

# U.S. Environmental Protection Agency Environmental Financial Advisory Board

## Public Listening Session Minutes

February 20, 2024

Location: Virtual

Respectfully submitted by Edward H. Chu, EPA Designated Federal Officer  
Certified as accurate by Kerry E. O'Neill, Chair, Environmental Financial Advisory Board

NOTE AND DISCLAIMER: The minutes that follow reflect a summary of remarks and conversation during the listening session. Such ideas, suggestions, and deliberations do not necessarily reflect consensus advice from the Board. Formal advice and recommendations may be found in the final advisory reports or letters prepared and transmitted to the agency following public meetings. Moreover, the Board advises that additional information sources be consulted in cases where any concern may exist about statistics or any other information contained within the minutes.

**Contents**

Purpose ..... 1

Welcome, Member Roll Call, and Review of Agenda ..... 2

Office of Water Remarks..... 2

Water Affordability Charge – Capital Projects Introduction..... 3

Innovation ..... 4

Multi-Benefits Analysis..... 6

Consolidation/Regionalization for Small Systems..... 8

Gains from Trading or Other Market-Based Approaches ..... 9

Aligning Financial Incentives ..... 9

Wrap-Up..... 13

Adjourn..... 14

## Purpose

The U.S. Environmental Protection Agency (EPA) Financial Advisory Board (EFAB or Board) is an advisory committee chartered under the Federal Advisory Committee Act (FACA) to provide advice and recommendations to EPA on creative approaches to funding environmental programs, projects, and activities. The purpose of the listening session was for the Board to solicit public comment on research, data, and case examples that demonstrate approaches to reduce the capital intensity of meeting communities' water and wastewater service needs. These could include technological innovations that reduce the required scale of capital projects, innovative procurement models that reduce overall capital costs, or policy innovations that enable communities to meet regulatory requirements more efficiently.

The listening session was announced in the *Federal Register*; see <https://www.govinfo.gov/content/pkg/FR-2024-02-02/pdf/2024-02089.pdf>.

To view the agenda, see <https://www.epa.gov/system/files/documents/2024-02/agenda-efab-february-2024-listening-session.pdf>.

## Welcome, Member Roll Call, and Review of Agenda

**Tara Johnson** | EFAB Alternate Designated Federal Officer

**Cynthia Koehler and Janet Clements** | EFAB Water Affordability workgroup co-chairs

### Welcome

Tara Johnson opened the listening session and welcomed participants. She said that per the *Federal Register* notice, the Board is accepting oral statements during this listening session; there were six registered public commenters. She said that written public statements provided in advance of today's listening session have been posted on the [EPA's website](#). She explained how the public can submit written comments by emailing them to [efab@epa.gov](mailto:efab@epa.gov). She stated that eight written public statements were received prior to the start of the session.

### Roll Call

Kerry O'Neill, present  
 Ashley Allen Jones, not present  
 Courtney L. Black, present  
 Steven J. Bonafonte, present  
 Angela Montoya Bricmont, present  
 Matthew T. Brown, present  
 Stacy Brown, not present  
 Albert Cho, present  
 Janet Clements, present  
 Lori Collins, present  
 Zachary Davidson, not present  
 Jeffrey R. Diehl, present  
 Sonja B. Favors, not present  
 Phyllis R. Garcia, present  
 Eric Hangen, not present  
 Barry Hersh, present

Craig A. Hrinkevich, present  
 Margot Kane, not present  
 Thomas Karol, present  
 George W. Kelly, present  
 Gwendolyn Keyes Fleming, not present  
 Cynthia Koehler, present  
 Colleen Kokas, present  
 Joanne V. Landau, present  
 Lawrence Lujan, not present  
 MaryAnna H. Peavey, present  
 Dennis A. Randolph, present  
 Sanjiv Sinha, present  
 Marilyn Waite, not present  
 David L. Wegner, present  
 Gwen Yamamoto Lau, present

## Office of Water Remarks

**Bruno Pigott** | Office of Water Deputy Assistant Administrator

Bruno Pigott emphasized that this is an important time to discuss water affordability issues, as households are facing rising water rates, along with higher bills on food and other areas, which can place financial stress on low-income households. He added that utilities are struggling with increases in operations and maintenance costs as well. He said that EPA remains committed to looking for ways that all households can have access to clean water, regardless of their ability to pay.

