

U.S. Environmental Protection Agency
Environmental Financial Advisory Board

April 20-21, 2021

Location: Telephone and Web-based Only

Minutes of the Meeting

Respectfully Submitted: Edward H. Chu
EPA Designated Federal Officer

Certified as Accurate: Joanne M. Throwe, Chair
Environmental Financial Advisory Board

NOTE AND DISCLAIMER: The minutes that follow reflect a summary of remarks and conversation during the meeting. 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 the 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.

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Meeting Purpose

The Environmental Protection Agency (EPA) Environmental Financial Advisory Board (EFAB or Board) held a public meeting on April 20-21, 2021. EFAB is an EPA advisory committee chartered under the Federal Advisory Committee Act (FACA) to provide advice and recommendations to the agency on creative approaches to funding environmental programs, projects, and activities. The purpose of this meeting was for EFAB to provide workgroup updates on work products and workplans for charges accepted during the October 2020 meeting, receive a briefing on EPA's response to recent EFAB reports, receive updates on EPA activities relating to environmental finance, and consider possible future advisory topics.

Attendees

EFAB Members (for full roster, see Appendix):

Joanne Throwe, EFAB Chair

Ashley Allen Jones, Founder and Chief Executive Officer, i2 Capital, Washington, D.C.

Brent Anderson, Chief Executive Officer, RESIGHT, Littleton, Colorado

Janice (Jan) Beecher, Director, Institute of Public Utilities, Michigan State University, East Lansing, Michigan

Steven (Steve) Bonafonte, Assistant District Counsel, The Metropolitan District of Hartford, Hartford, Connecticut

Angela Montoya Bricmont, Chief Finance Officer, Denver Water, Denver, Colorado

Stacy Brown, President and Chief Executive Officer, Freberg Environmental, Inc., Denver, Colorado

Theodore (Ted) Chapman, Senior Director, U.S. Public Finance Infrastructure Group, S&P Global Ratings, Farmers Branch, Texas

Zachary (Zack) Davidson, Director of Underwriting, Ecosystem Investment Partners, Baltimore, Maryland

Jeffrey (Jeff) Diehl, Chief Executive Officer, Rhode Island Infrastructure Bank, Providence, Rhode Island

Sonja Favors, Chief, Industrial Hazardous Waste Branch, Alabama Department of Environmental Management, Montgomery, Alabama

Jon Freedman, Senior Vice President for Global Government Affairs, SUEZ Water Technologies & Solutions, Charlottesville, Virginia

Phyllis Garcia, Treasurer, San Antonio Water System, San Antonio, Texas

Edward (Ted) Henifin, General Manager, Hampton Roads Sanitation District, Virginia Beach, Virginia

Craig Holland, Senior Director of Urban Investments, The Nature Conservancy, Arlington, Virginia

Craig Hrinkevich, Managing Director, Public Finance Team - New Jersey, Robert W. Baird & Company Inc., Westfield, New Jersey

John Jones, Member of the Board, New Mexico Rural Water Association, Albuquerque, New Mexico

Margot Kane, Chief Investment Officer, Spring Point Partners LLC, Philadelphia, Pennsylvania

George Kelly, Global Client Strategy Officer, Earth & Water Strategies, Denver, Colorado

Cynthia Koehler, Executive Director, WaterNow Alliance, San Francisco, California

Colleen Kokas, Executive Vice President, Environmental Liability Transfer, Inc., Lahaska, Pennsylvania
Pamela (Pam) Lemoine, Principal Consultant, Black & Veatch Management Consulting, LLC, Chesterfield, Missouri
Eric Letsinger, Founder and Chief Executive Officer, Quantified Ventures, Chevy Chase, Maryland
James (Jim) McGoff, Director of Environmental Programs, Indiana Finance Authority, Indianapolis, Indiana
Christopher (Chris) Meister, Executive Director, Illinois Finance Authority, Chicago, Illinois
Kerry O'Neill, Chief Executive Officer, Inclusive Prosperity Capital, Inc., Stamford, Connecticut
James (Tony) Parrott, Executive Director, Metropolitan Sewer District of Louisville, Louisville, Kentucky
MaryAnna Peavey, Grants and Loans Bureau Chief, Idaho Department of Environmental Quality, Boise, Idaho
Dennis Randolph, Traffic Engineer, City of Kalamazoo Public Service Department, Kalamazoo, Michigan
Eric Rothstein, Principal, Galardi Rothstein Group, Chicago, Illinois
William (Bill) Stannard, Chairman of the Board, RAFTELIS, Kansas City, Missouri
Carl Thompson, Vice President, Sales and Marketing, Infiltrator Water Technologies, Old Saybrook, Connecticut
David Zimmer, Executive Director, New Jersey Infrastructure Bank, Lawrenceville, New Jersey

