Fact Sheet

EPA's 2003 Drinking Water Infrastructure Needs Survey and Assessment

In 2003, the U.S. Environmental Protection Agency (EPA) conducted the third Drinking Water Infrastructure Needs Survey and Assessment. The results indicate a 20-year capital investment need of $276.8 billion for public water systems that are eligible to receive funding from state Drinking Water State Revolving Fund (DWSRF) programs — approximately 53,000 community water systems and 21,400 not-for-profit non-community water systems (including schools and churches). The assessment covers costs for repairs and replacement of transmission pipes, storage and treatment equipment, and other projects required to protect public health and to ensure compliance with the Safe Drinking Water Act (SDWA). The EPA uses the assessment results to allocate DWSRF funds to the states and tribes as required by SDWA.

How Was the Assessment Conducted?

EPA convened a workgroup consisting of state, American Indian, Alaska native village, and water utility representatives to develop the approach for the assessment. The approach combined a survey of large and medium systems with an analysis of data from the 1999 Assessment for small, American Indian, Alaska native village and not-for-profit non-community water systems. The 2003 Assessment survey was also designed to better capture needs to support improved asset management and sustainable infrastructure.

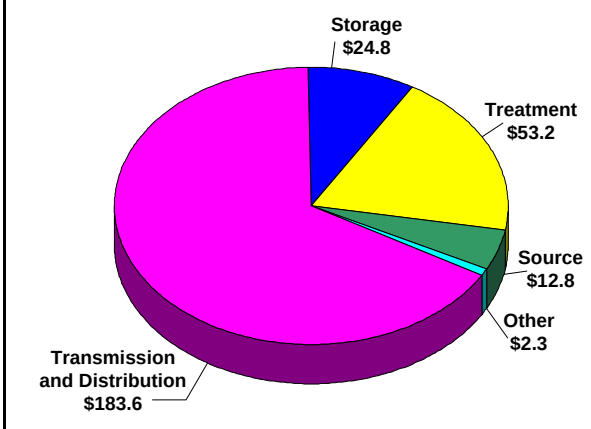
The Agency sent questionnaires to medium and large community water systems to collect information on infrastructure needs and costs. Nearly 4,000 public water systems participated in the survey. All 1,342 of the Nation's large water systems (serving more than 40,000 people) responded to the survey. We also surveyed a random sample of about one-third of the 7,337 medium systems (serving 3,301 to 40,000 people). Approximately 96 percent of these systems returned the questionnaire.

For small community water systems (serving 3,300 and fewer people), American Indian systems, Alaska native village systems, and not-for-profit noncommunity systems, EPA used results of the 1999 assessment that were derived from extensive field efforts and adjusted the needs to January 2003 dollars.

What Is the Total Need?

EPA found that the total infrastructure need nationwide is $276.8 billion for the 20-year period of January 2003 through December 2022. With $183.6 billion in needs over the next 20 years, transmission and distribution projects represent the largest category of need. This result is consistent with the fact that transmission and distribution mains account for most of the nation's water infrastructure. The other categories, in descending order of need, are: treatment, storage, source, and a miscellaneous category of needs called "other" that includes such items as security needs.

Total 20-Year Need by Project Type (in billions of January 2003 dollars)



Note: Numbers may not total due to rounding.

How Does the Need Compare to Previous Assessments?

The total national need of $276.8 billion reported by the third Needs Assessment is significantly greater than the $167.4 and $165.5 billion (in 2003 dollars) needs reported in the 1995 and 1999 assessments, respectively. The 2003 Assessment more accurately captures needs that were under-reported in earlier assessments, particularly costs needed to address necessary rehabilitation and replacement of deteriorating infrastructure. The large national need reflects the challenges confronting water systems as they deal with an infrastructure network that has aged considerably since these systems were constructed, in many cases, 50 to 100 years ago. The estimate is still lower than those from other assessments conducted by the Congressional Budget Office and by the water industry.

How Does the State Need Vary by System Size?

The Nation's largest water systems (serving more than 50,000 people) account for the greatest share, 44 percent, of the total national need. Medium and small systems also have substantial needs of $103 billion and $34.2 billion, respectively. Not-for-profit non-community water systems have $3.4 billion in need.

Total 20-Year Need (in billions of January 2003 dollars)

System Size and Type	Need
Large Community Water Systems (serving over 50,000 people)[1]	$122.9
Medium Community Water Systems (serving 3,301 to 50,000 people)[1]	$103.0
Small Community Water Systems (serving 3,300 and fewer people) [1, 2]	$34.2
Costs Associated with the Recently Promulgated Arsenic Rule[3]	$0.9
Not-for-profit Noncommunity Water Systems[4]	$3.4
American Indian and Alaska Native Village Water Systems [4, 5]	$2.4
Subtotal National Need	**$266.9**
Costs Associated with Proposed and Recently Promulgated Regulations (Taken from EPA Economic Analyses)	$9.9
Total National Need	**$276.8**

Note: Numbers may not total due to rounding.