Bruno Pigott explained that with the Bipartisan Infrastructure Law (BIL) and the pre-existing water and wastewater infrastructure funding programs, EPA is managing and deploying an unprecedented level of investment to tackling water affordability challenges. He said that innovation is happening throughout the country and that funding has allowed states to invest in sustainable practices such

as water reuse, as well as in technical assistance for disadvantaged communities. He noted that while BIL creates a historic opportunity to improve water infrastructure and communities, it does not mean that affordability issues are solved because there are still many barriers to accessing funding and challenges in how to reduce water system costs at a larger scale.

Bruno Pigott announced that, in addition to today's EFAB listening session, EPA will be hosting a variety of engagements on water affordability. He said that there will be a listening session on March 26 at 1 p.m. to solicit public input on water affordability challenges and different rate approaches in relation to needs. He added that EPA will be sharing information on these events through the Water Finance Center email list as well as posting information on the EPA website.

Bruno Pigott thanked the Board for looking at solutions to this problem, as well as the public attendees who have taken the time to share their input on these issues.

## **Water Affordability Charge – Capital Projects Introduction**

**Cynthia Koehler and Janet Clements** | EFAB Water Affordability workgroup co-chairs

Cynthia Koehler thanked Bruno Pigott for the opening comments and said it was helpful to hear about EPA's actions. She said that EFAB has accepted a charge to look at various aspects of affordability and that the focus of this listening session is on the capital intensity of water infrastructure. She summarized that EPA has charged EFAB to conduct a high-level exploration of the types of capital projects that could address local water service needs. She said that this objective will not involve a comprehensive study of such alternatives, but will address how consideration of infrastructure investment choices can be broadened to include unconventional options that may be more affordable while still solving for the infrastructure challenges. Examples of such infrastructure options include but are not limited to: green stormwater infrastructure that can address pollutant runoff and flooding; water use efficiency measures to increase the resilience of water supplies; and upstream watershed restoration to enhance municipal water quality.

Cynthia Koehler said that part of EFAB's deliverable is intended to be a survey of the types of capital projects that have already been shown to have substantial promise as alternatives and supplements to conventional water systems. She said a key consideration is that upwards of 95 percent of the cost of local water infrastructure is still borne by local ratepayers. She added that the capital intensity of providing drinking water, wastewater, and stormwater infrastructure functionality is increasing and will continue to exacerbate affordability challenges. She stated that the Board views this listening session as a valuable opportunity to explore pathways to optimize water infrastructure lifecycle costs through the lens of affordability.

Janet Clements added that today's listening session will be looking at barriers to customer assistance programs both from utility and customer side, options for rate structures or rate design to help address affordability, and other topics related to water affordability to focus on how EPA can help to address the issue.

Cynthia Koehler said that EFAB has organized the session into five topic areas. She started the listening session with the topic area of innovation.

## Innovation

Cynthia Koehler summarized the topic area of innovation, in which the Board requested input on investments in innovative strategies and solutions that could reduce costs at larger scale, i.e., that deliver water infrastructure services more cost effectively, or provide greater/multi-benefits, than conventional approaches. She said that this can include, for example, green and nature-based infrastructure as well as tech innovation and distributed and/or modular systems.

