

U.S. Environmental Protection Agency
Environmental Financial Advisory Board

May 14–15, 2015

Held at the

District of Columbia Water and Sewer Authority

Washington, DC

EPA-190-S-15-004

The minutes that follow reflect a summary of remarks and conversations during the course of the meeting. The Board is not responsible for any potential inaccuracies that may appear in the minutes. 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

May 14, 2015

Introduction and Opening Remarks	4
Update on the Water Infrastructure and Resiliency Finance Center and Project	
Charges to the Board	5
Meeting 21 st Century Water Challenges—Including Financing	9
Summary of Day 1	11

May 15, 2015

Opening Remarks	12
Environmental Finance Center Network Update	12
Work Group Report Out: Financing Green Infrastructure Operations and Maintenance	16
Office of Water Charges—Work Group Setup, Assignments, Next Steps	17
Charges	18
Charge 1. How can the Center best support communities to develop dedicated sources of revenue for stormwater and green infrastructure programs?	18
Charge 2. How can the Center best support communities interested in exploring a public-private partnership for their water infrastructure project?	20
Charge 3. How can the Center best support financing of predevelopment activities for water infrastructure projects in communities?	22
Charge 4. What role can the Center play to address affordability challenges in the water sector?	23
Charge 5. What role can the Center play to address and/or support financial capacity development for small drinking water and wastewater systems?	24
Summary	25

Project Charge: The Cost of Deferred Maintenance	25
Public Comment	28
General Discussion and Next Steps	29
Adjournment.....	29
Action Items.....	29

Thursday, May 14, 2015

Introduction and Opening Remarks

Mike Shapiro, EFAB Designated Federal Official

Karen Massey, EFAB Chairwoman

David Bloom, Acting Chief Financial Officer, EPA

Mike Shapiro opened the meeting at 1:30 pm, thanking Mark Kim for making the Blue Plains Advanced Wastewater Treatment Plant available for the tour and the meeting. He then turned the introductions over to *Karen Massey*, whose appointment as chair has been extended for two more years. Ms. Massey thanked David Bloom for the support of his office, thanked the members for their participation, and welcomed new members Aurel Arndt, Hope Cupit (who could not attend), Jeff Hughes, Courtney Knight, Joanne Throwe, and Jeff Walker. Members Bill Cobb and Phil Johnson could not attend; Donna Ducharme will participate via telephone for her report out, and Leanne Tobias will attend on Friday only. Members Eustace Uku, Vernice Miller-Travis, and Helen Cregger can no longer continue as members because of increased work obligations. Ms. Massey asked that members begin to think about suggesting new members for EFAB and then asked all members and other participants to introduce themselves.

Mark Kim introduced *George Hawkins*, CEO and General Manager of the District of Columbia Water and Sewer Authority. Mr. Hawkins explained the construction and function of the plant, emphasizing its progress over the last five years. The scale of expenditure during that time has been dramatic, and the sheer scale of the financial obligations that DC Water faces has necessitated a doubling of residential water rates in the last five years; it is expected that these rates will double again in the next 10 years. More than 350 people signed in at the public meeting Wednesday night (May 13). The Water and Sewer Authority heard heart-rending stories from hard-pressed consumers for whom the water rate increase deprives them of other necessities. Affordability is an important issue. In fact, 15 percent of the population spends more than 5 percent of household income on water. In response, the Water and Sewer Authority is working on creative steps to generate its own revenue. There are more than 60,000 water plants in the United States, most of which are small operations that produce the largest supply of organic nutrients in the country. Before leaving the meeting, Mr. Hawkins invited questions. There were none.

Mr. Shapiro explained the agenda for the next day and a half, including logistics for the meeting and group dinner in the evening. He welcomed David Bloom, who will continue as Acting Chief Financial Officer of the EPA (the Agency).

David Bloom, in turn, thanked Ms. Massey, Mr. Shapiro, and Mr. Kim and welcomed everyone, emphasizing that the Environmental Financial Advisory Board (the Board) helps the Agency succeed. He gave an update on the EPA's budget: Congress passed an appropriations bill in December for fiscal year 2015, with about half of the budget in grants. The challenge is that the operating budget is squeezed, however, there is a lot of good work across the Agency for how to spend non-payroll dollars. The Office of the Chief Financial Officer (OCFO) finances the Environmental Finance Centers (EFCs) and this year more money was allocated to them. The

President's budget for FY 2016 was submitted to Congress in February. The budget prioritizes resources for the following: community technical assistance (which furthers the work of the EFCs), climate change, and preparedness, all with strong emphasis on communities. However, FY2016 looks like it will be challenging, with decreased funding for most things and increased fixed costs. The EPA workforce is at the 15,000 level, versus 18,000 a few years ago, and the Agency is looking at different ways of doing business. EPA's E-Enterprise program is one such program, a business model to help us be more successful in carrying out our work. One E-Enterprise project is to launch a web portal by the beginning of the fiscal year. The Agency will continue to monitor congressional action. With the establishment of the new Water Infrastructure Resiliency Finance Center within EPA's Office of Water, the work of the Center for Environmental Finance has been recognized as being more in line with the Office of Water's mission, so it will be moved to that office from OCFO.

Questions

Suzanne Kim asked when the Water Infrastructure Finance and Innovation Act (WIFIA) will take off. *Mr. Bloom* reported that the infrastructure is in place in the FY 2016 budget. *Dr. Andrew Sawyers* added that no appropriation has yet been made; the request is only for infrastructure.

Update on the Water Infrastructure and Resiliency Finance Center and Project Charges to the Board

Andrew Sawyers, Director, Office of Wastewater Management, EPA

Dr. Sawyers thanked new members for volunteering and ongoing members for their work. He explained that both the Water Infrastructure and Resiliency Finance Center and the Water Infrastructure Finance and Innovation Act (WIFIA) are housed in the Office of Water, which is deploying resources to get both started. Both are on course.

On January 16, 2015 Vice President Biden announced the formation of the Water Infrastructure and Resiliency Finance Center to help communities across the country improve their wastewater, drinking water, and stormwater systems, particularly through innovative financing and by building resilience into climate change activities. The Office of Water hired two staff members, and Jim Gebhardt will serve as Senior Advisor to the Deputy Administrator. The Center has begun with the goal of convening 10 regional financial forums, beginning this summer or early fall. These forums will address the gap between appropriate financing mechanisms for communities by broadening community knowledge about options available to them, bringing in both private and public funders. The Center hopes to help one or two communities address those issues and figure out how to move ahead.

Another big theme of the Center is establishing partnerships, public-private, public-public, public-non-profit and private-private, etc. It is looking at development in light of defining funding mechanisms using the P3-P4 concept to work out contract issues and has begun discussions with the Environmental Finance Centers (EFC), who will do the work. These issues could be defined within this calendar year. The third theme is stormwater financing. Only 1,400

communities have stormwater mechanisms, so the Center wants to determine what is happening nationally and inform communities of external support mechanisms. The Center's concern is how to help small communities that face financial obligations understand what to expect. Communities rarely talk about financial implications and obligations, and the Center wants to inform communities about what is available to them and how best to support this initiative. Lastly, the Center will add requests to the EPA budget request. *Dr. Sawyers* opened discussion on the five charges that EFAB will work on this year:

Charge 1. Addressing the charges will require multi-sector pursuits, involving other areas beyond water management. Charge 1 requires that EPA have a standing work group to help the Agency.

To *Joanne Throwe's* question about whether the focus of the charge was more at Phase 1 or Phase 2, *Dr. Sawyers* reported that of some 8,000 communities, about 1,000, mostly cities, are in Phase 1, and the rest, smaller communities, in Phase 2.