[1] Does not include the costs associated with the recently promulgated Arsenic Rule and proposed or recently promulgated SDWA regulations; these costs are included on a separate line in this table.
[2] Average per system needs from 1999 Assessment applied to 2003 inventory of small systems, adjusted to January 2003 dollars.
[3] Does not include costs for American Indian and Alaska native village water systems to comply with the recently promulgated Arsenic Rule; these costs are incorporated in the estimate for American Indian and Alaska native village water systems.
[4] 1999 Drinking Water Infrastructure Needs Assessment findings adjusted to January 2003 dollars.
[5] Includes cost for compliance with the recently promulgated Arsenic Rule.

What Is the American Indian and Alaska Native Village System Need?

The total need for American Indian systems is $1.3 billion. The total need for Alaska Native Village systems is $1.2 billion. Most of these needs are considered to be current needs that are a high priority for near-term implementation to enable continued delivery of safe drinking water.

What is the Need to Meet Regulatory Requirements?

Although all of the infrastructure projects in the assessment promote the public health objectives of the SDWA, approximately $45.1 billion (16.3%) of the total national need is directly attributable to specific SDWA regulations. Most of these funds, $35.2 billion, are needed to address existing SDWA regulations (including the arsenic rule which is effective in January 2006). Projects to address microbiological contamination account for 86 percent, or $30.2 billion, of the needs to meet existing SDWA regulations.

The regulatory need also includes $9.9 billion in costs associated with proposed or recently finalized regulations. These costs, which were taken from economic analyses prepared as part of each rule-making, include $3.2 billion to address acute contaminants under the final Long Term 1 and proposed Long Term 2 Enhanced Surface Water Treatment Rules (LT1 and LT2), the proposed Ground Water Rule, and the final Filter Backwash Recycling Rule. $6.7 billion is needed to meet requirements related to regulations for chronic contaminants, which include the final Stage 1 and proposed Stage 2 Disinfectants/Disinfection Byproducts Rules (Stage 1 and Stage 2 DBPR), the proposed Radon Rule, and the final Radionuclides Rule.

What are the Security Needs?

The water systems we surveyed identified $1 billion in security-related needs, most of which were for major system-wide security projects. Due to the sensitive nature of the information, systems were not required to report details for the needs. The total security needs are likely conservative because, although water systems have begun to identify their security needs, it is clear that many did not completely understand their total security needs at the time the assessment was conducted. Future assessments should better estimate the true security need for drinking water infrastructure.

How Credible are the Findings?

The assessment was designed to give credible findings. Statistically, the responses to the survey yielded results within a plus or minus 10% accuracy at a 95% confidence level. Water systems were required to adhere to stringent documentation criteria to demonstrate needs and costs. For quality assurance purposes, states reviewed each questionnaire to ensure that systems thoroughly identified their needs and that all projects were documented and described correctly. After receiving information from the states, EPA reviewed each project for eligibility criteria, conformance to workgroup policies, adequacy of documentation of need, and documentation of reported costs. This individual project review resulted in removal of 23,600 projects due to ineligibility or inadequate documentation. EPA used models to estimate costs where none were provided by a system.

Although the results are credible, the assessment may still represent a conservative estimate of the true need. States which have traditionally received the minimum DWSRF allocation of 1% of the national appropriation may not fully participate in the assessment, because it is unlikely that their needs will increase sufficiently to allow them a DWSRF allocation greater than the minimum. Because of EPA's stringent documentation criteria, systems may not have provided information for all of their projects.

Additionally, although EPA worked to improve the capture of longer-term needs, systems may still have under-reported needs that are not within the time frame of their capital improvement plans (which tend to be less than 10 years). Finally, because the assessment is limited to the needs of systems eligible to receive DWSRF assistance, it excludes capital projects related solely to dams, raw water reservoirs, future growth, and fire protection.

How will Water Utilities meet these Needs?

Most of the funding that water utilities use to improve their infrastructure is from local sources - typically the revenue provided by rates charged to customers. For larger infrastructure projects, utilities may finance improvements through long-term funding - by issuing bonds or taking out loans that are repaid by revenue from rates. State and federal funding programs have also been developed to help water utilities address needs, particularly for those utilities that are less able to afford improvements. The two largest federal programs which provide loans and grants for drinking water infrastructure are EPA's DWSRF program and the U.S. Department of Agriculture's Rural Development Water program.

EPA is also promoting management practices that may help to reduce any potential gaps between available funding and future infrastructure needs. As part of the Agency's Sustainable Infrastructure Initiative, EPA is encouraging that utilities charge users for the full costs of service, adopt management practices that help them better manage their assets, implement measures to use water more efficiently and manage water resources within the context of the watershed. While no single initiative will answer the question of how to pay for the infrastructure needs identified in this assessment, each has great potential, and none has been fully exploited. Taken together, and used in a coordinated fashion with the significant levels of financial assistance available at the federal, state and local levels, they provide an outline of how local communities can address infrastructure needs in the future.

Where Can I Obtain More Information?

Information on the *2003 Drinking Water Infrastructure Needs Survey and Assessment - Third Report to Congress* is available from the Safe Drinking Water Hotline at 1-800-426-4791. EPA will post the electronic files on the Agency's web site at www.epa.gov/safewater. Free copies of the report are available from the National Service Center for Environmental Publications at 1-800-490-9198. You can also purchase reprints of the report through the Educational Resource Information Center at 1-800-276-0462 or through the National Technical Information Service at 1-800-553-NTIS or (703) 487-4650.