Listening session questions:

- *What are the types of green, distributed, and/or tech innovation that are most promising from a reduced life cycle cost perspective?*
- *Where are the gaps in research regarding the life cycle costs of tech and nature-based water infrastructure solutions in comparison with conventional systems?*
- *Where are there gaps in practice and research regarding the development and application of Benefit-Cost Analyses to water infrastructure projects?*
- *What is the role of financing in connection with reducing the life cycle costs of innovation?*

### **Nathan Gardner-Andrews** | National Association of Clean Water Agencies

Nathan Gardner-Andrews said the National Association of Clean Water Agencies (NACWA) represents nearly 350 publicly-owned clean water utilities across the nation. He said the affordability challenge has increased significantly in recent decades and while the recent infusion of funds from the BIL are helpful and welcome, they do not meet the true investment needs of the public clean water sector. He also said it is important to understand that, for utilities to feel comfortable trying new technologies and innovative approaches, there must be an appropriate regulatory climate that encourages their use. He urged EFAB to consider the importance of federal and state regulators working collaboratively with utilities to address concerns about risk and use of these technologies, and create a path forward that facilitates trying new approaches. He encouraged EFAB to advise EPA to work more closely with its regional offices and state regulatory partners to promote the use of integrated planning, especially in the Clean Water Act permitting context. He also encouraged EFAB to advise EPA to revise its February 2023 Financial Capability Assessment Guidance, as this document will substantially limit the ability of clean water utilities to use innovative technologies. He said that NACWA previously filed detailed comments outlining their concerns with the guidance and are part of the written comments submitted for this listening session.

### **Adam Carpenter** | American Water Works Association

Adam Carpenter said the American Water Works Association (AWWA) has 50,000 members, including more than 4,000 water systems. He said he would be emphasizing key points from AWWA's recently submitted written comments, which are organized around the five objectives that the work group provided in the problem statement.

Adam Carpenter said that, firstly, with regards to capital projects that are innately less burdensome on local ratepayers, regional solutions can often take advantage of economies of scale, but they do still come with costs and, ultimately, water services are paid for mostly by local communities. He said that, secondly, with regards to barriers to assistance programs, AWWA and a coalition of associations funded a 2017 study through the University of North Carolina's Environmental Finance Center which delves into the legal challenges seen in some states. He said that, thirdly, with regards to rate structures and designs, the *Principles of Water Rates, Fees and Charges*, as seen in AWWA's *Manuals of Water Supply Practices*, remains the appropriate balance of infrastructure needs, conservation signals, affordability, and other considerations, and serves as a key resource. He added that customer assistance, where appropriate, should be a feature designed to assist with the payment of those charges. He said that, fourthly, with regards to State Revolving Fund (SRF) subsidies, the SRF and other low, zero, or negative interest principal forgiveness and grant programs do reduce costs to local rate payers compared to higher interest financing, provided that the additional federal requirements associated with those do not increase the cost beyond the amount saved in the finance savings. He requested that, lastly, with regards to EPA's support, EPA better analyze and act upon the affordability impacts of its own decisions. He said that most aspects of EPA's regulations come down to policy choices based upon key inputs such as health assessments and occurrence information. He noted that those decisions have very real costs that will most likely be borne by local rate payers. He added that, aside from the limited federal assistance available, most communities do not have a sizeable outside resource and must generate the revenue needed to meet requirements from within their community.

#### **Megan Ross | SediVision**

Megan Ross stated that a common and significant problem many wastewater utilities face is that they do not know how much grit has accumulated in their tanks or where the grit is located. She said SediVision's technology provides complete visibility in wastewater tanks and large diameter pipes and can tell you how much grit accumulation you have and where it is located. She explained that grit buildup in tanks can reduce capacity, increase energy costs, and therefore increase the carbon footprint for wastewater utilities. She summarized an example where SediVision technology was utilized, in which a small 1.5 million gallon per day (mgd) facility in Florida saw a cost savings between \$1,000-\$2,000 per month in energy savings by removing 400 tons of sand and grit from their tanks. She said that SediVision has scanned a hundred 58 tanks in 83 facilities across multiple states. She reviewed another case study, in which a 33 mgd advanced water reclamation facility in southwest Florida used SediVision on multiple aeration basins to help them put together a five-year budget for restoring capacity in their treatment tanks that was lost due to sand and grit. She said that this facility is also using this information to reduce aeration and, therefore, energy costs. She summarized another case study in which a 6 mgd water reclamation facility in northeast Florida used SediVision technology to defer installing a \$6-8 million grit removal system and, therefore, was saved that expense. She referred to another case study from Manatee County, Florida, which had sanitary sewer overflow issues due to obstructions in a main sewer trunk line. She said that SediVision technology assessed the pipe and found the targeted areas in most need of cleaning which were contributing to sewer overflows during rain events. She said that this, coupled with

SediVision's specialized online cleaning process, allowed that facility to eliminate sewer overflows faster and more economically.

