

NATIONAL ENVIRONMENTAL JUSTICE ADVISORY COUNCIL

Environmental Justice and Water Infrastructure Finance and Capacity

CHARGE

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I. CHARGE QUESTIONS TO THE NEJAC

The U.S. Environmental Protection Agency (EPA) recognizes that safe drinking water and proper wastewater management are fundamental to the health and quality of life for all people and together are the pillar of every community. Water treatment, storage and distribution activities carried out under the Safe Drinking Water Act (SDWA) enable delivery of potable water daily to homes, schools and workplaces throughout the country. Activities carried out under the Clean Water Act (CWA) to prevent contamination of rivers, lakes and streams also support safe drinking water. Other important benefits of clean water include healthy aquatic ecosystems and fisheries, and recreational opportunities.

Some communities may be more challenged than others in their efforts to achieve the goals of safe and clean water. Too often vulnerable, overburdened and economically distressed communities face a disproportionate share of negative environmental consequences. They may face a variety of problems such as aging, antiquated or inadequate drinking water and wastewater infrastructure; insufficient training for water system and sewage treatment operators; gaps in water system technical, managerial and financial expertise; and difficulties obtaining financing from traditional lenders.

State and federal agencies are engaged in a variety of initiatives that provide financing or other tools to help these communities to 1) develop water system technical, managerial and financial capacity and wastewater utility sustainability and 2) address funding and financing needs for infrastructure planning, design and construction. The EPA seeks the NEJAC's recommendations on the use of these tools, as well as on best practices to assist vulnerable, overburdened or otherwise disadvantaged communities with providing safe and clean water. In framing its charge to the NEJAC, the EPA is identifying three major categories of concern: 1) small, low-income communities 2) economically-stressed communities, including municipalities and unincorporated areas; and 3) low-income households located within a drinking water or wastewater utility service area where the community as a whole is not economically stressed. The charge to the NEJAC encompasses communities with poor or inadequate infrastructure and communities with planned or new infrastructure. Significant overlaps between the charge's three categories and tribal concerns also make it likely that many of the NEJAC's recommendations will be of value to the EPA in our work with Tribes to address water infrastructure issues.

The EPA is also interested in the NEJAC's thoughts about opportunities to complement state and federal government efforts with local and regional partnership approaches as an additional way to help address water system capacity and infrastructure needs. Water system partnerships, established as mutual arrangements between two or more community water systems, can provide opportunities to collaborate on compliance solutions and operations and maintenance activities, and to share costs with other nearby systems. Partnerships can also enable communities to share expertise and increase capacity by combining scientific, financial and other resources (e.g., equipment, treatment plant capacity, managerial or operator expertise) to help provide for safe and clean water.

Select Environmental Finance Advisory Board (EFAB) members will work with the NEJAC, providing their expertise and advice on matters involving financing challenges, opportunities for

financial partnerships, financial management tools and practices, financial capacity issues, and both traditional (such as the Drinking Water and Clean Water State Revolving Funds) and innovative financing approaches.

Specifically, the EPA would like to receive advice and recommendations on the following questions. Please note that the terms “community” or “communities” used in these questions refer to “communities with environmental justice concerns.”

In framing these questions, the EPA also recognizes, in addition to the Agency’s own role, the various and important roles of states, local governments and other stakeholders in drinking water and wastewater infrastructure finance and capacity development activities. Many stakeholders, such as water industry national associations, technical assistance providers and academic institutions, have critical and often unique roles in advancing safe and clean water for communities and in working with communities to address challenges. In carrying out its responsibilities, the EPA’s intention is to collaborate with states, local governments and other stakeholders as appropriate, leveraging a wide range of expertise and capabilities.

1. Priority Needs Identification

- a. What does the NEJAC understand to be the most significant challenges for communities in providing for safe and clean water?
- b. What can the EPA do, in collaboration with states and other stakeholders, to help gather data on water infrastructure needs/challenges for communities?
- c. What insights and examples can the NEJAC offer to states and the EPA to help identify communities of concern and inform priority-setting processes for providing assistance, including consideration of communities that face public health risks from regulated or unregulated contaminants suspected to be present in drinking water?

