

# WATER USE AND STEWARDSHIP



Water plays an integral part in power generation. Each day, OG&E relies on quality water to generate affordable and reliable electricity. Using fresh surface and ground water sources, as well as reuse water from municipal waste water treatment systems, the company returns 99 percent of the water used to generate electricity for its customers each year. OG&E strives to ensure that this natural resource is used – and reused – in a manner that is efficient, responsible and sustainable.

## WATER IS WITHDRAWN, BUT NOT ALWAYS CONSUMED

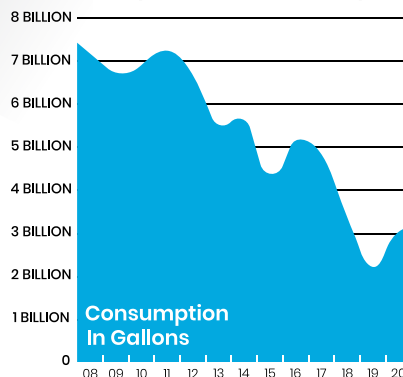
To understand water use in power generation, it is important to know the difference between water withdrawn and water consumed. **Water withdrawn** is the total volume brought into the plant from a water source, such as a lake or river. At OG&E, a large portion of water withdrawn is returned to the source or reused. **Water consumed** is the amount of water that is withdrawn for use and not returned to the source.

3.1 BILLION  
GALLONS CONSUMED

703 BILLION  
GALLONS WITHDRAWN  
AND THEN RECYCLED

Yearly Fresh Water  
Withdrawal/Recycled

Yearly Fresh Water Consumption



- + OG&E strategically plans for future water needs and continues to seek ways to use water more efficiently and minimize the need to use fresh water.
- + The McClain and Redbud plants operate cooling towers with treated municipal waste water.
- + At OG&E’s largest facilities, cooling water and certain process water is reused on site for operational processes.
- + Oklahomans enjoy boating, fishing, swimming at two power plant reservoirs OG&E has opened to the public.
- + OG&E operations and facilities source water from regions classified by the World Resources Institute as having low or low-medium baseline water stress, including all water withdrawn or consumed. None of OG&E’s water is sourced from regions classified by the WRI as having high or extremely high baseline water stress.



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## HOW POWER PLANTS USE WATER

The largest portion of a power plant's water use and consumption comes from cooling. The type of cooling system can affect the volume of water withdrawn and consumed. There are two common types of cooling systems:

- + **"Closed cycle" cooling system** routes water through a cooling tower to reduce heat and back to the plant to cool the steam cycle once again.
- + **"Once-through" cooling system** withdraws water from a manmade reservoir and routes the water through the facility one time before returning nearly all of it to the reservoir. Very little water is consumed.

## REGULATION

- + OG&E facilities are regulated and permitted by multiple state and federal agencies that ensure water quality as well as water quantity regulations are being followed. Most OG&E power generating facilities have water use permits that consist of ground or surface water rights, and under which the water used is measured and reported to the appropriate agency each year. OG&E facilities also have Oklahoma Pollutant Discharge Elimination System (OPDES) permits that regulate and ensure the quality of water being discharged from the facilities comply with state water quality standards.

## STEWARDSHIP

Water is vital to Oklahoma's economic success and quality of life. A consistent water supply also impacts the ability to generate electricity reliably. OG&E strategically plans for future water needs and continues to seek ways to use water more efficiently. As Oklahoma grows and demand for electricity and water rises, OG&E will be prepared to continue to provide reliable electricity.

Two of OG&E's plants, McClain and Redbud, were designed to conserve fresh water. Both plants' cooling towers rely on water from municipal wastewater treatment facilities. This is just one example of OG&E's commitment to good stewardship of one of Oklahoma's most precious resources.

## RECREATION AND INDUSTRY TOGETHER

In 1971, OG&E became the first electric company in Oklahoma to open one of its cooling reservoirs for public recreation. Today, Oklahomans and outdoor enthusiasts from around the country enjoy boating, fishing and swimming at Seminole Power Plant's 1,350-acre Lake Konawa and Sooner Power Plant's 5,400-acre reservoir. Both reservoirs are periodically stocked with game fish by the Oklahoma Department of Wildlife Conservation and as a result, contribute to Oklahoma's travel and tourism industry.



*Reservoirs at Sooner Power Plant and at Seminole Power Plant's Lake Konawa are periodically stocked with game fish by the Oklahoma Department of Wildlife Conservation.*



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