Catawba-Wateree River Basin: Framing the Discussion

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Catawba-Wateree River Basin
Advisory Commission Meeting
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One of the Most Studied Rivers in the Country

Misconceptions

Catawba-Wateree Net Withdrawal Trends by Water User Type

Dry Cooling No Panacea for Water Management

Water Sustainability Through Collaboration

Duke Energy’s Commitment

Questions?
One of the Country’s Most Studied Rivers

  - Collaborative stakeholder process
  - Collaborative management of the basin’s water supply
  - Developed the Computer Hydro-Electric Operations and Planning Software (CHEOPS)
  - Developed the Low Inflow Protocol
  - First comprehensive N.C./S.C. long-term water supply study
  - Balances current and future public, environmental, industrial and energy uses
Misconceptions

- Water consumption is a more relevant issue than water withdrawal from a river basin.
- The once-through cooling water design returns 99 percent of the water withdrawn.
- Closed-cycle cooling water systems or cooling towers similar to Catawba Nuclear Station’s system consume more water than once-through systems.
- Catawba-Wateree water consumption for power generation is on par with public consumption.
Catawba-Wateree Net Withdrawal Trends by Water User Type

Source: Catawba-Wateree Drought Management Advisory Group
Water Use Summary Report for Calendar Year 2010
Any cooling technology must be economical while meeting the needs of the region, environment and citizens

Disadvantages of dry cooling include:

- Capital costs three-to-five times greater than wet, closed-cycle cooling technologies
- Requires significantly more land, making it difficult to implement dry cooling as a retrofit to existing plants
- Requires significant energy to operate
- Dry cooling is not practical for the Southeast’s climate
Water Sustainability Through Collaboration

- Continuing partnerships to manage water issues
  - Catawba-Wateree Drought Management Advisory Group
    - Has successfully (and voluntarily) managed drought events by implementing the LIP
    - During the drought of 2007-2009, protected all water intakes, saved more than one trillion gallons in the Catawba-Wateree lake system, and prevented a true water emergency
    - Will review the LIP every five years
  - Catawba-Wateree Water Management Group
    - A truly collaborative model for planning the region’s sustainable water future
    - This group implements a rolling five-year plan of demand-side and supply-side projects
    - Updates the water supply study every 10 years beginning no later than 2018

Lake James
Duke Energy’s Commitment

- Growth in the Piedmont Carolinas has been sustained by diverse energy sources and an ample water supply
- Duke Energy remains committed to providing electricity reliably, affordably, safely, and in increasingly clean ways
- Constructing two new natural gas combined cycle plants in North Carolina
- Retiring nearly 3,800 MW of older coal-fired generation
- Investing in renewables and energy efficiency programs
  - Current plans call for approximately 4 percent of our generation needs being met through energy efficiency programs by 2031
  - Energy efficiency programs available to customers to reduce their energy use and lower bills
  - Energy efficiency viewed as a fifth fuel on Duke Energy’s system
  - Allows us to grow with existing resources instead of new resources