2. Tools for Community Capacity Building

- a. What best practices and tools would the NEJAC recommend to assist communities with the development of water system technical, managerial and financial capacity; and can the NEJAC provide examples of how these practices and tools have been used effectively?
- b. Can the NEJAC offer models or templates that provide for public input into the practices and tools?
- c. Are there certain practices and tools that are especially well-matched to particular types of communities in the categories of concern?
- d. Can the NEJAC provide examples of innovations that have helped communities develop water system capacity?

3. Community Engagement and Education

- a. What approaches and best practices would the NEJAC recommend to support meaningful community engagement and input to help inform funding priorities for state revolving fund programs?
- b. What steps can states, the EPA and other stakeholders take to encourage these communities to participate in local planning processes for determining 1) their priority infrastructure funding needs; 2) their infrastructure pre-development needs and 3) their needs for technical assistance and training to develop water system capacity?
- c. What can states, the EPA and other stakeholders do to help educate communities where water and wastewater infrastructure issues exist?
- d. Are there ways that states, the EPA and other stakeholders could more broadly help educate communities about water and wastewater infrastructure issues?

4. Water System Partnerships

- a. In the NEJAC's experience, what are the barriers to water system partnerships and how can they be overcome?
- b. What can the EPA, working with states, communities and other stakeholders, do to inform and encourage communities to identify partnership opportunities and enter into sustainable partnerships?
- c. What can the EPA, states and other stakeholders do to increase collaboration within the water sector?
- d. How could the EPA and states work with drinking water and wastewater utility associations, colleges and universities, and research institutions to bring them into the conversation?

II. BACKGROUND

Foundations of Safe and Clean Water: Water System Capacity and Infrastructure

The ability to ensure safe and clean water at the local level relies in large part on the acquisition, as well as the repair, rehabilitation and renewal, of physical infrastructure. Key infrastructure components include drinking water treatment plants, wastewater treatment works, pumps and pumping stations, storage, and distribution and conveyance systems. Communities can also benefit from the installation of green infrastructure to help manage wet weather runoff and protect local waterways; and from infrastructure design choices that contribute to water system sustainability and resiliency.

Equally as necessary as the infrastructure is the capacity to operate and maintain drinking water and wastewater systems for compliance, sustainability and resilience. Water system technical, managerial and financial capacity is essential to ensuring reliable service to customers and compliance with public health and environmental protection laws. Factors that contribute to a water system's capacity to be sustainable and resilient over the long term include trained and

certified operators; comprehensive asset inventories and management plans; cost-effective practices such as energy conservation; and appropriate rate structures.

Indeed, capacity is so crucial that the SDWA prohibits the use of a state's Drinking Water State Revolving Fund to finance infrastructure absent an affirmative finding by the state that the water system has adequate technical, managerial and financial capacity. Adequate capacity is necessary for a water system to realize the intended public health and environmental protection benefits of its infrastructure investments.

Thus, every community faces a two-part challenge:

- 1) To develop and maintain water system technical, managerial and financial capacity; and
- 2) To acquire, repair, replace and rehabilitate drinking water and wastewater infrastructure.

Community Challenges to Achieving Environmental Justice

Vulnerable and overburdened communities, of all sizes and in all parts of the country, can face particularly steep challenges in meeting their water system capacity and infrastructure needs. Environmental justice challenges to safe and clean water at the community level generally can be framed within three categories of concern:

- **Small, low-income communities**

The vast majority – 92% -- of the nation's 51,000 community water systems are small, serving 10,000 or fewer people; and over half of all community water systems are very small, serving 500 or fewer people. Although there is not a single set of small system characteristics, many of these small systems are likely to serve low-income, vulnerable populations. The sheer numbers of small systems can strain state resources for providing needed oversight and technical assistance.