Helen Akparanta noted that the state of Maryland has repealed its mandatory stormwater fee. Communities have responded around the predevelopment of projects. The Agency wants to help the Center help communities prepare for construction.

Charge 2 focuses on helping communities explore partnership opportunities and helping centers develop dedicated sources of revenue through public-private partnerships for flooding, water quality, and so forth. Ideas are needed on what EPA's role should be, and *Dr. Sawyers* wants EFAB to look at barriers to dedicated sources of revenue and how to overcome them.

Lisa Daniel wants to focus on public-private partnerships. A work group should look at risks, including traditional risks that governments are not required to assume and are not prepared to assume. These include risks to those who have equity in the project.

Charge 3 involves supporting the financing of predevelopment activities for water infrastructure. The State Revolving Fund (SRF) is a good place to start, but it can't solve broad financial needs. A big question is how to address broader needs, including what tools are accessible to communities.

Suzanne Kim said that the EFAB needs to know how the lines are drawn. However, *Dr. Sawyers* does not see a line but rather a complementary relationship: the SRF supports communities across the country.

Ms. Kim asked about the intention of the SRF. *Dr. Sawyers's* intention is to look at WIFIA and amendments to the Clean Water Act to broaden eligibility, noting that both WIFIA and SRF can finance many of the same projects. The distinction, he suggested, is that WIFIA can finance larger projects, but SRF can also fund large projects. He sees this as a complementary program, another available tool. However, a single project could be financed by more than one mechanism.

Mathilde McLean suggested that the SRF could not continue to issue tax-exempt debt for a project that is partially financed through WIFIA. *Dr. Sawyers* said SRF can issue it, but tax-exempt proceeds are not used for that.

Responding to *Jeff Walker*, *Dr. Sawyers* said that he doesn't see the SRF use for predevelopment as a problem, although many would like to have a ready-made project to finance. This is more appropriate in cases where communities don't have the capacity to get projects ready.

Ms. Kim noted that investors are reluctant to go directly to green-field projects; they want to fund only huge projects. *Dr. Sawyers* added that another aspect is having many small communities that do not have the capacity to develop the projects.

Tom Liu noted that this is more of a problem for smaller communities; larger communities have access to financial advisors and other resources.

Ms. Throwe was not sure where the public projects that have been planned would fit.

Mr. Walker said that much depends on who the advisors are. Some assumptions are problematic. Some communities have gone ahead with a project and wound up in the middle of something they cannot afford. Also, some advisors intend to benefit from projects that are done in a certain way.

Charge 4 concerns affordability. The Agency has a strong interest in projects being done economically. This is a troublesome area for communities, and EFAB's thoughts on achieving affordability would be welcomed.

Tying in with the issue of affordability is **Charge 5**, support for small systems, many of which are struggling. The Board needs to consider how to work with these entities, wrestling with various aspects of the financial side. Its expertise should be brought to small- and medium-sized groups across the country.

Discussion

Blanca Surgeon noted that many issues involve economies of scale for small communities. It will be necessary to look at facilitating projects because small communities (many of which have populations of fewer than 3,000) simply do not have the economies of scale to build financial resources. It would be a good idea to reach out to these communities and encourage them to talk with the neighbors in a region about these things. When it comes to regionalization, facilitation and mediation are called for in addition to financial assistance. And mediation has to get beyond "What's in it for me?"

Dr. Sawyers reported that he has had lots of conversations, and people are thinking differently about how best to address water and wastewater in small communities. In fact, he said that we are at a tipping point. He is looking for answers that can be implemented and have been "ground-truthed," that is, executable actions.

Ed Crooks said that in considering the Board's responses, we need to know the context, including how big the systems are. Is the Center intended to be a repository of information, or is it expected to go out to the communities?

Ms. McLean asked, how deep should EFAB go into these issues? How much advice should we give? *Dr. Sawyers* responded that the repository concept would have a central role for shared information and as a convener of meetings and webinars. But recommendations should be deployed in targeted communities. So, it is both.

Mike Shapiro added that other groups have also been established to help with providing additional material that EFAB members can use.

Dr. Sawyers added that EFAB's function will be mostly funding and financial. *Mr. Crooks* noted that the U.S. Department of Transportation operates similarly as a repository and a provider of technical assistance.

Heather Himmelberger asked attendees to think about the potential role of the Agency. It throws a lot of requirements at operators of water systems, and it is hard for them to know how it all fits together. EFAB could help synergize that information as integrated pieces of a seamless, integrated whole. Because small communities have trouble figuring out the big picture, we could help them figure out how to use the Agency and who the requirements are meant for—how to put all the pieces together.

Dr. Sawyers thought this was a good point.

Ms. Himmelberger explained that the New Mexico Environment Department recently developed a portal like the one EPA is talking about, offering an opportunity to collaborate.

Aurel Arndt observed that the charges appear to be based on what already exists. Many of the 60,000 water systems are small and do not have capacity. If we could regionalize service in an area, we could address small systems, affordability, and preplanning because we would have a larger base from which to work. If we were to invest money in restructuring and reconfiguration of responsibility, we could alleviate and mitigate some of the problems.

Dr. Sawyers said this was not encouraged because decisions have to be made at the community level. EFAB's job is to provide information so that EPA can make informed decisions. He sees significant interest in water reuse, which is likely to be an intersection in some targeted areas.

Ms. Surgeon said that we need investment in grant funding because it is a strong motivator for small systems to regionalize and build capacity.

But, said *Dr. Sawyers*, the Center offers no grants. *Ms. Surgeon* replied that nevertheless, the nation needs to think about these issues. We may not have the money to give, but we spend the same amount of money in different ways helping small systems build capacity that they cannot

achieve mostly because of size and because they depend on rotating volunteers to do the management and operations.

Dr. Sawyers encouraged EFAB members to look at the charges and decide how they want to approach them.

Meeting 21st Century Water Challenges—Including Financing

Dr. A. Stanley Meiburg, Acting Deputy Administrator, EPA
James Gebhardt, Senior Advisor to the Deputy Administrator, EPA

Dr. Stanley Meiburg, who was EFAB's Designated Federal Official from 2001 to 2010, noted that this board is unique among federal advisory committees in that it actually performs work itself and is not limited to just reviewing other people's work. Consequently, its access to expertise and experience sets high expectations for the EFAB.

Dr. Meiburg congratulated new members as heirs and legatees to a great tradition at a time when the Agency faces many challenges. The EFAB lives at the intersection of how to enhance opportunities and meet challenges. He thanked all the members for serving.

This is a golden age, he said, because we have exciting challenges and support, particularly in regard to water. Mr. Meiburg has had two goals: (a) starting a new Senior Executive Service Candidate Development Program (SES CDP), which will occur before he leaves in 2017, and (b) rectifying the disappointing Agency cutback on support of the Environmental Finance Centers (EFCs). Moreover, there is much interest in the Executive Office of the President. Dr. Meiburg wants to improve existing initiatives and find new funding sources. He reported that Jim Gebhardt has joined the EPA as a senior advisor and brings to it knowledge of how bond markets and the government can work together. The EFAB is not just about water, Dr. Meiburg noted, but has other interests in line with the Agency's mission of protecting human health and the environment. Additionally, the future protection of the environment will require more financial information than what the Agency has now.

