

# **GAO's Water Work**

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## **Ongoing Work and Future Issues**

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# Introduction

- GAO is the investigative arm of Congress.
- GAO examines federal tax dollars, wherever they are spent.
- GAO also conducts studies to help Congress and its members better manage federal agencies and funds.
- GAO attained financial savings of almost \$50 billion in 2010 —a return of \$87 to the taxpayer for every \$1 invested in GAO

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# Natural Resources and Environment Team

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- NRE conducts wide-ranging work at federal environment, energy, agriculture, and land management agencies:
  - Environmental Protection Agency
  - Department of Energy
  - Department of Agriculture
  - Department of the Interior
  - U.S. Army Corps of Engineers
- NRE work encompasses research organizations and funds provided through these departments.

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## GAO's Recent Water Work

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- Recent GAO reports on various water topics
  - The energy-water nexus
  - Recovery Act – SRF
  - Water Security
- GAO studies on alternatives ways to fund water infrastructure
  - Clean Water Trust Fund
  - National Infrastructure Bank
  - Public-Private Partnerships

## Energy-Water Nexus

- Starting in 2009, GAO has undertaken a series of reports examining the linkages between energy and water:
  - Three issued reports focused on the water required for various types of energy production.
    - Thermoelectric power: GAO-10-23
    - Biofuels: GAO-10-116
    - Oil Shale: GAO-11-35
  - One recent report focuses on the energy required to extract, treat, and transport drinking water and wastewater.
  - One ongoing study is focused on produced water from natural gas and oil production.

# Recovery Act Work

- Recovery Act required that we review the use of funds and accountability for these funds.
- In May 2010, we reported on the use of \$6 billion in Clean Water and Drinking Water State Revolving Funds.
  - In 14 states, all funds were obligated for projects.
  - States allocated 20 percent of funds for green projects.
  - States allocated about 40 percent of funds for small or disadvantaged communities.
  - States did not have fatal problems with Davis-Bacon provisions, reporting requirements, or Buy American provisions.

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# Water Security Work

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- The security of the nation's drinking water and wastewater infrastructure has been a priority since 9/11.
- Congress provided funds for drinking water utilities to assess their vulnerabilities, and the Senate EPW asked us to complete several studies to address questions related to the implementation and funding of security upgrades.
- For example, in a two-part study, we asked experts to identify the specific security-enhancing activities most deserving of federal support.

## Water Security - What deserves federal support?

- **Most Vulnerable:** Distribution system's network of underground pipes, and collection system's network of sewer lines; also, chemical storage areas, and data control systems.
- **Key Activities to Fund:** developing near real-time monitoring technologies and simulation exercises; replacing gaseous chemicals used for disinfection with less hazardous alternatives; improving collaboration among key players; and conducting vulnerability assessments
- **Who Gets Priority and How:** Utilities serving critical infrastructure; direct federal grants are the preferred funding mechanism.

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# Clean Water Trust Fund

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- In 2009, we identified three main issues affecting the creation of such a trust fund for wastewater projects:
  - How a trust fund should be administered and used—should EPA manage and should it be related to the state revolving fund?
  - What type of financial assistance should be provided—grants, loans, or a combination?
  - What activities should be eligible for funding—e.g., routine O&M, capital costs, ratepayer assistance, other?

## Clean Water Trust Fund

- We also examined potential sources of revenue for a trust fund:
  - Excise taxes on one or more of the following: beverages; fertilizers and pesticides; flushable products such as soaps, detergents, oils, and toiletries; pharmaceuticals; and/or water appliances.
  - Corporate income tax.
  - Water use tax.
- Obstacles to revenue generation include defining the product to be taxed, establishing a collection and enforcement framework, and obtaining stakeholder support.

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## NIB/PPP – June 2010 Report

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### Objectives:

- Examine stakeholders' views on issues to consider in the design of a National Infrastructure Bank
- Examine the extent to which private financing has been used in wastewater PPPs and its reported advantages and challenges

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# NIB - Issues to Consider in Design

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## Stakeholders Identified:

- Mission
- Administrative structure
- Funding Sources for the NIB
- Funding/Finance Tools for Projects
- Project eligibility and prioritization

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## NIB - The Mission

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- Majority of Stakeholders supported creating an NIB
- Views varied on whether an NIB should finance all types of infrastructure or just water and wastewater
  - Views varied about how an NIB should interact with the CWSRF

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## NIB - Administrative Structure

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- Stakeholders disagreed on how an NIB should be administered
- Past GAO reports show that the structure affects:
  - the level of federal control
  - how its activities are reflected in the budget
  - the level of risk exposure to taxpayers