Small systems often face a significant range of technical, managerial and financial capacity challenges. Some of these small system challenges include lack of expertise to choose, operate, and maintain infrastructure; lack of financial resources; aging infrastructure; limited options for residual disposal; limited managerial support to comply with regulatory requirements; and state primacy agencies with limited resources to assist the large number of small systems. This may be further compounded by difficulties with operator training and retention. Additionally, small systems are unable to benefit financially from economies of scale available to larger systems for installation and operation of their drinking water and wastewater infrastructure.

- **Economically-stressed communities**

Communities, of all sizes, with overburdened populations can face significant challenges to ensuring safe and clean water. This includes cities where household incomes are generally low or population numbers are declining. Cities with population declines must grapple with shrinking rate bases without proportional decreases in water system capital needs and operating expenses. Unmet needs for infrastructure repair and replacement may be cumulative, making it ever more

difficult to address a growing backlog. Additionally, distribution systems originally designed for neighborhoods that were more populous than they are today can present challenges to providing safe water.

Water systems in economically-stressed cities are also vulnerable to shortfalls in technical, managerial and financial capacity. Inadequate capacity for a system of any size can lead to operational deficiencies and infrastructure failure.

- **Low-income households within a water system service area**

A community may experience financial stability overall, yet may have low-income households that struggle to keep up with water and sewer bills and maintain uninterrupted service. Economically-challenged households may include those managing on fixed incomes or lower incomes; as well as those that face a temporary or unanticipated crisis such as a job loss or illness. Local rate structures for water and sewer services do not always take these kinds of household differences into account.

III. TECHNICAL ASSISTANCE PROGRAMS AND INITIATIVES

State Capacity Development Strategies

The SDWA requires all states to have capacity development strategies to assist public water systems in acquiring and maintaining technical, managerial and financial capacity. All 50 states have strategies and are implementing them. The strategies and any subsequent revisions must be developed with public input. The SDWA emphasizes the importance of state capacity development strategies by requiring a 20 percent withholding of the state's Drinking Water State Revolving Fund capitalization grant if the state is not implementing its strategy. The SDWA also requires states to have new systems programs to address the capabilities of potential new public water systems.

The EPA supports states in implementing their capacity development strategies by providing training and technical assistance focused on key topics such as asset management, use of Drinking Water State Revolving Fund set-asides to build water system capacity and workforce development. The EPA also hosts national and regional capacity development workshops that bring together states and third party technical assistance providers.

Training and Technical Assistance Grants

The EPA has competitively awarded grants, pursuant to federal appropriations laws for Fiscal Years 2012 through 2015, at an approximate total of \$43 million to non-profit organizations for the provision of training and technical assistance to public water systems and wastewater systems located in urban and rural communities. Some of the funds were also allocated to organizations that carry out activities to assist private well owners. Most recently the EPA awarded Fiscal Year 2015 funds (\$12.7 million) and is in the process of competing Fiscal Year 2016 funds.

A few examples of activities conducted by awardees under these grants include:

- Efforts with five systems in South Carolina to develop a partnership and reconcile rate structures and infrastructure improvements.
- Work done with a small community in Arizona to assist with rate setting and financial and capital improvement planning after a devastating fire.
- Use of a Water and Wastewater Rates Analysis Model to assist a small community in New Mexico in planning a capital improvement project.

Water System Partnerships Project

Water system partnerships offer opportunities for local and regional collaboration to enhance operations and maintenance activities and share infrastructure or other costs to better support public health and environmental compliance and water system sustainability. Drinking water systems across the country are facing a myriad of challenges, including technical, managerial and financial capacity issues. Often, limited resources and knowledge result in these public water systems struggling to address challenges on their own. Bringing systems together to work on collaborative approaches where they can pool resources, expertise, and experience will help reduce noncompliance issues and risks to public health, and allow for systems to run more efficiently with lower costs. Partnership opportunities can range widely (e.g., bulk purchasing, shared contract management, physical consolidation).

