



Fast Facts

According to the U.S. Nuclear Regulatory Commission, Plant Hatch withdraws an average of 57 million gallons per day from the Altamaha River and actually “consumes” 33 million gallons per day that is lost primarily as water vapor.

According to the National Renewable Energy Laboratory, each kilowatt hour (kWh) of electricity production in Georgia consumes 1.65 gallons of water. And, in 2007, Georgia’s Drought Response Unified Command stated that the average Georgia household’s electricity use is 1,148 kWh per month, consuming 1,894 gallons of water.

The proposed Plant Vogtle nuclear reactors are estimated to require withdrawal of 55-88 million gallons of water per day from the Savannah River with 50-75% of that lost as steam, according to Southern Company’s permit application. USGS figures show average per capita daily water use in Georgia is 75 gallons from surface and ground water sources. At these rates, the two existing and two proposed reactors at Plant Vogtle would consume enough water to otherwise supply 1.4 to 2.3 million Georgians.

For More Information:
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Make The Water-Energy Connection

What’s at Stake?

In 2007, Georgia experienced one of its worst droughts in over a century. According to the University of Georgia’s Center for Agribusiness and Economic Development, the drought cost \$1.3 billion in economic damage and prompted crisis responses across the region. It also revealed a vulnerable electricity system. Power plants in the region, such as the Tennessee Valley Authority’s Brown’s Ferry nuclear plant along the Tennessee River, were forced to reduce electricity production due to high water temperatures and reduced river flows. Energy choices made today that do not take stressed water resources into consideration harm Georgia’s ability to cope in the future.

Challenges

Georgia’s power sector is the largest water user in the state, followed closely by agriculture, according to a study by the U.S. Geological Survey (USGS). Most conventional power plants, especially coal and nuclear plants, must have large amounts of water readily available to create and condense steam to power turbines, and not all of the water is returned. Some plants return less than half of the water they use. Most conventional power plants degrade water quality and reduce water availability. These utility plants compete for water with other important uses vital to our state’s economy and quality of life: drinking water supply, agriculture, industry, fishing, and recreational opportunities. Less water used for conventional power generation in Georgia means more water available for other crucial needs.

Georgia faces proposals to build more coal and nuclear plants even though less water-intensive, affordable energy solutions exist. When comparing types of energy generation, reports from the U.S. Department of Energy (DOE) show that nuclear power has higher rates of both water withdrawal and consumption than coal and natural gas and far more than renewable energy sources such as wind, solar, and biomass. For example, according to the Department of Energy’s National Renewable Energy Laboratory, developing just 1000 megawatts of wind in Georgia would save 1628 million gallons of water per year. Water saving cooling technologies, such as dry cooling, are available but no existing or proposed power plants in Georgia are pursuing them.

A 2006 state study by the Georgia Environmental Facilities Authority showed that reducing electricity use through energy efficiency measures has the immediate impact of reducing water required by power plants. Individual actions also help but have a smaller impact. EnergyStar appliances use less energy and water. EnergyStar washing machines use 50% less energy per load and 30-50% less water than a typical model. This saves water and consumers money.

Next Steps

State legislators and the Public Service Commission (PSC) should:

- Adopt energy policies that do not add unnecessary burdens on our stressed water resources;
- Require water-saving energy measures, such as energy efficiency and conservation and advance less water-intensive electricity supplies, such as biomass, wind and solar;
- Reject proposed utility plans to build more water-intensive coal and nuclear plants;
- Foster well-coordinated and comprehensive state energy and water planning;
- Support less water intensive technologies for new power plants, such as dry cooling; and
- Renew the EnergyStar and WaterSense Sales Tax Holiday.