### **Andrew Kricun** | Moonshot Missions

Andrew Kricun expressed agreement with Adam Carpenter's comment about regionalization and consolidation to achieve economies of scale. He said that during his tenure in Camden, New Jersey, the city consolidated 52 wastewater treatment plants into one, with significant cost savings and environmental benefit from eliminating 51 point sources. He emphasized that since funds are limited, it is essential to look for opportunities for regionalization and consolidation, shared services, cooperatives, and more. He added that this should be coupled with federal or state oversight of consolidations, to ensure that these consolidations are done equitably. He also said that a national Low Income Household Water Assistance Program (LIHWAP) is essential to the water sector because everyone is entitled to safe drinking water and clean waterways at an affordable rate. He said that providing a safety net for low-income households can protect them as utilities invest further in their systems. He said that this would significantly free up utilities to be able to charge full cost pricing because they wouldn't be held back by the concern about their low-income rate payers.

Andrew Kricun emphasized the importance of disseminating successful practices as there are many drinking water and wastewater utilities across the country implementing innovative ideas. He said that while network utilities belonging to associations might be aware of these innovations, non-network utilities may not be aware and are forced to innovate on their own. He said that if we can more widely disseminate best practices that have already been developed and accelerate the learning curve, we could also reduce the total need in the water sector. He also expressed appreciation for the historic investment of EPA. He said that it is a very significant down payment towards closing the infrastructure gap, but that the infrastructure gap still exists. He emphasized that right sizing the water sector could help reduce that gap further by taking advantage of economies of scale, but it is almost certain that additional capital funding will be needed. He suggested that the capital funding be especially prioritized for communities where there's a nexus between non-compliance and a high prevalence of low-income households. He said that they should be proactively prioritized and brought into the funding program, as opposed to encouraging them to apply, potentially as an alternative to enforcement if there is a non-compliance situation.

### **Multi-Benefits Analysis**

Janet Clements summarized the next discussion topic, multi-benefit analysis, in which the Board requested input and examples on the types of benefits that can be provided by water infrastructure to leverage unconventional sources of capital (e.g., green infrastructure can provide public health, local greening, and other benefits that can tap into non-water utility sources of funding).

Listening session questions:

- *What is the best research in the field on incorporating multi-benefits analysis into water utility investment decisions?*



- *What kind of impact is a multi-benefits decision-making model likely to have on water sector affordability (if we have enough information to estimate)?*
- *What factors should (or can) be included in a multi-benefits analysis, and where are there gaps in the use of those factors.*
- *Are there good case studies of utilities or municipalities having success with this approach either in the water sector or other public services?*
- *Are there examples of monetizing multi-benefits to generate revenue streams to help pay for the infrastructure delivering those multi-benefits?*

### **Morgan Shimabuku** | Pacific Institute

Morgan Shimabuku expanded on her written comments submitted prior to the listening session. She said that the Pacific Institute has spent many decades researching and advancing solutions to affordability, with water conservation and efficiency being among those key approaches. She stated that the benefits of conservation and efficiency can be found in the water savings/wastewater reduction amounts, energy savings, improving water quality of instream flows, protecting groundwater during droughts, and reducing the need for chemicals, among other benefits. She said that key to these benefits being realized is careful consideration, stakeholder engagement, equitable stakeholder engagement processes, and planning. She emphasized that there is a great need for upfront long-term planning by water utilities, and other water suppliers, to incorporate water conservation and efficiency into their long-term demand, assessments, and capital improvement planning. She directed listeners to explore the links and resources in her letter supporting these claims. She said the Pacific Institute's letter also illustrates four different cost analyses on capital improvement savings that have been realized in communities from conservation and efficiency.