EFAB Members unable to attend the meeting: For April 21, 2021, Angela Montoya Bricmont and Sonja Favors were not in attendance

Designated Federal Officer: Edward (Ed) Chu, EPA Region 7, Deputy Regional Administrator

EPA Invited Speakers and Guests:

Alison Kinn Bennett, EPA Office of Pollution Prevention and Toxics
David Bloom, EPA, Office of the Chief Financial Officer
Tonya Bronleewe, Wichita State University Environmental Finance Center
Sonia Brubaker, EPA Office of Water
Jennifer Cotting, EFCN President, University of Maryland Environmental Finance Center
Khris Dodson, Syracuse University Environmental Finance Center
David Doyle, EPA Region 7
Rosemary Enobakhare, EPA Office of Public Engagement and Environmental Education
Philip Fine, EPA Office of Policy
Jon Grosshans, EPA Region 5
Tara Johnson, EPA Office of Water
Lek Kadeli, EPA, Office of the Chief Financial Officer
Michelle Madeley, EPA Office of Community Revitalization
Al McGartland, EPA Office of Policy
Martha Sheils, New England Environmental Finance Center
Raffael Stein, EPA Office of Water
Josh Tapp, EPA Region 7
David Widawsky, EPA Office of Pollution Prevention and Toxics

Sandra (Sandi) Williams, EPA
Andrew Wynne, EPA Region 7

Additional Attendees: see Appendix, for list based on registrants for Zoom Meeting.

DAY 1

WELCOME AND REVIEW OF AGENDA

The meeting was announced in the Federal Register (see Appendix) and generally proceeded according to the agenda (see Appendix), with times adjusted as noted in these meeting minutes.

Edward (Ed) Chu, the Designated Federal Officer (DFO) for EFAB, introduced himself as DFO and welcomed the EFAB Members and public attendees.

Ed Chu officially started Day-1 of this EFAB meeting. Ed Chu reviewed all of the sessions scheduled on the EFAB meeting agenda for both Day-1 and Day-2 of this EFAB meeting.

Ed Chu turned it over to the EFAB Chair, Joanne Throwe, for the EFAB member roll call.

Joanne Throwe introduced herself and explained her role as EFAB Chair.

Joanne Throwe asked the EFAB members to introduce themselves in alphabetical order:

Ashley Allen Jones	Phyllis Garcia	Jim McGoff
Brent Anderson	Ted Henifin	Chris Meister
Jan Beecher	Craig Holland	Kerry O'Neill
Steve Bonafonte	Craig Hrinkevich	Tony Parrott
Angela Bricmont	John Jones	MaryAnna Peavey
Stacy Brown	Margot Kane	Dennis Randolph
Ted Chapman	George Kelly	Eric Rothstein
Zack Davidson	Cynthia Koehler	Bill Stannard
Jeff Diehl	Colleen Kokas	Carl Thompson
Sonja Favors	Pam Lemoine	David Zimmer
Jon Freedman	Eric Letsinger	

Joanne Throwe thanked Ed Chu for his leadership as DFO and thanked EPA staff, specifically Tara Johnson.

WELCOME AND Q&A

Ed Chu introduced Rosemary Enobakhare, Associate Administrator, EPA Office of Public Engagement and Environmental Education. Ed Chu noted that EFAB members were already provided Rosemary Enobakhare's bio (see Appendix).

Rosemary Enobakhare thanked Ed Chu and expressed appreciation for the EFAB members for their important work for EPA's mission. Rosemary Enobakhare thanked Joanne Throwe for her long-term role as EFAB Chair.

Rosemary Enobakhare noted that under this Administration, EPA will be making decisions based on science. Rosemary Enobakhare explained that this Administration's priorities are climate change, safeguarding drinking water, and revitalizing communities, all with environmental justice as the overarching focus.

Rosemary Enobakhare explained that EPA is expecting many financial and funding opportunities for EPA programs and initiatives under this Administration. Rosemary Enobakhare stated that EPA is looking forward to advice from EFAB on how to work with communities to provide financial and funding opportunities in an impactful way. Rosemary Enobakhare emphasized that she is excited about the future of working together with EFAB on EPA's priorities.