Discussion

Mathilde McLean requested opinions of the desired size, scope, and depth of EFAB deliberations in light of the new financing mechanisms. *Dr. Meiburg* said these mechanisms would help stretch available funds: Loan leveraging capacity goes from 1:1 to 4:1. Some of the difficulty is cultural; for example, some systems are run by people with solid financial expertise, whereas those who run others need expertise on how to make the money they have work harder. People "on the ground" (i.e., the EFCs) can do that, whereas going to the Agency is more formidable. *Dr. Meiburg* is convinced that people want to invest in infrastructure. Meanwhile, there are billions of dollars in pension funds that could be leveraged, and water infrastructure does that with good returns. The question becomes, how to find ways to attract that capital to meet infrastructure needs? The EFCs are objective, neutral, competent people and are the greatest asset that the Agency provides. It is not enough to issue requirements; we must help people to meet those requirements.

Dr. Sawyers said that partnerships are a way to make existing resources work harder, along with other activities such as leveraging. *Mr. Meiburg* added the importance of financial assurance. Federal and state governments look at distressed properties. Without financial assurance, taxpayers are left holding the bag. Financial assurance plays an important role in preventing catastrophe. For example, with cleanup, it may not be possible to clean up an entire site, but we could prevent a disaster.

Blanca Surgeon observed that the District of Columbia's water system is one of the largest in the country; they do have expert personnel and advanced technology. However, small systems have the same problems but don't have the resources in people, technology, or finances to deal with them. The smaller systems are a class in themselves. Targeting assistance to the mid-sized systems will also help small ones that are looking for a stronger regional partner. It's analogous to sustaining the middle class.

Dr. Meiburg agreed with this description of the kinds of problems encountered by various systems. We must work together as systems for financial opportunities because the smaller systems might not get as favorable terms by themselves. We also need to look at technical support systems because a well-meaning person may try to sell a system to a town that is too small to sustain it. We need a more holistic view to match needs with long-term capability, including operating and maintenance costs over time.

Wayne Seaton asked for comments regarding the EFC's role in the potential between pension funds and infrastructure projects. *Dr. Meiburg* said that the Agency has not considered this issue. *Mr. Gebhardt* thought that the State Revolving Funds (SRFs) would be more appropriate resources for water issues, followed by financing within the state. That also addresses how to maximize the value of resources on the table, which is also important. The SRFs are actually infrastructure endowment funds, so they could help drive more resources into the system and deliver more from those resources. SRFs need to be part of this conversation, even though they may take financing away from certain areas. The cost of funds is a critical driver. Even with a People, Prosperity, and the Planet (P3) program in place, we have to deal with the return on investment, which may not work in a community context. Everything must be looked at, and part of that is evaluating how the SRF framework lines up with needs. We must demonstrate that the SRF is working at the highest level, rather than just asking for more money.

Karen Massey pointed out that it is not just a matter of saying that the SRF is performing at its highest level, but also putting that in the context of a particular state. *Mr. Gebhardt* agreed that every state is different, bringing different resources and different political realities. *Dr. Meiburg* agreed: It also depends on the people involved and how much they know.

Ann Grodnik-Nagel noted that some charges look familiar and wondered whether this might be an opportunity for the EFCs to work on a particular project. *Dr. Meiburg* said that it is up to the Board to decide on particular projects. *Dr. Sawyers* said that the idea is to find one or two projects and use the EFAB's resources to determine how to do the project internally. But it is up to the Board to decide what and how many charges to work on. *Dr. Meiburg* praised the Board

members for their commitment to the particular charges, which is an important element of their success.

Tom Liu noted that only 28 states have SRF leverage, leaving 22 without, and those 22 are the states that need help.

Suzanne Kim: Whether it's leveraging grants, financing public-private P3 projects, or defining an investment horizon, we need to create a product, not a fund, for investors, which could be like Fannie Mae. *Dr. Sawyers* thought of it as a mechanism to create a pool of projects that would generate a specific return. Part of the Board's role is to pull together options, not to require communities to do a particular thing; it is to inform communities so they can make their own decisions. Creating a pool of investible projects is not what the EFC is set up to do; it is to help communities make decisions. *Dr. Meiburg* mentioned that P3 means different things to different people. EPA has the ability to influence, and its listing of where one state is relative to other states will increase the likelihood of change. It's a way to encourage change.

Ms. McLean observed that bankers know their local communities, whereas the EPA is national in scope. Thus, perhaps the answer is aggregating the local information so that it can be accessed by non-local private equity investors. Funders need access to this kind of information. *Dr. Sawyers* replied that this is something that the Agency is working on. It is convening financial forums to bring communities together with potential funders and others. It's a good concept, and there are different ways to provide a convener role.

Heather Himmelberger stated, we need to broaden our thinking. We focused on water infrastructure with P3, but there are other ways, and a wider environmental scope will help get funding. Companies will invest if they see the benefits to themselves. We need to keep it broader than water. *Dr. Meiburg* agreed, saying that there is much interest in water, but we shouldn't limit it to water—after all, it's the Environmental Financial Center. Beyond that, he wonders: Does he have clients? Does leadership care? But this is beyond the scope of EFAB.

Summary of Day 1

Mike Shapiro and Karen Massey

Mr. Shapiro: The ideas presented today by Dr. Sawyers for the Office of Water offer a point of departure for tomorrow. EPA has to be open to these kinds of suggestions. We may have the financial but not the social knowledge of how to effect these things.

Ms. Massey agreed. She encouraged board members to consider the board's value and its potential future products. There might be an opportunity to introduce other types of products, for example, portals, to communities.

Mr. Shapiro thanked everyone and adjourned the day's discussions at 4:30 PM.

Friday, May 15, 2015

Opening Remarks

Mike Shapiro and Karen Massey

Ms. Massey opened the meeting at 9:03 AM and discussed the agenda for the day. Donna Ducharme would join the meeting by phone for her workgroup report out. *Mr. Shapiro* would like to leave this meeting with a clear sense of how the Board wants to organize and address the five Office of Water charges.

Environmental Finance Center Network Update

Angela Buzard, President, EFCN

The Environmental Finance Center Network (EFCN) is a university-based organization that creates innovative solutions to difficult, how-to-pay issues of environmental protection and improvement. The EFCN works with the public and private sectors to promote sustainable environmental solutions while bolstering efforts to manage costs. It is focused on collaborative, innovative, neutral, multidisciplinary expertise to help smallest to largest systems—local, state, regional, and national systems. It provides financial expertise, a range of other expertise, technical transfer, a national presence enabling partners to participate in national projects, and a partnership for regulation of the regulators. Lastly, it leverages funds. The 2014 EPA core grant provided an investment leverage ratio of \$1 to \$3.18. EFCN's great strength is its being university based.

Ms. Buzard introduced representatives of the EFCNs, including Martha Sheils, Carol Norton, Ben Clark, and Khris Dodson. EFCN Directors for each region are the following: Jack Kartez, Region 1, University of Southern Maine EFC; Melissa Young and Khris Dodson (Co-Acting), Region 2, Syracuse University EFC; Joanne Throwe, Region 3, University of Maryland EFC; Lauren Heberle, University of Louisville EFC and Jeff Hughes, University of North Carolina EFC, both in Region 4; Benjamin Clark, Region 5, Cleveland State University EFC; Heather Himmelberger, University of New Mexico EFC, Region 6; Angela Buzard, Region 7, Wichita State EFC; and Sarah Diefendorf, Region 9, Dominican University of California EFC.

EFCN Projects

1. *University of Southern Maine*: The EFC has created Web-based tools that helps communities understand the future economic impacts of climate change, and is assisting New England communities with climate adaptation planning, including providing useful information to smaller communities that have limited resources and time to devote to sifting through the growing array of on-line tools. Other projects include solid waste management, including composting in schools; EFCN collaborations, for example, with the U.S. Department of Housing and Urban Development (HUD), and the Smart Management for Small Water Systems Program. We also provide assistance to communities within and beyond our region on an as-needed basis on a range of finance-related topics.