Morgan Shimabuku also directed listeners to review three new references, which she would email to the Board as well, that she hoped would address many of the other discussion topics. She discussed *The Benefit Accounting of Nature-Based Solutions for Watersheds Guide*, which she said provides a method to identify the benefits of nature-based projects in a stepwise manner and includes benefit forecasting and evaluations, with indicators and calculation methodologies to estimate and quantify the outcomes of nature-based projects. She also discussed *The Guide for Developing Onsite Water Systems to Support Regional Water Resilience*, which she said focuses on advancing water resiliency, supporting equity, supporting the environment, and protecting public health with onsite water systems. She also discussed *The Joining Forces: Innovative Co-Funding to Enhance Corporate Water Stewardship Impact in the Colorado River Basin*, which she said includes numerous case studies showing how corporate entities in the Colorado River Basin have been able to support public water conservation and efficiency efforts and other capital water projects to help bring water costs down. She added that this reference provides valuable insight on these approaches that could be replicated outside of Colorado River Basin.

## Consolidation/Regionalization for Small Systems

Cynthia Koehler summarized the next discussion topic, consolidation/regionalization for small systems, in which the Board requested input on maximizing economies of scale through consolidation and/or regionalization of water infrastructure investments, when appropriate.

Listening session questions:

- *Where are the best examples of how consolidation has produced lower capital costs?*
- *What range of options exist for consolidating or developing regional partnerships to reduce costs?*
- *What are the best research papers addressing the financial benefits, and challenges, of regionalization or consolidation of water infrastructure?*
- *What are the key enabling conditions necessary for consolidation to produce strong financial benefits for water consumers?*
- *What measures can or should be used to evaluate proposals for consolidation or regionalization of water infrastructure?*

### **Elin Warn Betanzo** | Safe Water Engineering

Elin Warn Betanzo urged extreme caution when exploring physical consolidation of drinking water systems. She said that any consideration for consolidation of small water systems should identify, before all else, whether the consolidation will be able to maintain or improve public health protection. She warned that connecting different distribution systems can have chemistry changes in the water quality that may result in changes to public health protection. She requested EFAB to consider reframing the questions around drinking water system consolidation to ensure that the public health concerns always come before cost considerations. She said that we should never be considering a cost saving measure solely through the lens of reducing costs. She said that the National Drinking Water Advisory Council (NDWAC) microbial and disinfection byproduct working group put together a report that identified several opportunities to improve wholesale and consecutive system relationships, to ensure that consecutive systems that might get consolidated are not receiving reduced public health protection under a consolidation scheme. She emphasized the importance of addressing the gaps in our Safe Drinking Water Act regulations before expanding the number of small systems that are in wholesale and consecutive system relationships. She said that she will submit a copy of that report to the group.

### **Chuck Chaitovitz** | U.S. Chamber of Commerce

Chuck Chaitovitz recommended EPA to move forward with the proposed Water System Restructuring Assessment Rule (WSRAR) under the America's Water Infrastructure Act of 2018 (AWIA) that would have states explore the readiness and models for reorganization, regionalization, and consolidation, including liability protection for potential good neighbor. He noted that, without coordination among neighboring communities, public and private sector operators miss opportunities to overcome gaps in expertise by sharing experience, best practices, and joint purchasing power. He highlighted that part of the rationale for regionalization and consolidation is

interest in helping distressed systems that are out of compliance, so some of the issues raised by the previous discussant could be addressed through better compliance of distressed systems.