Ed Chu thanked Rosemary Enobakhare.

Joanne Throwe asked for any questions from EFAB members. No response.

Joanne Throwe thanked Rosemary Enobakhare and emphasized that EFAB was looking forward to working with her.

OPPORTUNITY ZONES WORKGROUP

Joanne Throwe introduced Margot Kane and Bill Stannard as the Co-Chairs of the EFAB Opportunity Zones Workgroup. Bill Stannard stated that their presentation: *Opportunity Zones Workgroup* (see Appendix) would provide an update to EFAB about this workgroup. Bill Stannard also noted that this update would provide information for the discussion session later in Day-1 about how EFAB should move forward with this Opportunity Zones charge.

Bill Stannard reviewed the history and membership of the Opportunity Zones Workgroup.

Bill Stannard noted that some of the relevant tax credits for investors will be expiring this year and explained that this timing issue was a focus of this workgroup's efforts to refine this charge. Bill Stannard explained that the workgroup also refined this charge by looking for opportunities where EFAB could provide EPA with actionable advice and guidance to help enhance the overall effort associated with opportunity zones. Bill Stannard also explained that the workgroup narrowed the scope of this charge following the EFAB Operating Manual to align with EFAB's role, EPA's desired schedule, and workgroup interest and expertise. Bill Stannard stated that these workgroup efforts had resulted in developing a final charge for the EFAB Opportunity Zones Workgroup.

Margot Kane explained that the workgroup tried to narrow this charge partly because of the applicability of any EFAB advice within the timing considerations associated with expiration of the relevant tax credits. Margot Kane also explained that the other approaches used for refining this charge were defining the relevant high-priority communities, and narrowing down how EFAB expertise and advice would be most helpful to EPA.

Margot Kane stated that the workgroup then focused on the "facilitating investment" component of the charge and identified two primary areas of focus under that where EFAB could advise EPA: 1) focusing on where community benefits standards and guidelines had been developed, or not developed, that would be relevant to opportunity-zone-eligible projects in those relevant high-priority communities; and 2) providing recommendations on where EPA may be uniquely situated among the range of agencies engaged in opportunity zones, to coordinate with communities, investors, and other agencies to help such communities attract opportunity zone investments and financing. As an example, Margot Kane

noted that EPA's Brownfields program had remediation funding that might interplay with opportunity zones.

Margot Kane stated that the EFAB Opportunity Zones Workgroup had split into two subgroups:

- Community Benefits, led by Dennis Randolph; and
- EPA Enabling Roles, led by Chris Meister.

Joanne Throwe noted that she was glad that the EFAB Operating Manual was useful in this workgroup's process of narrowing and refining this charge.

Bill Stannard provided additional observations on how community benefits from opportunity zones may be relevant to EPA and to the area being rehabilitated as well as outlying areas.

Margot Kane presented the final charge developed by EFAB's Opportunity Zones Workgroup:

Facilitating Investment (Marketplace/Matchmaking): Advise EPA on how to enhance the Agency's approach to encourage increased OZ funds investment into both rural and urban communities alongside existing EPA funding tools, programs, regulatory/permitting flexibility and federal and state partners. Provide examples and advice and support to communities, including ways to minimize risk for investors, and to investors seeking to direct OZ Fund investment into low-income, minority, and/or otherwise vulnerable communities, reflecting environmental justice (EJ) principles.

- Note where community benefits standards and guidance have been developed [or are so far lacking] that may be relevant to OZ-funded projects in these communities and the value of such community benefits can be achieved.
- Provide recommendations on where EPA may *uniquely* be situated to coordinate with investors and other agencies in encouraging/identifying OZ investment opportunities in high-priority communities from an environmental justice standpoint, including low-income, minority, tribal, and indigenous communities that bear disproportionate environmental risks and damages.

Margot Kane encouraged EFAB members to reach out to the leaders of the two subgroups as well as the Co-Chairs of this workgroup.

Margot Kane reviewed this workgroup's planned schedule for meetings and assignments for those subgroups and the anticipated schedule for developing draft deliverables ahead of the August/September EFAB meeting for Board discussion and approval.

Margot Kane and Joanne Throwe opened up for EFAB discussion. Joanne Throwe reminded EFAB that the Environmental Finance Centers were a valuable resource that could be used to support the workgroup for this charge. Bill Stannard asked about the process for reaching out to Environmental Finance Centers regarding whether they had participated in opportunity zones initiatives within their region.