The EPA has engaged with states and will continue this dialogue to help reduce obstacles and identify incentives for partnership development. In the upcoming months, the EPA will host two water sector stakeholder meetings to engage with experts in the field and create momentum to increase partnerships that support water systems and the communities that they serve.

IV. INFRASTRUCTURE FINANCE PROGRAMS AND INITIATIVES

The Drinking Water and Clean Water State Revolving Funds

The Drinking Water and Clean Water State Revolving Funds (DWSRFs and CWSRFs) are federally-authorized, state-run programs for financing water infrastructure. The SRFs are not intended to address the vast totality of infrastructure funding needs in the water sector.¹ They are, however, a critical source of funding for many drinking water and wastewater projects. To help capitalize the SRFs, the EPA awards grants, using funds appropriated annually by Congress, to each of the 50 states.² States use their SRFs to assist communities by providing subsidization in the form of below-market rate financing, with interest rates as low as zero percent, for water

¹ Estimates of national drinking water and clean water infrastructure needs are currently in the range of \$660 billion. The EPA's most recent (2011) Drinking Water Infrastructure Needs Survey identified \$384 billion in capital investment needs over 20 years. The most recent (2012) Clean Watersheds Needs Survey identified a 20-year capital investment need of \$271 billion.

² Special consideration at the federal level is given to also providing funding for infrastructure for tribes and territories. The EPA provides direct grants from DWSRF and CWSRF appropriations to assist tribes and the District of Columbia, U.S. Virgin Islands, American Samoa, Guam and the Commonwealth of Northern Marianas. Grant amounts are determined under statutory provisions. The EPA works with the Indian Health Service in administering tribal funds. Tribes may also, at their option, choose to apply to state SRFs for funding assistance.

infrastructure projects. The funds “revolve” as states make infrastructure loans which are repaid as principal with interest earnings. States use these repayment streams to make new loans.³

Federal law also enables states to use their SRFs to provide, within limits, additional subsidization (“addsub”) which may take the form of principle forgiveness, negative interest rates or grants. In recent years Congress has required state DWSRFs and CWSRFs to apply addsub -- in varying amounts and available to all SRF assistance recipients -- under annual appropriations laws. Additionally, the SDWA allows state DWSRFs to use amounts equal to up to 30% of their capitalization grants as addsub for communities that the state defines as disadvantaged. Disadvantaged communities may also receive a longer loan term of 30 years, compared to the DWSRF’s standard 20 years.

In managing their DWSRFs, states must, by statutory direction and to the maximum extent practicable, prioritize infrastructure projects that address the most serious risk to human health; are necessary to ensure compliance with the SDWA; and assist systems most in need on a per household basis according to affordability criteria established by the state. The SDWA restricts DWSRF infrastructure financing to existing public water systems, with two exceptions, as follows. Funds can be used to create a new community water system to address existing public health problems with serious risks caused by unsafe drinking water provided by individual wells or surface water sources. Funds can also be used to create a new regional community water system by consolidating existing systems that are experiencing technical, managerial or financial difficulties. These solutions must be cost-effective and applicants must have considered alternative solutions to addressing the problem. Capacity to serve future population growth cannot be a substantial portion of these projects.

Projects that are eligible for CWSRF financing include projects that are part of a publicly-owned treatment works, as well as a range of projects to protect waterways from nonpoint source pollution and to conserve and manage estuaries. The CWSRF can also provide assistance for stormwater management. Additionally, the CWSRF can assist with the construction, repair, replacement and upgrade of decentralized wastewater treatment systems that treat municipal wastewater or domestic sewage.

Both the DWSRF and the CWSRF are able to address sustainability and resiliency through projects or project design features that provide for water conservation, efficiency and reuse; energy efficiency; and security measures at public water systems and publicly owned treatment works. In addition, states can use both SRFs to assist with project pre-development activities (including project planning, design and application for financing) through their financing authorities, as well as through provision of direct technical assistance.