-
2. *Syracuse University*: The EFC conducted workshops titled “Smart Management for Small Water Systems”; the region is working together on this one national project. It is halfway through Round 2, having convened at least one workshop in each state. The workshops include technical assistance, which involves in-depth training of at least 20 hours, one on one. Seven dashboards have been completed, and seven more will be done. Dashboards show rates versus revenue and expenditures. Round 2 ends this year. Round 3 has been awarded and will end in 2016. Communities are selected through regulatory agencies and via mailed and e-mailed flyers. The Australian Water Association (AWA) was involved this year. There has been a shift in deliverables, with many more webinars being done this year.

Heather Himmelberger and *Glenn Barnes* are focusing on solid waste management, encouraging early training to develop professional capacity, training on resources for community-based organizations in Puerto Rico. Stormwater resilience planning is occurring in rural New York State, where the workforce pipeline concept has been developed: 30 interns from universities across the state are creating and developing programs. This is ultimately creating the next wave of solid waste professionals.

3. *University of Maryland*: The EFC is tapping into the University of Maryland for online training in stormwater management, particularly as it relates to the Chesapeake Bay. It is creating and developing tiers—beginner, midlevel, and advanced. Its expertise will be free across the United States. It has also begun a municipal program for sustainability. In Maryland, the system is county based (beginning with Prince George’s County) and will be scaled up accordingly. The program directors want to be sure sustainability goes to every activity, including those related to climate change, whether or not the county is coastal. They are prioritizing projects in light of where a community has problems, as well as where engineers have problems. They are now starting to link communities to similar sister cities, for example Newport, Rhode Island, to Annapolis, Maryland.
4. *University of Louisville (UofL)*: The UofL EFC is particularly proud of our leveraged work under the HUD Sustainable Communities Capacity Building Grant. The UofL EFC served as lead capacity builder for the EFCN under a second-round of funding from U.S. HUD Capacity Building for the Sustainable Communities Initiative (SCI). We are wrapping this up this month. Working closely with EFCN members at USM, UMD, and UNM we provided technical assistance to grantee communities across the country to support the creation of a national learning network among SCI planning grantees; built the capacity of grantees to meet their work plan objectives; increased coordination between grantee projects; increased grantee integration of EPA priorities related to water infrastructure, green infrastructure, consent decrees, and brownfields redevelopment into their projects; and finally assisted grantee consortium members with the inclusion of equity, environmental justice, water infrastructure, climate and hazard mitigation, food systems and sustainable financing as tools of economic development and community planning.

This work was accomplished through the production of a variety of publications, webinars, in-person training events, and one-on-one assistance.

At the Local Level:

Louisville Central Rail Corridor Plan: The center partnered with Louisville Metro Government in their successful application for an EPA Area-wide Brownfields Planning grant. We assisted government officials and their planning consultant with community engagement around the development of the plan and implementation strategies that emerged from the planning process. We facilitated community workshops to help gather stakeholder input and provide information about brownfields in the study area. The project is important because the area includes, along with many brownfields large and small, an environmentally compromised urban stream, an active rail corridor, and a future stormwater retention basin that is part of a consent decree in a dense residential neighborhood. The city's approach is unique in that it is making an effort, through community engagement, to address the corridor by dovetailing all the public agencies' and advocacy organizations' efforts so that the private sector will see the benefits of investing in the redevelopment of brownfields along the corridor. One example of the value of our participation was that we brought our sewer district into a meeting to hear about community based green infrastructure efforts and concerns about the new retention basin which resulted in the sewer district developing their own new community engagement strategy because they realized that it will bring financial benefits in the form of new partnerships with resources and less opposition.

New Partnerships: Under the final year of our current EFC grant agreement, we are partnering with PolicyLink and NADO (National Association of Development Organizations) to produce two webinars this fall that will focus on Equity in Water Infrastructure Planning and Hazard Mitigation/Community Resiliency for metropolitan planning organizations in the Southeast.

New Tool Development: Through Fall of 2015, EPA Region 4 is partnering with us to develop an Organics Recovery Toolkit for Colleges and Universities. This advisory document will provide colleges and universities technical guidance on policies, technical and economic feasibility, and implementation issues relevant to developing a sustainable management protocol for organics.

The Center is launching a five year research project with Virginia Tech funded under the EPA Brownfields K6 program to develop a community benefits calculator tool kit for brownfields redevelopment that will challenge traditional market analyses by including a broader set of indicators of community benefits and hyper local data. We expect this project to have broad implications for those measuring community benefits of other environmental infrastructure investments beyond brownfields redevelopment.”

-
5. *Cleveland State University*: This EFC offers technical support for the Small Business Liability Relief and Brownfields Revitalization Act through the Brownfields Technology Support Center and the Great Lakes Environmental Finance Center.
 6. *University of New Mexico*: The EFC, have begun a Water Research Foundation project on rate resiliency and other projects that include, smart management for small water systems, a tribal drinking water program, asset management for senior centers, sanitary surveys on oil platforms in the Gulf, and a water efficiency/water loss project for Oklahoma and New Mexico. The EFC works with other EFCs, HUD, and others. *Ms. Himmelberger* reported that her regions contact all 50 states at the beginning of each round to explain what the Southwest EFC has to offer. The states' needs, including what systems they want the EFC to focus on, vary from state to state.
 7. *Wichita State University*: The EFC is dealing with the issue of rural community population decline and the communities' consequent diminishing ability to pay. Evaluation is the biggest issue. The Rate Check-up Tool (resembling TurboTax) will yield quality information on rate structures; the beta version will be available next month. It also has a collaborative project with the University of New Mexico developing manuals, videos, and training programs as well as technical and financial programs to manage water systems.
 8. *Dominican University of California*: The EFC is dealing with solid waste management, has drafted a marketing/business plan for the Tijuana Compost Center, will host the Sustainable Materials Management Symposium in December in Tijuana (in cooperation with EPA), and is supporting the Las Vegas Food Waste Workshop in September.

Discussion

Tracy Mehan: Although the discussion is interesting and stimulating, we are hearing about inputs but not outcomes. It may be useful to have an outcomes meeting. How do you determine whether programs started are successful and how successful? That may not be possible to do. What measures do you use? *Ms. Buzard*: Many have to report on their projects, so we are collecting a lot of that information. *Ms. Throwe*: They have the information and can report on it. *Ms. Himmelberger*: Her EFC gave a workshop for tribes on maintaining the chlorination levels of the water supply. Now they never have to call and wait a few weeks for someone else to come and fix the levels; they can deal with it themselves. Monitoring is an important element to ensure that they are headed in the right direction.

In response to *Aurel Arndt*, *Ms. Buzard* said that her EFC professionals have a joint network and could access information from the individual centers, but they don't aggregate all the outcome data.

Marie de la Parra asked whether there is an electronic mailing list at the University of Maryland that allows subscribers to know when programs start. *Ms. Throwe* explained that her EFC is developing the program now, and everyone will be informed when it is ready, maybe by

December. *Ms. de la Parra* wondered whether there was a contact for grants to rural communities in California that would provide grant information. *Ms. Throwe* answered, not a grant per se, but free help for managerial or financial issues. She or *Mr. Dodson* can be contacted for details. They will talk to the community that wants assistance. A form can also be filled-out online and sent to the EFCN at efcnetwork.org, which has a drop-down tab for technical assistance).