David Zimmer believed that this charge was incredibly timely and important. Brent Anderson commented that the workgroup did a great job in refining this charge, and added that the Environmental Finance Centers could also contribute to examining broader issues (e.g., environmental justice) beyond the final charge.

Joanne Throwe stated there were no other questions for EFAB discussion. Joanne Throwe and Ed Chu discussed whether to proceed with agenda; however, the next two speakers were not available yet within the Zoom meeting. Ed Chu called for a break.

EPA STRATEGIC FORESIGHT

Ed Chu explained the strategic planning role of EPA's Office of the Chief Financial Officer. Ed Chu introduced Lek Kadeli, Senior Advisor, and Kathy O'Brien, Planner, from EPA's Office of the Chief Financial Officer. Ed Chu noted that EFAB members were already provided Lek Kadeli's bio (see Appendix).

Lek Kadeli stated that he would discuss foresight in EPA's strategic planning process in his presentation: *Foresight: Strategic Discussion with the Environmental Financial Advisory Board* (see Appendix).

Lek Kadeli reviewed how EPA uses foresight in strategic planning to systematically consider a longer time horizon and a broader scope of issues. Lek Kadeli noted that many cross-cutting issues exist among EPA programs that are largely focused on statutes and media. Lek Kadeli suggested that foresight in strategic planning helps EPA facilitate a systems approach to problem solving that encourages communication within EPA to avoid the "silo effect" that he said EPA has been known for.

Lek Kadeli also noted that foresight in strategic planning helps EPA prepare for the unknown and for emerging opportunities. Lek Kadeli emphasized that foresight in strategic planning is not about trying to predict the future.

Lek Kadeli presented a list of foresight issues that EPA had identified in previous EPA Strategic Plans. Lek Kadeli emphasized computational toxicology as an issue where EPA had done incredible work that was implemented successfully after being identified from strategic foresight. Lek Kadeli also discussed remote sensing for environmental monitoring.

Lek Kadeli presented a list of key foresight questions for discussion at this EFAB meeting:

- What changes have you seen in environmental finance over the past 20 years?
- What are the key forces or developments that you think might affect environmental finance over the next 20 years?
- What could go wrong or get worse? What actions could help head off negative developments?
- What do you think a preferred future for environmental finance would look like in 15-20 years? What actions could we take together to move toward it?

Lek Kadeli turned back to Joanne Throwe to start the EFAB discussion. Joanne Throwe and Lek Kadeli discussed that the list of previous foresight issues that was shown in the presentation (see Appendix) was intended as informative, but EPA was looking to identify additional foresight issues for a new round of strategic planning under the new Administration.

Ed Chu added that the EPA Regions are also involved in EPA's strategic planning. Ed Chu mentioned that EPA is particularly interested in hearing from EFAB about what the future would look like for finance, such as environmental, social, and governance (ESG) criteria for investments.

George Kelly discussed the notion of the environmental sustainability movement as an asset class. George Kelly mentioned that the “ESG movement” seemed relevant. George Kelly also discussed the notion of natural capital accounting. Lek Kadeli and George Kelly exchanged information about uses of natural capital accounting.

Brent Anderson noted that dynamic change had become a significant aspect of life, and should be considered for strategic planning. Brent Anderson suggested that equity issues arise from recent trends for increasing urbanization and shrinking of rural areas. Brent Anderson suggested EPA should consider increasing its emphasis on leveraging the private sector in achieving environmental goals. Brent Anderson offered observations about disinformation versus science.

Tony Parrott discussed failing and aging infrastructure, and suggested continuing to emphasize incentivizing regionalization to address smaller rural systems in the future. Tony Parrott noted that smaller rural communities face political challenges in raising rates for small systems. Tony Parrott recommended a better balance in a partnership between communities and the federal government, such as more grants instead of loans, to provide resources to smaller communities to address the risk of failing infrastructure.

Lek Kadeli mentioned that this Administration’s budget had items relevant to small system regionalization. Joanne Throwe mentioned a previous EFAB report that was related to water system regionalization.

Chris Meister noted that a proposed EFAB-generated charge will be dealing with broader issue of risk in environmental finance.

Ted Henifin suggested there may be a more appropriate way to address human health risks, and suggested that society could not afford to eliminate all human health risks.

MaryAnna Peavey mentioned that rural communities face affordability challenges in bringing their small systems into compliance. MaryAnna Peavey noted that regionalization is not always possible because of the distance between small rural systems in Idaho. MaryAnna Peavey suggested that providing more flexibility to small systems also needs consideration.