In addition to providing financing for infrastructure projects, the SDWA allows states to set aside up to 31% of their DWSRF capitalization grants for various activities that support safe drinking water -- for instance, assisting with the early stages of project development or helping water

³ State SRFs may also borrow on the bond market and use the borrowed funds to finance additional infrastructure projects. This practice, known as leveraging, can help accelerate efforts to improve public health protection and water quality in a state that has a deep “pipeline” of projects that are ready to proceed to financing and construction. A diversified loan portfolio that includes borrowers with high credit ratings can help a state leverage.

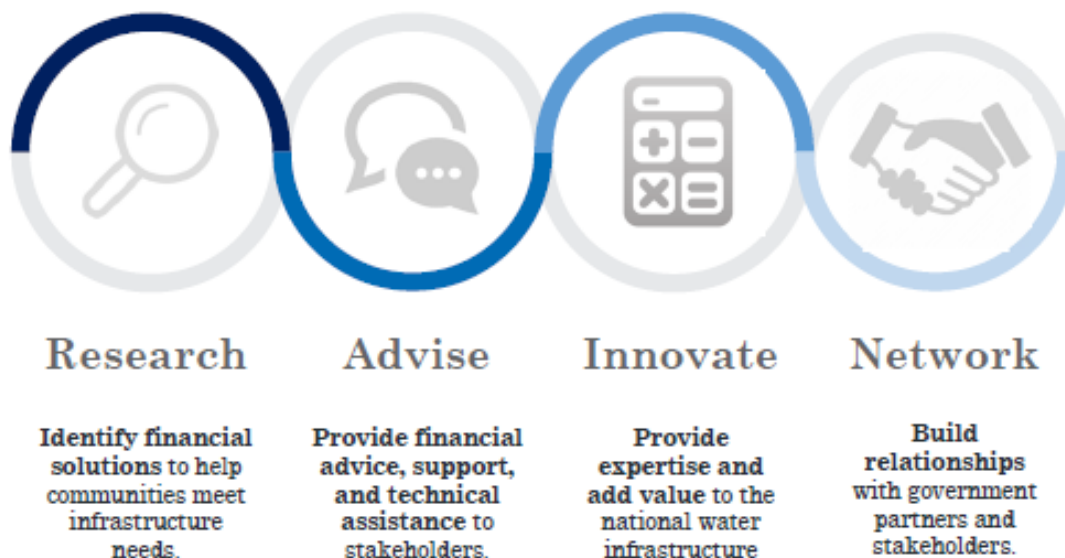
systems build technical, managerial and financial capacity. These activities complement the infrastructure loan fund's role in protecting public health.

When considering these various flexibilities, it is important to note that under federal law states must ensure that their DWSRFs and CWSRFs will be available in perpetuity for purposes of providing financial assistance. Thus, states must manage their SRF portfolios to ensure adequate repayment streams. States also need to consider the statutory requirements for perpetuity when making decisions about addsub and set-aside usage.

Decision-making for these complex programs is conducted in an open manner. The SDWA and the CWA require state SRF programs to develop Intended Use Plans (IUPs) as part of the annual grant application process. The IUP must describe the state's plans for utilizing its funds. The EPA reviews every state's IUP as the basis for awarding capitalization grants. As part of IUP development, states must provide for public review and comment and must also issue detailed reports every year or other year on how they implemented their IUPs.

Water Infrastructure and Resiliency Finance Center (WIRFC)

The EPA's Water Infrastructure and Resiliency Finance Center (Water Finance Center) was created in January 2015 to identify water infrastructure financing approaches that help communities reach their public health and environmental goals. The Water Finance Center is an information and assistance center, helping communities make informed decisions for drinking water, wastewater and stormwater infrastructure to protect human health and the environment. The Water Finance Center's strategic goals include:



The Water Finance Center is engaged in a number of activities to further these strategic goals. Activities to address funding and financing for communities in need include:

- **Customer Assistance Programs (CAPs) Compendium**

The Water Finance Center collaborated with national water sector associations to develop a compendium of Customer Assistance Programs (CAPs) offered by drinking water and wastewater utilities to low-income customers. These programs (e.g., bill discounts, special rate structures) enable all customers to have access to drinking water delivery and wastewater removal services while still allowing utilities to cover the costs of providing services. CAPs help address affordability concerns for individual households.