Lisa Daniel asked about plans for an umbrella center for the 10 regions, a “mother-ship center.” (*Raffael Stein* later said the accepted acronym for this center is WIRFC). *Ms. Buzard* said that the Agency is interested, particularly in technical assistance in collaboration with the regional groups, but there are not yet any tangibles about what the collaboration would look like. *Mike Shapiro* offered that these centers are now part of the broader context of the Office of Water: It’s a work in progress, but displays more and more integration between planning and integration. *Ms. Himmelberger* said that her EFCs always look for the gaps in an effort so as not to duplicate work. They want to help additional planning for the WIFRC once they are more established, to make ensure that everyone is going in the same direction and not duplicating effort. It was noted the existing grants expires soon, and they are waiting to see who will be awarded the grant beginning in FY 2016.

Karen Massey added that EFCs touch so many media areas that EPA wants to collaborate and get new input on other projects.

Work Group Report Out: Financing Green Infrastructure Operations and Maintenance

Leanne Tobias and Donna Ducharme (via telephone), *Co-chairs*

Leanne Tobias distributed an outline of the guide for local governments on financing green infrastructure operations and maintenance and asked members to e-mail any gaps they see to Tim McProuty, Donna Ducharme, and herself. Content of the outline includes stormwater utility fees, federal grants, innovations such as use of property-assessed green infrastructure funding, historic insurance, use of endowments, and collaboration with social ventures. A first draft of the report has been completed, and it is hoped that the second draft will be done by the end of June. The second draft will be reviewed by the workgroup’s expert witnesses. The final draft will be distributed before the next EFAB meeting and finalized during that meeting.

Discussion

Ed Crooks asked about opportunities for cost reduction. *Ms. Tobias’s* work group has not addressed that, but will evaluate whether this topic might be included.

Tracy Mehan wondered about the desired length of the document. The objective should be that the report is read, so it shouldn’t be too long. *Ms. Tobias* thought that 70 pages of typescript is not a bad length as long as the final product permits topics to be accessed digestibly on an as needed basis. The work group wants the guide to be useable to local governments. Can they get

support from EPA or one of the EFCs, so, when finished, it can be published and not remain a typescript?

Ms. Ducharme added that they talked about moving some material to the appendices.

Jeff Walker: Adding to the length is the case studies, but they are a valuable part.

Mr. Shapiro: Is there a decision sequence? *Ms. Tobias*: Yes, a matrix and a decision tree have been proposed.

Wayne Seaton and Richard Weiss: Whether constructed for public versus voluntary, private participation is similar for green infrastructure.

Tom Liu offered to look at a draft. *Ms. Tobias* will send it to him and other interested Board members.

Suzanne Kim: The user's options are the most important part; all the rest is substantiating information. A key focus should be on the matrix and decision tree.

Office of Water Charges—Work Group Setup, Assignments, Next Steps

Full Board

Karen Massey invited discussion of EPA's five charges and the Board's approach. *Raffael Stein* (Director, Office of Water, Municipal Support Division), who was in the audience, joined the members to answer questions.

Discussion

Ed Crooks: What do you need? An umbrella group or a rapid-response team? *Mr. Stein*: The Office of Water needs to have the products reviewed. The focus is on projects, but the office is also looking for EFAB to provide external advice to the Center for its direction. Some quick-turnaround reevaluation of a product may be needed, along with longer turnaround on strategic advice. At some point, the Center will want to move into other areas, but it needs to figure out what areas.

Ms. Massey: What about subgroups versus the group as a whole? *Mike Shapiro*: Anything formed in a work group has to go through the EFAB before it becomes official advice. Only the Board as a group can speak formally to the Agency. We have to figure out the mechanisms to convey advice when it is needed quickly. *Vanessa Bowie* explained that this is a Tier-1 committee, so a working group has to be able to quickly communicate to the whole Board so the Board can make a recommendation: E-mail will help.

Joanne Throwe: It doesn't have to be one particular person. *Ms. Bowie:* Expert witnesses have been appointed, and advice could come from an EFC.

In answer to *James MacAdam*, *Ms. Bowie* said that even when rapid turnaround is needed, EFAB still needs communication from every Board member to approve or disapprove (and why) to comply with Federal Advisory Committee Act (FACA) rules. *Tim McProuty:* There's official advice to the Agency versus consultation with the Agency. For formal advice or a recommendation, the whole Board is needed, but the Agency can interact with the work group on what it is working on and thinking; it is just not an official recommendation.

Mr. Shapiro: For the strategic end, it would be valuable to have a group that is following the progress of the Center on a regular basis so its members know the context and history to build on.

Leanne Tobias: Need all work products created by EFAB be written up? *Mr. Shapiro:* FACA regulation applies when a group of individuals is collectively advising the Agency. If they are hearing the individual views of the experts, then it is possible to solicit oral advice.

Tom Liu: Some work has already been done on the five charges; we first need to understand what has been done, so we don't duplicate it. *Ms. Massey* agreed that this may be the first step. *Mr. Shapiro:* One needs to ask where the gaps are. *Mathilde McLean:* The way members of the EFAB participates in the review of the National Infrastructure Bank that was undertaken by the Government Accountability Office (GAO) could be a useful format.

Heather Himmelberger: We should structure this with standing committees for a framework. That way, when an action item comes to the Board, it is known to whom to send it. Each request may need a different set of members. EFAB should give contact points to EPA. It might be only one or two who field the requests, and a different subset of people would respond to different requests. *Vanessa Bowie* added that members are meant to rotate on and off the Board, and *Helen Akparanta* noted that people's availability will continually change.

Mr. Crooks: How actionable can the Center be? Another constraint is that we do not want to repeat what has been done, but we want to produce something that is useful.

Rick Giardina: The process is already in place. *Ms. Massey* could evaluate requests and put out the call for people to respond to the request. We have looked at the five charges in a variety of ways, and we don't want to be constrained by artificial boundaries. We may recommend that another body be formed to deal with one aspect or another.

Charges

Charge 1. How can the Center best support communities to develop dedicated sources of revenue for stormwater and green infrastructure programs?

Tracy Mehan: The actual charge is more than an exposition to funding for stormwater and green infrastructure; it sounds like politics. There has been a request for clarification of intent. *Raffael Stein* admitted that this is challenging. The best way to solve it would be to focus on enabling these projects so they can go forward. There is the concept of a clearinghouse for the many good studies. And, we want major operating principles not to be duplicative. *Mr. Stein* is considering posting these studies on the website. The Board should help communities identify where they can find resources to address their particular issue. It is a sensitive issue to create these. This could be seen as a charge to EFAB to advance the ball. *Mr. Mehan* thought they might be interested in social science studies.

Lisa Daniel: City councils always ask how to pay for things. If we delineate options from raising taxes to reducing expenditures, it would be helpful. Furthermore, we are not asked for the answer, only the alternatives.

Heather Himmelberger thought there could be nonpolitical barriers and noted that counties have varying degrees of power.

Mr. Mehan thought AWWA would be a better group to do that.

Mathilde McLean saw that among the many other barriers is the need to have the capability of billing.

Mr. Stein encouraged the Board to be more general—the members are giving advice to EPA; not lobbying for a particular cause. Also, the Center will not be a huge entity; it will be doing a lot of work through partners. Independent analysis of the EFCs yields a lot of advice to communities.

Jeff Hughes observed that EFAB members represent a great diversity of professional and geographic perspectives, so one approach would be that we could answer the charges from our own perspectives. It could be presented this way before we offer national guidelines. That kind of expertise could be valuable. What we bring is our own experience and we should focus on our diversity.

James MacAdam thought that the barriers would probably be mostly political.

