INFRASTRUCTURE FOR SAFE DRINKING WATER AND WASTEWATER TREATMENT & DISPOSAL: Fact Sheet

Summary

Clean, safe water is critical for human and ecosystem health. Our nation's livelihood depends, in large part, on the quality of our water – for drinking, swimming, recreation, economic uses, and other benefits of healthy ecosystems. One major effort to protect the quality of water and human health is through the construction and operation of an extensive network of facilities that provide for drinking water treatment and distribution and for wastewater treatment and disposal. Collectively, these are called *infrastructure*. This fact sheet addresses the nature of water and wastewater infrastructure, identifies challenges to the infrastructure, and provides opportunities for communities to address their concerns.

Environmental Justice Questions and "Hooks"

What is infrastructure? Infrastructure is a term used to describe large-scale public systems, services, and facilities that are necessary for economic activity, including power and water supplies, public transportation, telecommunications, roads, and schools. Infrastructure that addresses human use and disposal of water provides the public with access to drinking water and sanitation. It includes water treatment plants, sewer lines, distribution lines, and storage facilities.

What is the legal authority? Drinking water and waste water infrastructure are guided by the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA). These laws establish the requirements for water facilities and how they must operate in order to protect human health and the environment. For example, the SDWA provides regulations for public water supply systems, and the CWA provides regulations for wastewater facilities, including sewage treatment plants and underground injection wells.

What is the challenge? The nation's infrastructure, which provides drinking water and waste treatment, suffers from a number of challenges. First, the systems are aging. Many facilities were constructed in the period following World War II, and will be reaching the end of their useful life in the next 20-40 years. Second, because of population growth, many of the systems were not designed to serve the number of people currently being served. Third, some rural communities have never had access to public water supply systems or wastewater treatment facilities. Small communities often experience the greatest difficulty. These challenges result in enormous costs for construction, operation, and maintenance of these facilities. Utilities and their local communities must provide the primary sources of funding to meet those needs. Federal and state funding can help water utilities meet needs. At the same time, budgets at the local, state, and federal levels face increasing demands and fewer resources.

What needs to be done? Infrastructure needs can be met through several approaches that focus on sustainable development, defined as *development that meets the needs of the present generation without compromising the ability of future generations to meet their needs*. These approaches include practical improvements, funding for drinking water and wastewater facilities, and source protection. Further, many communities could avoid costly construction projects through improved management skills, adequate financing, appropriate technology, and better wastewater treatment system operation and maintenance. EPA has identified four such practices:

- Better Management of Water and Wastewater Utilities: Practices like asset management and environmental management systems should be used. Also, consolidation and public/private partnerships offer utilities significant savings.

- Full Cost Pricing: Rates should reflect the total cost of service. Rate restructuring can help utilities capture the actual costs of operating water systems, raise revenues, and help conserve water.
- Water Efficiency: Efficiency and conservation are critical, particularly in those parts of the country that are undergoing water shortages. Market incentives must be created to encourage more efficient use of water and to protect water sources.
- Watershed Approaches: Infrastructure should be addressed as part of water quality protection.

Funding to address concerns caused by the lack of public water supply systems and wastewater treatment plants or concerns caused by existing facilities is available through government programs, as follows:

- Drinking Water State Revolving Fund: Funds drinking water systems to finance infrastructure improvements. Emphasis is on small and disadvantaged communities and pollution prevention.
- Clean Water State Revolving Fund: Funds water-quality protection projects for wastewater treatment, nonpoint source pollution control, and watershed and estuary management. See http://www.epa.gov/OWM/cwfinance
- Environmental Finance Program: Assists communities with creative approaches to funding.
- Funding for Nonpoint Source Pollution: Funds different nonpoint source pollution and watershed protection projects. See http://www.epa.gov/owow/nps/funding.html
- Catalog of Federal Funding Sources for Watershed Protection: Searchable database of financial assistance sources (grants, loans, cost-sharing) available to fund a variety of watershed protection projects. See http://cfpub.epa.gov/fedfund
- EPA's Office of Wastewater Management Small Communities Team: provides water and wastewater services to tribal and community leaders, including technical assistance, financial assistance, and education & training.

Using these principles and approaches, a strategy for addressing infrastructure needs should include the following tasks:

Task One: Identify and document the problem. Questions include: Is the drinking water source unsafe? Has the quality of the water been threatened by the disposal of wastewater?

Task Two: Engage a broad group of interested people and organizations who can work to address the challenge. Questions include: Is there a local utility involved? Is there an association that may be helpful? What is the role of federal and state environmental agencies?

Task Three: Determine if an environmental law might apply or if alternative dispute resolution is appropriate. Questions include: Is there a violation of an environmental law, such as the CWA or the SDWA? Is there authority in the environmental laws for funding and technical assistance to address the problem?

Task Four: Determine the measures that can be taken to address the problem. Questions include: are there funding sources to pay for construction of a public water supply system or a wastewater treatment plant? If these facilities exist, is there funding to upgrade them? Are there pollution prevention measures that can be used, such as watershed protection, non-point source run-off management, and personal practices? How do we access the State Revolving Loan Fund? Do Rural Development Utility Programs' grant and loan programs apply? What other funds are available?