Compendium available at: <http://ow.ly/4nvSyO>

- **Community Assistance for Resiliency and Excellence (WaterCARE) Program**

The Water Finance Center is providing financial planning assistance to 10 mid-sized communities to increase financial capabilities during the pre-development stages of water infrastructure investments. Participating communities have a population size of less than 100,000, an immediate public health need, a low median household income, and/or other measure of need. This WaterCARE project is providing financial assessments to help these communities plan for future efficient/affordable water infrastructure investments.

WaterCARE communities include:

- i. Buchanan County, Virginia
- ii. Confederated Salish and Kootenai Tribe (Montana)
- iii. Gatesville, Texas
- iv. Haines Borough, Alaska
- v. Hoopa Valley Tribe (California)
- vi. Johnston, Iowa
- vii. Lawrence, Massachusetts
- viii. Selma, Alabama
- ix. The Township of South Orange Village, New Jersey
- x. Youngstown, Ohio

WaterCARE communities can be found at: <http://ow.ly/T5fm3003nKl>

- **Funding Coordination for Communities in Need**

The Water Finance Center is working with drinking water and wastewater programs within the Office of Water to collaborate more broadly with the larger federal family to share best practices in funding and financing approaches for economically challenged and environmental justice communities. A convening was held in July 19, 2016, in Washington, DC. A compilation of funding coordination examples will be researched.

- **Environmental Finance Centers (EFCs)**

The Water Finance Center works with the regionally-based Environmental Finance Centers (EFCs) to provide technical assistance, administer training and develop tools for environmental needs. The EFCs deliver targeted technical assistance to and partner with states, tribes, local governments and the private sector in providing innovative solutions

to help manage the costs of environmental financing and program management. Projects are focused on both the EPA region and headquarters priorities.

- **Environmental Financial Advisory Board (EFAB)**

The EPA's Water Infrastructure and Resiliency Finance Center seeks advice under the Federal Advisory Committee Act (FACA) from financial experts through the EPA's Environmental Financial Advisory Board (EFAB) on a wide range of finance topics including household affordability, small system financial capacity, funding approaches for predevelopment/planning, and stormwater financing.

Other Federal Programs

Other federal funding sources for drinking water and wastewater infrastructure include:

- **U.S. Department of Agriculture (USDA), Rural Development, Water and Environmental Program (WEP)**

The USDA's Rural Development Water and Environmental Program (WEP) offers financing to rural communities with populations of 10,000 or less to develop, construct or improve water and wastewater infrastructure. WEP also provides funding to organizations that provide technical assistance and training to rural communities for water and wastewater activities.

<http://www.rd.usda.gov/programs-services/all-programs/water-environmental-programs>

- **U.S. Department of Housing and Urban Development (HUD), Community Development Block Grants (CDBG)**

HUD funds local community development activities through the CDBG program to expand economic opportunities, principally for low and moderate income areas. The program can fund drinking water and wastewater projects. Program areas include:

- The State Administered CDBG Program focuses on smaller communities, including cities with a population under 50,000 and counties with a population under 200,000.
- The CDBG Entitlement Program allocates annual grants to cities with a population of at least 50,000 and urban counties of at least 200,000.

http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs

- **U.S. Department of Commerce, Economic Development Administration (EDA)**

The Commerce Department supports development in economically distressed areas of the U.S. through strategic investments that foster job creation and attract private investment. The Economic Development Administration (EDA) Public Works Program helps communities in economic decline upgrade their physical infrastructure, including drinking water and wastewater facilities. EDA grants can underwrite planning and construction costs for projects in these areas that lead to job creation in the community.

<http://www.eda.gov/funding-opportunities/>