

NEW YORK REGIONAL ENERGY-WATER WORKSHOP

Executive Summary

Historically energy and water supply and demand issues have been examined separately. This practice has led, for example, to planning for future electricity requirements with the assumption that there is ample water available for cooling. Water resource planning has tended to concentrate on domestic potable water supply and wastewater treatment, assuming that electricity to move and treat water will be available where it is needed to serve an increasing population. Clearly joint planning is needed to avert future water and energy shortages, and where either is constraining, solutions must be found to prevent adverse economic consequences.

To address the most pressing energy-water issues in southeastern New York, Brookhaven National Laboratory, Columbia University Earth Institute and the Electric Power Research Institute jointly sponsored a New York Regional Energy-Water Workshop on April 20, 2004 at Columbia University. The goals of the Workshop were to identify the most pressing regional energy-water issues in New York, explore the links among the supply of and demand for energy and water, and identify where stakeholder planning, and research and development could guarantee that future New Yorkers will have access to plentiful, clean and safe water and energy.

The Keynote Speaker for the Workshop was the Honorable Christopher Ward, Commissioner of the New York City Department of Environmental Conservation. Over 40 participants participated, including: New York City and New York State officials responsible for energy, water, environment and health; electric utility employees; members of non-governmental organizations; private sector groups; academics; and EPRI and BNL staff. Stakeholder speakers from New York with energy, water, environmental and utility experience and expertise gave their insights on the issues and provided background to inform the participants' discussions in subsequent breakout sessions.

The major challenges identified by the participants to improving the linkages between energy and water underscored the need to address the aging infrastructure, dense population, constrained land use and lack of integrated energy-water planning in the metropolitan New York region when examining energy-water issues. In the breakout sessions, the participants suggested several areas of research to explore as key approaches to more efficient energy-water linkages including:

- use of impaired water for coolant for power generation,
- increased energy efficiency of wastewater treatment plants,
- more alternative and distributed energy use for power generation,
- development of energy and water treatment technologies with minimal impact on fresh and salt water.
- innovative financial incentives to encourage long-term planning and investment in new water and power facilities,

- application and development, where required, of analytic tools to address the complex economic, environmental, and energy-water interactions over short- and long-term planning horizons, and
- combined solutions for water and energy efficiency in the urban setting, such as installing distributed co-generation and green roofs to address both energy and water runoff in established urban neighborhoods.

The need for follow-on demonstration projects to test promising research approaches targeted to the New York metropolitan region was also highlighted.