**MaryAlice Adams** | Project NEED Foundation

MaryAlice Adams introduced herself as a former elected official for the City of Benton Harbor, Michigan, where she had served three terms. She said that her community just experienced a water crisis in lead service line replacements. She explained that her community entered into a consolidation agreement with surrounding communities for upgrades on their water filtration plant, but the agreement was broken. She said that this action ultimately resulted in her community being charged higher water rates after the lead service line replacement emergency. She expressed concern about finding a solution to the situation and said that she hoped that the Justice40 Initiative would help make water more affordable for the City of Benton Harbor, a predominantly Black community with an average income of \$15,000. She added that the City of Benton Harbor community has been underserved due to historic red lining and was hoping to find answers for her community. She advised against consolidation for the City of Benton Harbor.

Cynthia Koehler responded to MaryAlice Adams and said that the current listening session may not get the solutions she was looking for but suggests that members on the call can follow up to provide support.

### **Gains from Trading or Other Market-Based Approaches**

Janet Clements summarized the next discussion topic, gains from trading or other market-based approaches, in which the Board requested input on programs such as stormwater credit trading or nutrient trading that can meet outcomes at lower cost.

Listening session questions:

- *Where and under what circumstances do trading regimes perform best to meet water quality outcomes?*
- *Can we identify optimal regulatory regimes needed to ensure accountability and performance for trading programs?*
- *What are the best-case studies demonstrating that trading programs can reduce consumer costs?*
- *What kind of systems can be used to guarantee that credits are honored?*

There were no oral statements on this topic.

### **Aligning Financial Incentives**

Cynthia Koehler summarized the next topic of aligning financial incentives, in which the Board requested input on creating stronger shared incentives to deliver water infrastructure more efficiently. She said examples are new procurement models or alternative delivery approaches providing financial incentives for meeting performance targets.

## Listening session questions:

- *What are the best-case studies demonstrating how approaches that realign incentives can be structured successfully (and perhaps also where they have failed)?*
- *In what circumstances do these models work best and where are they less likely to be a strong fit (e.g., larger projects vs smaller; conventional centralized infrastructure vs nature-based)?*
- *What data, case, studies, or examples are available demonstrating the life cycle cost savings to water consumers of these approaches?*
- *Have lack of incentives created a communication or knowledge gap in the access of capital for water infrastructure projects because of the skewing of the process towards mid and large size utilities.*

**Chuck Chaitovitz** | U.S. Chamber of Commerce

Chuck Chaitovitz said that the Chamber is pleased to provide feedback on the 2024 priorities. He highlighted that the business community offers technologies that play an imperative role in the development of smart, modern, resilient infrastructure. He commended EPA for its work with the SRF program to help allocate the \$50 billion from the enactment of Infrastructure Investment and Jobs Act (IIJA) to states in a timely manner over the past five years. He said that small and disadvantaged communities, who need the funds the most, often don't have the wherewithal to pursue the needed infrastructure funds. He recommended EFAB provide Congress with necessary information to demonstrate the value of funding and supporting the innovative water technology grant program, which was authorized by AWIA and IIJA but never appropriated. He also recommended that EPA promote approaches to reduce upfront risk for utilities and households to adopt emerging and advanced technologies that can reduce cost. He said that the Chamber also supports integrated planning as an additional mechanism to engage broader stakeholders in this effort.

Chuck Chaitovitz asked EFAB to complete the study of the value impact of the industrial water reuse tax credit to help incentivize businesses to implement water recycling and reuse efforts. He encouraged EPA to move forward with the proposed water system restructuring rule, as he mentioned earlier in the listening session. He recommended EPA continue to expand technical assistance. He said that the Chamber worked with EPA and other interagency colleagues to develop a funding roadmap, which compiled public and private technical assistance resources to help the most vulnerable communities access IIJA water resilience funding. He explained that the roadmap is a living document and encouraged listeners to provide feedback. He said that he would provide written comments which will have a link to the roadmap. He recommended EPA continue to facilitate interagency coordination on mechanisms, if possible.

