Principles for an Energy Water Future

A Foundation for a Sustainable America

The nexus between energy and water is an increasingly important area for focus. There are significant societal and environmental benefits to be derived from improving coordination between the two sectors. Government should take a leadership role in this relationship and lead by example. EPA is proposing principles for government, service providers, and ratepayers to foster valuable collaboration in both the water and energy sectors to work together to meet our water and energy needs nationally and locally. The principles also serve as a reminder that rising water treatment costs or necessary tradeoffs such as stricter water treatment levels can be mitigated by efforts elsewhere such as reducing demand for energy and water.

Efficiency in the use of energy and water should form the foundation of how we develop, distribute, recover, and use energy and water. EPA supports:

- Encouraging energy and water efficiency by the ratepayer through the use of efficient products, like ENERGY STAR and WaterSense labeled products, supplemented by informed and wise use of resources;
- Improving system-level energy and water efficiency by water, wastewater, stormwater and energy utilities and encouraging strategic investments in efficiency;
- Using full cost rate structures while ensuring access to clean and safe water for low income households;
- Recognizing and reducing the embedded water and energy in manufactured and agricultural products; and
- Relying on education and outreach, in collaboration with local communities, to be at the forefront of encouraging efficiency.

The exploration, production, transmission and use of energy should have the smallest impact on water resources as possible, in terms of water quality and water quantity. EPA supports:

- Reducing consumption or use of water for producing energy and fuels: reduce, recover, reuse and recycle;
- Analyzing, recognizing and minimizing any impacts on groundwater, water quality, water quantity, and the aquatic environment including wetlands when choosing between sources of energy; and
- Practicing good stewardship to minimize potential impacts and avoid contaminants that reduce water's value or require additional energy for treatment.

The pumping, treating, distribution, use, collection, reuse and ultimate disposal of water should have the smallest impact on energy resources as possible. EPA supports:

- Creating an energy efficiency management plan using established energy auditing tools;
- Establishing plans to repair leaks in water distribution and wastewater collection systems;

- Using nearby water sources where available, including rain harvesting and recycled water;
- Treating water to a level that matches the end use; and
- Avoiding unnecessary transport of water and wastewater for treatment or disposal.

Wastewater treatment facilities, which treat human and animal waste, should be viewed as renewable resource recovery facilities that produce clean water, recover energy and generate nutrients. EPA supports:

- Using wastewater and associated organic solids and treatment byproducts, such as methane gas, as a source of renewable energy that can be used by treatment plants to reduce net 'on-grid' energy use or to become zero net energy consumers;
- Using wastewater for irrigation, accounting for the nutrients in the water as a way to reduce the need for additional fertilizers;
- Recycling or reusing water for appropriate uses with no resulting loss of downstream use and habitat, minimizing energy used for treatment, and becoming a reliable source for the future; and
- Extracting and recycling nutrients from wastewater.

The water and energy sectors – governments, utilities, manufacturers, and consumers – should move toward integrated energy and water management from source, production and generation to end user. EPA supports:

- Encouraging the water and energy sectors – both governments and utilities –to continue to align themselves to breakdown institutional barriers, improve transparency, and maximize efficiencies;
- Encouraging government agencies to look across missions and private utilities to look across sectors to achieve integrated energy and water management, maximize efficiencies and avoid unintended consequences;
- Encouraging partnerships between government and service providers to leverage and expand upon existing successes and institutions; and
- Promoting transparency and collaboration related to research, funding and policy within institutions and across sectors, which are essential and will help to leverage lessons learned and expand successes.

Maximize comprehensive, societal benefits. EPA supports:

- Articulating and recognizing the benefits for the larger sphere of influence of public and private investment – beyond direct cost savings – in energy and water efficiencies;
- Enhancing, promoting, and targeting financial incentives and other societal benefits, including market-based benefits such as rebates and government programs such as state revolving funds, taxes and tax credits; and
- Planning to build resiliency for climate change impacts on water infrastructure and water quality to minimize vulnerabilities.