Joanne Throwe thought that the charge could be addressed without becoming political. There are so many barriers, for example, the legal ramifications. Every state could take the region as a whole.

Ms. McLean asked how the Agency has overcome the hurdles of setting up stormwater and green systems.

Richard Weiss asked what tools would be available if a community wants to establish a revenue stream. He agreed that there are barriers, and the political side is very important. But a lot of work has already been done and is ongoing, for example, Jonathan Cuppett's project; the Water

Environment Federation's recent workshop on stormwater management and utilities. Moreover, the Board offers resources on politics, billing systems, and other topics.

Marie de la Parra asked whether the Center would support workforce development. Will there be programs to help communities acquire affordable financial capital, financial tools, and labor? Can the Center support elements to make communities sustainable over the long term, instead of projects with short-term goals that, once completed, no longer produce revenue? Creating a local viable, cutting-edge labor force is needed. *Mr. Stein* said that the new Center will consider soil, water, and energy efficiency. As for a workforce, the focus has been on operators. True, the workforce is graying as the infrastructure is crumbling, but what *Ms. de la Parra* talked about is more about economic development and thus outside the scope of the Center and the Agency. *Karen Massey* suggested collaborating with other FACA committees to address this, perhaps the one on environmental justice. *Ms. de la Parra* said that the Department of Labor is looking for such programs and wants to partner with organizations to do them. It wants such programs to be developed and implemented anywhere in the country. *Ms. Himmelberger* suggested bringing Sarah Diefendorf into this discussion because she develops green businesses.

Mr. Mehan thought modifiers should be added to barriers. It would be more focused if we added, "The Center requires that EFAB identify legal, technical, and logistical barriers." *Mr. Stein* had no objection but reminded everyone that the main theme of the requirement for the Board is to advise EPA on what actions it can take. The Agency seeks advice on what it should be doing. *Ms. Himmelberger* gave the example of the Earth–Water Protection Project: Its case studies in various states found that people in the Agency were unaware of these situations. The barriers may seem obvious, but they are not. Some funding mechanisms may not work at all in some states, or work less well. She sees Charge 1 as a synthesis and education exercise of what's out there, for example, the legal system in the West is different from that in the East. The contextual task is to understand what can and cannot be done.

Ms. Ducharme thought the Charge 3 element—lack of understanding of engaging the community—should be a component of Charge 1: People can't figure out financing if they don't know what they're financing.

Charge 2. How can the Center best support communities interested in exploring a public–private partnership for their water infrastructure project?

Ed Crooks thought that the People, Prosperity, and the Planet (P3) program should probably be done by others. We could survey existing reports to identify the relevant ones, and we could survey successful and failed attempts that might complement those studies.

Mathilde McLean: The Center was set up to address how communities can finance projects. Maybe an option is to create a document that would help whomever the EPA hires get up to speed.

Raffael Stein said that EPA is not peddling P3. EPA's position is that for some communities, a

P3 may make sense; EPA just wants to position communities so they can access it. Communities are not well positioned to understand some of these complex structures, and there is no good source of objective information available. He suggested expanding into case studies and maybe putting out a community guide for which sources will be critical. This is a big funding challenge. *Suzanne Kim:* In California, we are trying to make communities aware, but the private sector will not come in unaided. The White House tried to get special recommendations on barriers, and that could be a different take on this charge. The question is how we facilitate that. *Mr. Stein* did not disagree. The White House has narrowed in on challenges. But, some options are very expensive. The focus in Charge 3 is predevelopment costs and how to address them. The bigger challenge is communities that are not receptive. *Karen Massey:* This shows a lack of informed decision making. *Ms. McLean:* So much money has to be spent before one can get to the focus. *Aurel Arndt:* There are a lot of other elements to these P3 situations, other things besides a traditional P3 that would work. Likewise we have more than public-versus-private financial factors. We must also consider nonfinancial factors. Focusing exclusively on P3 factors will not fully address the issue. It is much broader than stormwater; it affects all elements of water infrastructure.

Jeff Walker explained that one review has not ended. At least once a month a group goes through Texas and asks about P3, and they all say it is working. He does not see EFAB's job as pushing P3, but more as delineating options. A good way would be to develop a decision tree of options. *Tom Liu:* We are using the term P3 loosely. First we should look at P3 and then look at the funders, varying needs, and varying rates of return. The problem here is lack of communication. P3 could be the most expensive option, depending on the investor option chosen. It gets to the affordability issue and highlights some of the challenges. A limited number of deals have been done in the United States, but we can highlight benefits and challenges of the successes. It is impossible to structure one that would apply to all communities. *Helen Akparanta:* Although the United States has not done a lot of P3 projects, Europe has, and we could use those studies. *Lisa Daniel:* There is a lot of material already out there. What's missing is from the public water utility management side: What should the manager be thinking about? What are the risks? How does the community attract investors? What does the manager need to know to come up to speed? We need to know key words. It would be helpful to make this charge a leadership piece about what those questions are. The Treasury recently released a paper on P3 that says that there is a need for someone at the table who is invested in all factors.

Ms. McLean: A 2008 report from the Board discusses all these issues and should be the starting point. *Tim McProuty:* George Raftelis' firm use to represent communities on P3 case studies.

Ms. Massey: We can look at those and bring them up to date and look for gaps.

Richard Weiss: There is a wide range of P3 projects; many address risk transfer and the varying cost of capital depending on the type of risk. Is the charge here to focus on the system?

Mr. Arndt: Many initiatives have been undertaken on a project basis for reasons that have nothing to do with the water system. Often the initiative is run out of a city finance office, and that office will continue to drive these transactions. Another aspect is how to look out for the interests of those who are served by the water system.

Charge 3. How can the Center best support financing of predevelopment activities for water infrastructure projects in communities?

Karen Massey: Planning and predevelopment activities complement the financial capacity of water utilities. Financial capacity should be part and parcel of predevelopment activities.

Ann Grodnik-Nagel: Does the impact of this oppose the new budget rule? There are strict rules about who can give financial advice to communities. *Ms. Massey:* This issue relates to the investment banking community. *Blanca Surgeon:* Why isn't finance an issue? First comes money for planning, next is for design, and then comes the project construction. The whole process may take up to five years but, without the pre-development activities there is no construction.

Heather Himmelberger: Charge 3 doesn't just have to be about small communities. Predevelopment may hinder long-term sustainability, and, if so, we need to ask whether any project is this the right project at the right time for the right reason. We need to keep a broader view for long-term sustainability.

Mark Kim wanted clarification of what *predevelopment* means. *Ms. Massey* observed that these issues must be considered from a more holistic approach. *Mathilde McLean* wondered whether communities could use a line of credit or some other mechanism. *Mr. Kim* said that if we know what the project is, we can recommend a mechanism and best practices. *Ed Crooks* thought the task should be not figuring out how to finance the project, but how to access different mechanisms to acquire the money to do the project. *Jeff Walker* observed that once the money is in hand, the method to accomplish the project must be determined. *Jennifer Wasinger* suggested that the board should offer education about how other states do business.

Ms. Himmelberger: The community could be left with something it can't manage, so an important component is pointing out what the community should be thinking about, for example, best practices. *Mr. Kim:* The question is how to do predevelopment well and then how to pay for it. *Ms. Himmelberger* saw the important issue as best practice and its impact on finance. *Ms. Massey* noted that work has already been done, so we must determine how to tap into that.

Marie de la Parra: Many communities don't take into consideration that project money leaves after the project is done. They need to consider the community's economic health after the project is done. Or, as *Rick Giardina* phrased it, what is the community left with when the project is done? We could define and raise red flags for the community, but they're technical issues.