Chuck Chaitovitz said public-private partnerships are a needed tool to fund and implement water and environmental projects. He said EFAB should work with EPA to highlight how collaboration with private operators is a viable alternative. He suggested EFAB should recommend to Congress that private access to the Clean Water SRF, similar to the Drinking Water SRF, would offer critical flexibility for communities to improve affordability. He also stated that infrastructure improvements will result in cost increases that will ultimately be passed on to rate payers. He said that the

Chamber supports housing the LIHWAP at EPA and funding the 40 pilot communities called for in the IIJA. He also recommended that EFAB work with the EPA Office of Water to evaluate the economic impact of the regulatory issues, as communities have raised concerns that EPA is not accurately projecting financial impact on the proposed rules. He also recommended that, since we are now more than two years into IIJA implementation, it's time to start building the case for reauthorization. He urged EFAB to begin evaluating the success of best practices, current execution, and work with the Chamber to educate Congress. He emphasized the importance of these projects and funding to try to fill the infrastructure gaps in disadvantaged communities.

**Elin Warn Betanzo** | Safe Water Engineering

Elin Warn Betanzo shared highlights from her report on lead service line replacement costs. She said that the sector does not have a strong set of incentives for reducing the cost per replacement and designing efficient programs that remove lead service lines at low cost and very quickly. She said that the lack of transparency in bids and contracts compounds these problems. She suggested publishing model requests for proposals that include creative contracting strategies that provide incentives to drive down prices and improve construction performance. She also suggested a menu of options for water utilities to work with to find the best set that fits their utility conditions. She emphasized that a lack of transparency in bid documents, project reports, and financial accounting can result in funds that are earmarked for lead service line replacement but are diverted to co-located non-lead service line replacement infrastructure projects. She noted that completing lead service line replacement in tandem with other capital improvement projects can reduce the cost per lead service line replacement; however, it may draw out the timeline. She said it is important to balance the priorities of reducing costs with the public health benefits of removing lead service lines as quickly as possible.

Elin Warn Betanzo said her independent cost analysis shows that, in practice, most of the construction costs for lead service line replacement do not vary substantially. She said that there is a small set of construction conditions that can drive up costs, but as reflected in the literature review of cost estimates, those conditions are not experienced in most replacements. She also said that an important consideration in infrastructure projects are life-cycle estimates. She provided an example where, if considering that the life-cycle of copper is twice as long as plastic, the cost of using plastic for a lead service line replacement doubled when looking at a longer planning time horizon. She also suggested that developing lead service line replacement program plans in consultation with community members can identify efficient strategies to reach impacted community members and drive the program cost down. She said programs that require homeowners to pay for lead service line replacement under private property slow progress and drive up the unit lead service line replacement costs due to intense one-on-one outreach. She also suggested that prioritizing simultaneous inventory verification and lead service line replacement may reduce the duplicative cost of completing a standalone service line inventory while improving cost efficiencies and public health protection of the lead service line replacement program.

**Roxanna Johnston** | Cayuga Lake Watershed Intermunicipal Organization

Roxanna Johnston introduced herself as the chairperson for the Cayuga Lake Watershed Intermunicipal Organization in New York. She said her organization's goal is to help connect the 57 municipalities in their watershed to funding for water projects and to help the communities find partners to do those projects. She said that the dues for the organization support a watershed manager who helps them achieve this goal. She emphasized that the constant issue for most municipalities is that they don't have the capacity or staff to be aware of funding, to pursue the funding, to front money if it's a reimbursement grant, to hire engineers to do the design, or to administer grants, which means that grant funding is not truly accessible to these smaller municipalities. She said that their watershed manager helps with this issue to some extent; however, the organization's support to communities is often limited to sharing information about available funding. She supported previous oral comments on reaching out to non-compliant low-income areas to help bring them in and help them through these programs.

Roxanna Johnston suggested EFAB support the watershed manager concept. She said that the other New York finger lakes – Seneca Lake, Canandaigua Lake, and Owasco Lake – also have watershed managers. She said that it is far more efficient to work within the watershed than to work across government municipal boundaries, especially with drinking water infrastructure where the source water is not following government boundaries. She asked EFAB to look for ways to reach out to smaller entities that need support or look at regions that have watershed organizations with managers to help fund them to do that work. She also suggested that EFAB look for funding for staff time. She explained that in New York State, for example, funds can only pay 10 percent for staff time, which is not adequate to implement the grant. She also suggested looking at upfront funding, as most of the monies that water conservation districts can access require reimbursement, which means that they must have hundreds of thousands of dollars upfront which limits their ability to take on projects.

