Catawba-Wateree River Basin: Framing the Discussion

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Catawba-Wateree River Basin
Advisory Commission Meeting
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Agenda

- 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

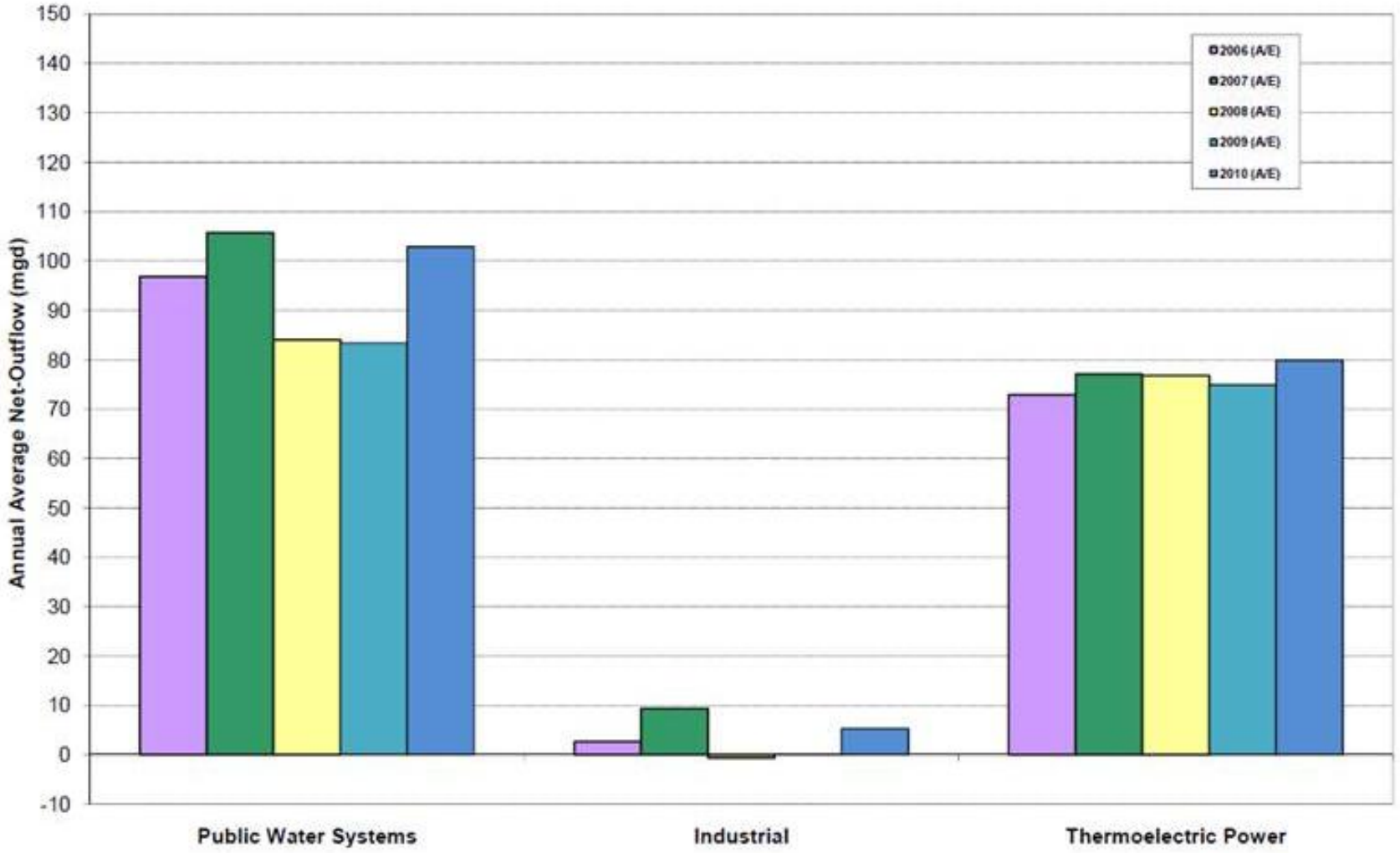
- Catawba-Wateree Relicensing Process (2003 to 2006)
  - Collaborative stakeholder process
  - Collaborative management of the basin's water supply
  - Developed the Computer Hydro-Electric Operations and Planning Software (CHEOPS)
  - Developed the Low Inflow Protocol
  - First comprehensive N.C./S.C. 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- The once-through cooling water design returns 99 percent of the water withdrawn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

Kayakers on the Catawba River below Fort Mill, S.C.

Catawba-Wateree Net Withdrawal Trends by Water User Type



Source: Catawba-Wateree Drought Management Advisory Group
Water Use Summary Report for Calendar Year 2010

Dry Cooling No Panacea for Water Management

- 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 though 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 with existing resources instead of new resources

Questions?

Lake James