Ms. Himmelberger: The community needs to ask questions about the long-term ramifications of all options. Better thinking about predevelopment will have effects for the long term. *Richard Weiss:* Maybe our product is a list of questions that the community should ask itself, not technical advice.

Ms. de la Parra: We must first ask what they want, especially in underpopulated communities. *Aurel Arndt* agreed with Mr. Weiss. Willingness to pay is the real issue. For example, regulated utilities require discussion of payment in the predevelopment phase. The Board has no representative from a regulated utility.

Ms. McLean asked about the merit of case studies. *Ms. Daniel:* There are as yet no specific rules about case studies. *Ms. Massey:* The Agency is our client. What does it want?

Charge 4. What role can the Center play to address affordability challenges in the water sector?

Tracy Mehan: Charge 4 covers important issues, but it should also cover wastewater as well as water. Affordability deals with social equity and environmental justice but becomes an excuse for communities not to raise rates. *Raffael Stein:* Household affordability is a real concern. There is general recognition among utilities that this has become more and more an issue. *Mr. Mehan* noted that Michael Curley has a good section on this in his book.

Mathilde McLean: Both the District of Columbia and New York have surveyed other cities to find out what they are doing with regard to affordability, so we could pull that information together.

Aurel Arndt: This is the most important issue, particularly with older systems. It is important in being able to sustain capital investments in the future. And median household income is a poor indicator.

Ms. McLean: Jeff Hughes has a chapter on affordability. *Mr. Mehan:* This issue involves policy and politics, for example, residents receive solicitations from gas and electric utilities to donate to winter heat funds, but they never receive such pleas from water utilities.

Ms. McLean: With such programs, including the federal Home Energy Assistance Program, you also have to establish income eligibility criteria for recipients and verify each recipients' income. New York City has leveraged these income-verified lists that are used to distribute heating assistance and local property tax exemptions to provide financial assistance for water charges; this means that the water utility does not have to duplicate the income verification work and create its own eligibility lists.

Richard Weiss: Ways to address affordability vary by state. For example, California prohibits subsidization.

Heather Himmelberger reported that her region set up an affordability program, but the subsidy was so small that people didn't bother to fill out the form.

Jeff Hughes favored adding to all charges that the Board will help review documents and filter them. For example, the Water Research Federation published three or four ground-breaking reports.

Karen Massey observed that this definitely helps the Center do what it does.

Mr. Stein: The real focus is to give us direction on how we can make a difference. What would make sense? Highlighting successful communities so the charge can be expanded?

Ms. Massey: The focus is identifying opportunities. This role is a little different from the one that we have played in the past. Identifying options is good, but it may also be good to know why something works or does not in one place or another.

Mr. Stein, in response to *Mr. Mehan,* said that it depends on the resources of the 2016 budget; this might be done through literature review.

Charge 5. What role can the Center play to address and/or support financial capacity development for small drinking water and wastewater systems?

Blanca Surgeon: One problem of assisting many individual small systems with capacity development is that in-depth training is down to 20 hours per system. In this training, one person can make more of a difference than a five-member board. Coordination of work among all technical assistance providers is very important. The EPA has a grant that funds all assistance providers and divides the work among all of us but none of us are providing comprehensive, technical assistance that results in capacity building. It is important to coordinate to get the best outcome for the system.

Heather Himmelberger: EFCs have already identified funding sources. My region has created a map of the United States, which can be pulled up on a computer that shows water funding in each community. We tried to coordinate with states to get a very comprehensive list of identified sources, which is updated every year. We could add predevelopment and other funding sources to this map. In fact, we are already making phone calls to the states for this year's update. The role can be made more valuable by directing communities to the appropriate resource. Now the burden is on the community to find out which agency offers what funding. Arkansas has done a good job of coordinating this, but other states have not, and EPA could help them. *Karen Massey:* That is what OW is looking for. The charge seeks other opportunities that EPA could look at.

Ms. Himmelberger thought the burden should be on EPA rather than the volunteer board of a small community. *Tim McProuty* suggested talking to former Board member Steve Grossman. *Ms. Himmelberger* added that he has surveyed the situation and posted his results on his website.

Summary

Karen Massey asked Board members to put their name on the top of a piece of paper and indicate which of the charges they are interested in working on, giving order of preference and whether they are interested in leading the work group. She will propose work groups, circulate the list to the entire Board by e-mail, and assign a staff member to each work group. Each work group will refine the charges.

Tom Liu noted that there are opportunities for overlap among the five charges. He asked whether they should be preparing one report or five. However it is done, it needs to be coordinated among the leaders so as to not duplicate another group's work. *Ms. Massey* assured him that they will get each work group leader in communication with EPA to be sure everyone is thinking the same way. She reiterated that EPA has not asked the Board to solve anything, but to guide them on what needs to be solved. The Board should offer a menu of actions, observations, and perhaps new charges. The Agency wants to know what to focus on and how to focus on it. It wants to discuss these matters with everyone before defining a time line.

Project Charge: The Cost of Deferred Maintenance

Heather Himmelberger

In the folder distributed to Board members is a draft, written by Ms. Himmelberger and Howard Rubin, Office of Water of two project charges titled "The Hidden Cost of Deferred Maintenance and Subsidy and Borrower Incentives: Balancing Affordability and Environmental Justice with Asset Management and Sustainability." The charge stresses that funds granted are for capital expenses only and not for maintenance. But no funding has been allotted to *deferred maintenance*. This means that infrastructure will have to be replaced earlier, so we need to factor that cost into the dynamic. How can we encourage communities to fund maintenance, especially if they won't be able to take advantage of as much asset management as possible if they don't consider the deferred maintenance as an issue? The second issue—*subsidy and borrower incentives*—addresses how affordability and environmental justice factor into long-term sustainability. How can communities balance those against asset management and sustainability? Are EFAB members interested in taking on these issues?

Discussion

Leanne Tobias: The first (deferred maintenance) is very important, and it can be quantified. It would be a useful tool for the Agency and I support it as a research topic.

Mark Kim agreed that it is hugely important, but it could be approached from a best practices perspective. *Ms. Himmelberger* was thinking more of the impact on the SRF program. For example, sometimes new work cannot be funded because the community has to take on deferred maintenance. Is deferred maintenance eroding the capacity of the funds to do more? How big an issue is it?

Mr. Kim: Every dollar of deferred maintenance cuts into new capital expenditures. *Jennifer Wasinger* suggested looking at states that consider maintenance and providing suggestions on how to make SRFs more successful.

Ms. Himmelberger thought it might be an opportunity to affect behavior. Maybe EPA would want to add something. *Ms. Wasinger:* It is a good first step for the SRFs. Maybe the Board could recommend how to make it a more useable, workable plan, especially for smaller communities. *Ms. Himmelberger:* The worse-off the community is, it receives more money when it has an emergency, so it doesn't raise its rates but waits to become an emergency.

Suzanne Kim asked how this could be quantified, but *Ms. Himmelberger* did not know. *Ms. Wasinger* announced that the Oklahoma Water Resource Board has just developed its system.

Jeff Walker countered that if the community does maintenance, it may delay capital improvements. What's the end-point? *Ms. Himmelberger:* We have to have the data to substantiate the assumption and work from there.

