS's net withdrawal, accelerating progress toward the water positive goal and ultimately reducing its water footprint.

Broadly, Amazon's water stewardship strategy rests on three pillars:

- **Reduce:** Most AWS data centers use outside air cooling for most of the year, only using water during peak temperatures, dramatically reducing total water withdrawal. When AWS uses water, it is continually working to improve operational efficiencies to further reduce water withdrawal.
- **Reuse:** In locations where water-based cooling is needed, where feasible AWS prioritizes using non-potable sources for cooling. With more than 130 locations contracted to use reclaimed water, this will directly reduce the amount of potable water used.
- **Replenish:** AWS invests in replenishment projects that return water to local watersheds and the communities in which it operates.

Community and Water Sector Benefits from Reclaimed Water

By working directly with local water utilities, local stakeholders and government agencies, AWS helps establish, develop, or expand reclaimed water supply programs. In many regions, existing regulations did not explicitly allow the use of reclaimed water for data center cooling, requiring AWS to work with local stakeholders to establish new use-case classifications, develop standards specific to its cooling technologies, and create precedent-setting supply agreements with utilities that had never before delivered reclaimed water to a data center or an industrial customer. These efforts have often achieved regulatory firsts, creating frameworks that enable broader community adoption and ensure that as AWS grows, it strengthens, not strains, local water resources.

Asia-Pacific

Melbourne, Australia

Data center locations contracted	1
Utilities contracted	1



AWS worked with Greater Western Water (GWW) to develop a solution to connect to their reclaimed water network, hence preserving potable water for community use while meeting cooling requirements. The Melton Recycled Water Plant will supply reclaimed water following advanced treatment processes that meet Class A reclaimed water standards. This is expected to be the first data center in Victoria to use reclaimed water for cooling, and the first in Australia for AWS.

Hong Kong, China

Data center locations contracted	1
Utilities contracted	1



AWS collaborated with Hong Kong's Water Supplies Department (WSD) and Electrical and Mechanical Services Department (EMSD) on a first-of-its-kind reclaimed water project. WSD-supplied reclaimed water will undergo tertiary treatment inside the data center facility fence to meet the quality standards required for cooling use. As the first data center operator to pursue this approach in Hong Kong, AWS worked with local regulatory agencies to achieve policy breakthroughs that previously restricted cooling towers to freshwater use only— paving the way for broader adoption of reclaimed water for cooling across the region.

West Java, Indonesia

Data center locations contracted	1
Utilities contracted	1



AWS collaborated with Greenland International Industrial Center (GIIC) Water Authorities to launch a water reclaim initiative that treats wastewater effluent to clean water standards and blending it into the water supply reservoir. AWS is the first data center operator to use reclaimed water for cooling in West Java, Indonesia, reducing dependency on freshwater sources. This pioneering effort supports the Indonesian government's green industrial park vision while protecting community water supplies.

Kuala Lumpur, Malaysia

Data center locations contracted	4
Utilities contracted	1



AWS contracted the largest capacity reclaimed water supply project in Malaysia for its Kuala Lumpur sites. This initiative collectively brought together multiple government departments, creating an unique public-private collaboration model. Aligned with the PETRA Ministry's Water Transformation Roadmap 2040, the project enables water agencies to scale the approach nationwide, serving as foundational input for Malaysia's sustainable data center guidelines and future regulations. AWS was the first data center operator to propose the reclaimed water concept to the Malaysian government and initiated the implementation of a public-private reclaimed water supply framework.

Singapore

Data center locations contracted	3
Utilities contracted	1



AWS operates all its leased/owned data centers in Singapore using NEWater, the nation's reclaimed water, which eliminates the use of potable freshwater for cooling. Singapore has made water resilience a national priority, and AWS has aligned its operations with this agenda by achieving one of the lowest Water Usage Effectiveness (WUE) ratings in the region, setting a benchmark for water-cooled data center operations in the region. AWS's leadership in responsible water stewardship has been recognized through Singapore's Water Efficiency Award (WEA) and the Singapore Watermark Award (SWMA), both administered by PUB, Singapore's National Water Agency, honoring organizations that demonstrate exemplary leadership in advancing the nation's water sustainability goals. Through the 100% NEWater adoption and industry-leading water efficiency, AWS continues to champion Singapore's vision of a water-resilient future.

North America

City of Santa Clara, California, USA

Data center locations contracted	3
Utilities contracted	1



AWS operates three data center sites in Santa Clara, CA that use reclaimed water for cooling. AWS was the first data center operator in the area to receive regulatory approval for using reclaimed water in Direct Evaporative Cooling (DEC) systems, further expanding AWS's use of non-potable water sources across its operations.