#### **Will Bulloss** | Western Virginia Water Authority

Will Bulloss said he wanted to amplify a few of the comments that have been made under the topic of incentives and tied back to regionalization. He said that Western Virginia Water Authority is happy to bring on small municipal and private systems into their system; however, there is often a financial challenge for smaller owners that eliminates their ability to take up the offer. He also noted that the monies from utility rates in many localities are not used appropriately. He suggested creating a structure that emphasizes regionalization, where it makes sense from a public health benefit perspective. He added that, from the perspective of a mid-size utility, only a small minority of very large or well-resourced utilities truly have the in-house capabilities to innovate within their utility. He said that this is primarily a workforce challenge and said that there's a tremendous workforce challenge as an industry for utility management. He added that another large challenge is deploying rapidly developing technologies in a cybersecure safe manner. He encouraged EFAB to consider the modernization of utilities back-office solutions so that utilities could be more capable and willing to explore sharing their data with a third-party provider or a software solution that could potentially help them.

#### **Saul Kinter** | DC Water

Saul Kinter requested to speak on the topic of innovation. He discussed the work at DC Water had some success deriving revenue from renewable energy installations. He said DC Water has used the attributes of the treated water to generate renewable energy. He described how DC Water can make renewable electricity while running large anaerobic digestors by burning the biogas at the wastewater treatment plant. He said that DC Water also installed solar panels, using the substantial amount of open space in water utilities where it is difficult to build alternative uses. He said there is one installation over the parking lots and treatment plant, a second that will be on top of a covered reservoir, and they are continuing to explore solar panel installations in other places. He said that part of the revenue from these installations comes from savings on energy, where they can utilize the electricity generated and, with the recent rise in energy prices, this has become an important part of their financial return. He also said many states run programs called renewable portfolio standards that provide a direct market-based mechanism for renewable energy generation through the creation of saleable attributes. He said that DC Water was able to generate attributes and then sell them, and the net revenue to their wastewater plant is now in the several percent of their operating budget. He said that they are looking to aggressively expand on renewable energy generation to reduce the cost of the water and sewer services provided to rate payers. He noted that the relevance of renewable energy installations to other utilities will depend on many local factors, including state regulations, the availability of federal incentives, the cost of electric power, and the cost of construction of these facilities. He said that DC Water has found that it can be lucrative under many circumstances.

Cynthia Koehler invited additional input from members of the Board on the discussion topics of the listening session.

Kerry O'Neill thanked the workgroup for their thoughtfulness and the effort put into this public listening session, along with the organization of the topics and listening session questions. She expressed appreciation for their volunteer work and for all that they have done.

George Kelly noted that EFAB created a report on regionalization in 2019, as well as conducted research efforts on trading and market initiatives. He added that there is literature on performance-based contracting, particularly relating to stormwater, benefits, and relevant case studies. He said that it is interesting to consider performance-based contracting from a policy perspective, particularly the procurement dynamic. He added that policy acts, such as the Conservation Finance Act of the state of Maryland, are also beneficial to consider from a policy perspective and allow bonding for sources of water outside of the jurisdiction of a utility.

Albert Cho asked if there are further opportunities to submit input to EFAB after today's listening session.

Tara Johnson responded to Albert Cho and said that his question will be addressed in the closing remarks.

## **Wrap-Up**

**Cynthia Koehler and Janet Clements** | EFAB Water Affordability workgroup co-chairs

Cynthia Koehler, on behalf of the workgroup, thanked the EFAB staff at EPA for their support and all the members of the public for their contributions, both written and oral.

## **Adjourn**

**Tara Johnson** | EFAB Alternate Designated Federal Officer

Tara Johnson reminded attendees that EFAB will be accepting written comments via email after today's listening session and adjourned the listening session.