Blanca Surgeon: With the Fiscal Responsibility Plan/Asset Management Plan required by funders, many states are getting the plans; systems are completing them but there's no accountability beyond completing the plan. There should be a requirement for at least establishing a short-term asset reserve fund. Then there is the issue of systems having reserve funds in the bank but they don't use them because they're looking for public funds. Education and training needs to happen. USDA requires communities to have reserve funds. So systems are saving for maintenance or repairs but we need to say, "this is how you go about reinvesting that money into your own system." *Ms. Himmelberger* agreed that it is not an engineering problem; it is asset management, which should be decided upon by the community. *Ms. Wasinger* suggested putting together a template in a way that empowers the community and guides the discussion.

Lisa Daniel: Planning seems to be an area that needs attention. SRF is a way to get at this. Once we find the information, what do we expect to happen?

Rick Giardina suggested giving city planners tools and information so they can raise rates. This is about communicating the need, but quantifying the problem may be one of the tools needed to create convincing communications. In the long term, deferred maintenance costs more for the rate payers.

Ms. Tobias: Once the problem has been quantified, how do you incentivize a community to make and implement an asset management plan? *Ms. Himmelberger* said that we can do that now. A bipartisan Government Accounting Office (GAO) team was tasked to investigate asset management for water and wastewater utilities. That team is now working on this issue.

Tracy Mehan knows that it is a problem. If the Board documents the size of the problem, we may give states the information they need to mandate asset management. We should compile case studies.

Lisa Daniel: SRFs compete so much. *Ms. Himmelberger:* But this is not an SRF-only issue. *Ms. Daniel:* The problem is poor planning on the part of the borrower.

Ms. Himmelberger: A federal mandate could be helpful. *Karen Massey:* Asset management is not a silver bullet, and I would be reluctant to recommend that communities raise rates and that they have a comprehensive asset management program. Rather, it boils down more to the funding issue. Is data-driven analysis a practical assessment? What is the value to EPA unless it comes with a recommendation? We need to know what our end product should be.

Mathilde McLean: Asset management would be a huge burden for small communities.

Mark Kim: Asset management can tell you what you need to do, but it does not give the money to do it. It would be useful to highlight the consequences of deferred maintenance.

Ms. Himmelberger: We have to know that there is \$200 million of deferred maintenance before people will raise rates to pay for it. You don't get on a path at all until you know the facts. A national conversation would be helpful.

Tom Liu: We should not make any more demands on the SRF programs. Local implications are that communities can show theoretical calculations and the impact on jobs, and so forth. The political factor involved is that they have to approve the increased rates, so they defer it to the next administration. What are we trying to achieve? A target goal that's different from what is already been done? *Ms. Himmelberger* quoted the charge: "fund efficient operations" rather than "fund capital". We need to break the barrier between operation and maintenance (O & M) and capital.

Helen Akparanta cited an example of the State of Maryland using Bay restoration funds to pay for operations and maintenance at wastewater treatment plants that upgraded to enhanced nutrient removal treatment levels. Ten percent of the monies collected in the fund (after certain expenses) has been set aside for operations and maintenance. It works well. It does not pay for all operations and maintenance, but it helps. *Mr. Kim:* The important difference between capital dollars and O & M funds is that a lot of capital dollars are funded from debt. The broader point is whether the Agency should make grants for operation. It is a different way to get to the same end. The Board could look at that. Deferred maintenance is not accounted for. *Mike Shapiro:* That would require statutory change, but if members feel strongly enough about an issue, it is good to get that on record.

Leanne Tobias: In energy efficiency space, often the metric is life-cycle cost analysis. Is this used in water infrastructure? *Ms. Himmelberger* said that it is. It is the total cost of one alternative versus another.

Ms. Massey: We need to find out the question set from the Agency, that is, what the client wants.

Ms. Himmelberger: We could focus on the first issue and fold in the second under the umbrella charge. *Ms. Massey* concluded that it's a two-part question.

Ms. Tobias: We need a client, unless Howard Rubin is no longer interested. *Mr. Shapiro:* We just need a formal blessing.

Ms. Massey talked to the Agency about both, particularly Number One, and is working through the process. *Mr. Shapiro* said that they can fund planning through the acid water initiative. But, *Ms. Tobias* cautioned that GAO and the client may have some interest in how this is done. *Ms. Himmelberger:* If not prohibited, we should find out what GAO is doing and have a conversation with it. *Vanessa Bowie* can get a copy of GAO's charge; the report is due December 31.

Ms. Akparanta, Ms. Wasinger, and Ms. Himmelberger will work on this draft proposal and flesh it out.

Public Comment

Mike Shapiro and Karen Massey

Co-Bank

Sarah Tyree is vice-president of government affairs for Co-Bank, which is collaborating in a new public-private partnership known as the U.S. Rural Infrastructure Opportunity Fund. Its mission is to support rural (Third World American) infrastructure, a mission it shares with the U.S. Department of Agriculture (USDA). It lends to small, rural wastewater systems and is funded by USDA and Capitol Peak Asset Management. It has a pool of infrastructure loans in the funds, and other people can invest in it. This will be announced in July. *Ms. Tyree* distributed her contact information and invited questions.

Discussion

Suzanne Kim asked about the size of the fund. *Ms. Tyree* said that it is \$1 million–\$5 million for 10 or 20 years. Some water systems have a lot of unobligated obligations. Co-Bank created this new program two years ago to offer unsecured financing for less than \$150,000, which enables it to get the funds obligated. Funds are offered at market rate, but Co-Bank is a cooperative bank, that is, the customers own it, and they have no outside owners. Therefore, when the bank does well, the customers benefit.

In response to *Leanne Tobias's* question, *Ms. Tyree* said that the bank loans are not restricted to capital costs, planning, or O & M.

Tom Liu asked whether the bank lends to municipal projects only. *Ms. Tyree* said that the bank is a privately owned cooperative and is not funding just essential water projects. Therefore it is competing against other banks, but at a higher rate, and the USDA partnership.

Responding to *Jennifer Wasinger*, *Ms. Tyree* said that a client can come directly to Co-Bank without going through a federal agency. It gives funds to communities of populations of 20,000.

To *Jeff Walker*, *Ms. Tyree* said that she is working with a bank in Denver.

Water Research Foundation

Jonathan Cuppett reported that the Water Research Foundation is planning and managing finance-related research, including research for the drinking water industry. Therefore it is working on most of the issues discussed here. He offered his group as a resource. It has already studied many of these topics. The Water and Environmental Research Foundation is a sister organization, and there are talks for merging.

General Discussion and Next Steps

Mike Shapiro and Karen Massey

Vanessa Bowie will work with *Ms. Massey*, *Mr. Shapiro*, and *Andrew Sawyers* to circulate possible dates for the next meeting. *Dr. Sawyers* would like to have a meeting in Washington, DC, and one in San Francisco in the first or second week of August, as was customary. *Ms. Massey* may follow up with some conference calls before the next face-to-face meeting.

Adjournment

Ms. Massey and *Mr. Shapiro* thanked everyone and adjourned the meeting at 2:20 PM.

Action Items

1. Board members will send *Karen Massey* suggestions of potential new members.
2. *Andrew Sawyers* will create a standing work group to support Charge 1—“support communities to develop dedicated sources of revenue for stormwater and green infrastructure programs.”
3. *Leanne Tobias* will send *Tom Liu* and other interested Board members a draft of the report from the work group Financing Green Infrastructure Operations and Maintenance for their review and comments.
4. The Charge 1 work group will add to the charge: “The Center requires that EFAB identify legal, technical, and logistical barriers.”
5. *Karen Massey* will propose work groups and their leaders on the basis of the interests that Board members noted. She will circulate the list to the entire Board by e-mail and assign a staff member to each work group. Each work group will refine its charges.
6. *Vanessa Bowie* will get a copy of GAO’s charge for studying the cost of deferred maintenance and will circulate it.