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## NIB - Source of Funding

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- Most stakeholders agreed that the federal government should provide the initial capital
- Stakeholders were split on whether an NIB should continue to rely on federal funds or become self-sustaining
- Most stakeholders supporting authorizing an NIB to generate its own funds for operating expenses and lending

## NIB - Funding Tools for Projects

- Mechanisms most supported by stakeholders:
  - Direct loans to projects
  - Pool loans for several projects into a larger bond issue
  - Federal loan guarantees of projects

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## NIB - Project Eligibility and Priorities

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- Different views on whether to only fund large projects or only publicly-owned utilities.
- Stakeholders agreed that NIB funding priority should be based on need and potential public health and environmental benefit
- Stakeholders agreed that capital, planning, and design costs should be eligible

# Public-Private Partnerships

- We reviewed seven public-private partnerships (PPP) for wastewater projects. A PPP is a contractual agreement in which a private partner invests in the wastewater infrastructure, but does not include full privatization, in which the municipality sells its wastewater infrastructure to a private partner.
- These PPPs followed a 1992 Executive Order that encouraged the use of privately financed public-private partnerships.
- Although all seven municipalities entered into privately financed wastewater PPPs, their reasons for doing so differed as did the contract terms.

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## Advantages of Public-Private Partnerships

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- Officials for the seven municipalities identified advantages and disadvantages of PPP. The advantages include:
  - Access to nontraditional funding sources (e.g., private),
  - Potential efficiencies created through economies of scale, and
  - Projects are completed more quickly.

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## Challenges with Public-Private Partnerships

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- Challenges, or disadvantages, to PPP include:
  - Local opposition can exist to potential or perceived rate increases,
  - Higher interest rates can be charged by private entities involved in the partnership, and
  - Costs can be increased because of the complex contracts and arrangements involved.

# Ongoing and Future Water Engagements

- Drinking water – emerging contaminants, pharmaceuticals, program management
- Clean water - non-point source pollution – 319 Program
- Chesapeake Bay restoration program
- EPA Processes for Assessing and Controlling Toxic Chemicals
- Recovery Act - SRF related work

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# Related GAO Reports

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## Water Infrastructure

- Clean Water Infrastructure: A Variety of Issues Need to Be Considered When Designing A Clean Water Trust Fund (GAO-09-657).
- Recovery Act: Status of States' and Localities' Use of Funds and Efforts to Ensure Accountability (GAO-10-604).
- Wastewater Infrastructure Financing: Stakeholder Views on a National Infrastructure Bank and Public-Private Partnerships (GAO-10-728).
- Water Infrastructure: Improved Coordination and Funding Processes Could Enhance Federal Efforts to meet Needs in the U.S.-Mexico Border Region (GAO-10-126).

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# Related GAO Reports

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## Water Security

- [Drinking Water: Experts' Views on How Future Federal Funding Can Best Be Spent to Improve Security \(GAO-04-29\).](#)
- [Wastewater Facilities: Experts' Views on How Federal Funds Should be Spent to Improve Security \(GAO-05-169\).](#)
- [Protection of Chemical and Water Infrastructure: Federal Requirements, Actions of Selected Facilities, and Remaining Challenges \(GAO-05-327\).](#)
- [Securing Wastewater Facilities: Utilities Have Made Important Upgrades but Further Improvements to Key System Components May Be Limited by Costs and Other Constraints \(GAO-06-390\).](#)
- [Securing Wastewater Facilities: Costs of Vulnerability Assessments, Risk Management Plans, and Alternative Disinfection Methods Vary Widely \(GAO-07-480\)](#)

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## Related GAO Reports

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### Energy-Water Nexus

- Energy-Water Nexus: Improvements to Federal Water Use Data Would Increase Understanding of Trends in Power Plant Water Use (GAO-10-23).
- Energy-Water Nexus: Many Uncertainties Remain about National and Regional Effects of Increased Biofuel Production on Water Resources (GAO-10-116).
- Energy-Water Nexus: A Better and Coordinated Understanding of Water Resources Could Help Mitigate the Impacts of Potential Oil Shale Development (GAO-11-35).

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## Related GAO Reports

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### Assessing and Controlling Toxic Chemicals

- **Chemical Regulation: Observation on Improving the Toxic Substances Control Act.** (GAO-10-23).
- **EPA Chemical Assessments: Process Reforms Offer the Potential to Address Key Problems.** (GAO-09-774T).
- **Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Management system.** (GAO-08-440).

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## **GAO on the Web**

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