Douglas County, Georgia, USA

Data center locations contracted	9
Utilities contracted	1



AWS has contracted one of the largest reclaimed water programs for industrial users in Georgia across three campuses in Douglas County. Working with the Douglasville-Douglas County Water and Sewer Authority (DDCWSA) and Cobb County Water Systems, this establishes a multi-agency collaboration model to align on delivery timelines, optimize capacity, and establish water quality standards. AWS is providing the funding for the system. Work on this infrastructure is currently underway, and once complete, all cooling water across all three campuses is expected to be sourced from reclaimed water. This initiative demonstrates how public-private collaboration can scale reclaimed water infrastructure across jurisdictional boundaries, creating a replicable framework for other operators in the region.

Newton County, Georgia, USA

Data center locations contracted	13
Utilities contracted	1



AWS is working with the City of Covington to bring reclaimed water to its Newton County campus, which is expected to mark the county's first reclaimed water customer. The City is leading the design and construction, while AWS is providing the funding for the infrastructure, ensuring that costs are covered by AWS and rates for other customers are not adversely impacted. The campus will temporarily use potable water while the City builds advanced treatment infrastructure at its reclaimed facility, including ultrafiltration and reverse osmosis systems. Once this reuse infrastructure is in place, the campus is expected to operate its highly efficient cooling using reclaimed water. AWS's collaboration with the City has established the regulatory framework that enables other industrial users across the county to follow the same path, helping to advance water resilience throughout the region.

Madison County, Mississippi, USA

Data center locations contracted	17
Utilities contracted	2



AWS developed a reclaimed water project in Madison County, becoming the first data center operator in Mississippi to commit to reclaimed water for cooling operations. AWS is working with Canton Municipal Utilities and the Madison County Wastewater Authority to upgrade regional water infrastructure, adding tertiary treatment to the wastewater treatment plant, and connecting effluent to an onsite ultrafiltration and reverse osmosis facility. This unique collaboration with the county and Veolia enables the campus to operate entirely on reclaimed water,

preserving potable water resources for agricultural and residential water supply while also establishing a scalable model for reclaimed water adoption across Mississippi.

Loudoun County, Virginia, USA

Data center locations contracted	19
Utilities contracted	1



AWS first began using reclaimed water at data center sites in 2018, working directly with Loudoun Water to modify their permit to cover the use of reclaimed water in Direct Evaporative Cooling (DEC) systems, a first in Virginia. This permitting milestone delivered a dual benefit: It limits the need for potable water and enables us to use reclaimed water efficiently through DEC, one of the more water-efficient cooling technologies available. Since then, AWS has worked with Loudoun Water, and today, reclaimed water is in use across 19 operational sites, including four where AWS supported and funded the expansion of Loudoun Water's reclaimed water infrastructure to bring service directly to those locations.

Spotsylvania County, Virginia, USA

Data center locations contracted	38
Utilities contracted	1



AWS worked with Spotsylvania County officials to develop a framework enabling reclaimed water for data center cooling, representing one of the largest investments in reclaimed water infrastructure by AWS. Upgrades include advanced treatment at the Massaponax Wastewater Treatment Plant, new pumping and storage facilities, and a dedicated distribution network. Where

campus boundaries span into neighboring Caroline County, AWS facilitated a cross-jurisdictional incentives sharing agreement to ensure both communities' benefit. AWS is expected to be the first data center operator to use reclaimed water for cooling in Spotsylvania County. Once fully operational, all sites across all five campuses are expected to operate using reclaimed water.

Stafford County, Virginia, USA

Data center locations contracted	21
Utilities contracted	1



AWS is working with Stafford County to upgrade its wastewater treatment plant to produce reclaimed water that will meet applicable reuse standards, increasing the capacity of water available for cooling water demand. AWS is funding both the treatment plant upgrades and the pipeline extension to AWS locations in the County. AWS is expected to be the first data center operator to use reclaimed water for cooling in Stafford County, and once fully operational, all sites are expected to run on reclaimed water, preserving potable water for community use while building infrastructure that positions the County to offer reclaimed water to future users.

Our Reclaimed Water Portfolio

Location	Contracted	Operating
Asia Pacific		
Melbourne, Australia	1	0
Hong Kong, China	1	0
West Java, Indonesia	1	1
Kuala Lumpur, Malaysia	4	0
Singapore	3	3
North America		
City of Santa Clara, California	3	3
Douglas County, Georgia	9	0
Newton County, Georgia	13	0
Madison County, Mississippi	17	0
Loudon County, Virginia	19	19
Spotsylvania County, Virginia	38	0
Stafford County, Virginia	21	0