

Office of Water Climate Strategy



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Water Climate Change Strategy

- Overview: Climate Change Adverse Impacts on Water Resources:
 - Increases in Water Pollution Problems
 - More Extreme Water-Related Events
 - Changes in Availability of Drinking Water Supplies
 - Waterbody Movement and Displacement
 - Changing Aquatic System Biology
 - Collective Impacts on Coastal Areas



Water Climate Change Strategy

- 5 Major Water Program Goals:
 - Goal 1: Mitigation of Greenhouse Gases
 - Goal 2: Adaptation to Climate Change
 - Goal 3: Climate Change Research Related to Water
 - Goal 4: Education on Climate Change
 - Goal 5: Management of Climate Change



Water Climate Change Strategy

- **Goal I: Water Program Mitigation of Greenhouse Gases:**

Use core water programs to contribute to greenhouse gas mitigation.



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- **Goal 2: Water Program
Adaptation to Climate Change:**

Adapt implementation of core water programs to maintain and improve program effectiveness in the context of a changing climate.



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- **Goal 3: Climate Change Research Related to Water:**

Strengthen the link between EPA water programs and climate change research.



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- **Goal 4: Water Program
Education on Climate Change:**

Educate water program professionals and stakeholders on climate change impacts on water resources and programs.



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- **Goal 5: Water Program Management of Climate Change:**

Establish the management capability within the National Water Program to address climate change challenges on a sustained basis.



Greenhouse Gas Mitigation & Water Conservation and Resource Management



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Energy Conservation & Efficiency: At the Water Utility

- Energy use by drinking water & wastewater facilities is approx. 3% of U.S. energy consumption (EPRI 1999).
- Performance benchmarking – such as EPA’s ENERGY STAR Performance Rating System for water utilities – and energy audits can result in energy savings and greenhouse gas reductions.
- Utilities may also have opportunities to reduce greenhouse gas emissions by using alternative sources of energy (e.g., solar, hydro, wind, Combined Heat & Power systems).



Sequestering Carbon to Mitigate Climate Change

- Geologic sequestration involves capturing carbon emissions at the source for long-term storage in deep underground formations.
- EPA has initiated a rulemaking under the Safe Drinking Water Act Underground Injection Control Program to prevent endangerment of underground sources of drinking water.
 - Forums for public and expert input have included 7 technical workshops and 2 public meetings
 - EPA proposed the rule in July 2008



Water Conservation & Efficiency: Save Water – Save Energy!

- EPA is helping consumers identify residential and commercial products that meet water-efficiency criteria through our WaterSense Program.
- We are promoting leak detection and repair to prevent water loss from leaky pipes in distribution systems.
- EPA encourages the public and private sectors to invest in “green infrastructure” that conserves energy and water.



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Ensuring Sustainable Drinking Water Supplies

- Water availability, variability and sustainability --factors that may impact source waters:
 - Changes in precipitation and snowmelt
 - Extreme weather – droughts, intense storms
 - Salt water intrusion
 - Increased water pollution
 - Increased demand
- EPA, states and utilities can work together to protect water supplies.



Water Quality



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Water Quality: Effluent Limits

- Technology-based pollution control
 - Existing industries with effluent guidelines
 - Review new pollutant control technologies
 - Evaluate efficiencies in water conservation and reuse
 - New industrial sectors (including biofuels)
 - Evaluate water quality impacts of alternate energy sources
 - Consider whether new guidelines are necessary for alternate energy sources



Water Quality: NPDES Permits

- How do we ensure that NPDES permitting continues to be protective of water quality
 - Expand Technical Assistance
 - Adapt Permit Program Tools for Climate Change
 - Evaluate Impacts on Wet Weather Permit Program
 - Address Climate Impacts at Animal Feeding Operations



Water & Wastewater Infrastructure

- How do we protect and adapt wastewater, and water, infrastructure?
 - Vulnerability Assessments
 - Bottom-up
 - Top-down
 - Review Options for Emergency Response Planning



Water & Wastewater Infrastructure

- Improving system resilience
 - Sustainable infrastructure
 - Green infrastructure
 - State Revolving Fund loans