David Zimmer discussed financial modeling techniques used by professional money managers. David Zimmer also discussed recent proposed bills to pay down public pension system liabilities and whether public pension systems might invest in struggling water systems. David Zimmer offered observations on underperforming or struggling water systems.

Jan Beecher addressed the notion of federalism and suggested that integrated solutions to utility rate impacts are needed to address user affordability and equity issues with environmental and energy utility costs. Jan Beecher stated that network costs for these utilities will be the most significant issue in the future. Jan Beecher also discussed cyber issues.

Eric Letsinger noted that capital is available and ready to work. Eric Letsinger discussed issues related to technology, data, and measuring outcomes. Eric Letsinger mentioned that measurable impacts are important and questioned whether EPA could purchase measurable outcomes instead of using regulatory approaches.

Cynthia Koehler discussed issues related to the “one water concept” in operationalizing efforts to allow public utilities to finance innovative approaches, such as green stormwater infrastructure. Lek Kadeli noted that a system approach is useful for water infrastructure.

Ashley Allen Jones provided observations about financial engineering and suggested that solutions should go beyond the traditional private sector and public sector financing models and go beyond the built infrastructure.

Kerry O’Neill suggested that a new era of public-private partnership is coming, and believed that the ESG movement was relevant. Kerry O’Neill agreed with buying measurable outcomes as a valid approach. Kerry O’Neill suggested bringing water, energy, and housing solutions together as integrated financial engineering.

Craig Holland believed that some approaches just discussed, such as purchasing measurable outcomes, will create a very different role for government. Craig Holland stated that technology is moving faster than the regulatory approaches for state and local governments can keep up. Craig Holland suggested that EPA could improve the pace of evaluating technologies. Craig Holland suggested that EPA should engage environmental justice communities more fully into developing solutions.

Lek Kadeli observed that many great solutions and innovations arise from local communities. Lek Kadeli discussed how states that share a waterbody may face difficulties in finding solutions.

Zack Davidson noted that deciding upon the units to measure outcomes would be part of an outcome-based approach. Zack Davidson encouraged more exploration of ideas related to measurable outcomes.

Joanne Throwe thanked Lek Kadeli and hoped he would provide these EFAB ideas to the new EPA Administrator.

Ed Chu concluded by stating that he will follow up with Lek Kadeli and Kathy O’Brien about these EFAB ideas. Ed Chu stated that EPA will review the relevance of these EFAB ideas, and after that review, Ed Chu will assess whether it is worthwhile to bring any of those ideas back to EFAB for more discussion.

OPPORTUNITY ZONES CHARGE DISCUSSION and NEXT STEPS

Ed Chu stated that Michelle Madeley (EPA) was available for discussion of the Opportunity Zones Charge and asked her to join for this session. Michelle Madeley appreciated how the EFAB Opportunity Zones Workgroup had coalesced to take on the EPA Office of Community Revitalization’s initial input and initial proposed charge and honed in on the nexus of EFAB’s expertise and the timeliness of this opportunity zones topic. Michelle Madeley noted that her EPA colleagues in the EPA regions – Jon Grosshans, David Doyle, and Josh Tapp – also were excited about seeing EFAB’s advice from this charge taken on by EFAB’s Opportunity Zones Workgroup.

Michelle Madeley mentioned that EPA was very excited to learn more about the “evergreen part” of this charge, which would go beyond using the opportunity zone designation and opportunity zone tax incentives. Michelle Madeley noted that EPA was interested in facilitating this type of investment in communities with environmental justice concerns, both urban and rural communities. Michelle Madeley

also noted that EPA was interested in learning more about the community benefits and the application and alignment of opportunity zones with other EPA programs.

Michelle Madeley asked if EFAB had any questions. Joanne Throwe asked if Bill Stannard or Margot Kane had any comments or input for this discussion.

Bill Stannard noted that the “evergreen aspect” was relevant in facilitating real impact beyond the tax benefits to promote positive outcomes from investments.

Margo Kane requested that EPA provide any relevant information about whether EPA is working on a definition of high-priority environmental justice communities. Based on research on EPA’s publications, Margot Kane stated she had not identified a standard definition of environmental justice communities in use at EPA.

Michelle Madeley stated that communities will define themselves as environmental justice communities, and that EPA will not be defining an environmental justice community. Michelle Madeley explained that EPA has environmental justice screening tools that can be used to identify areas where environmental justice concerns may exist, such as low-income communities, communities of color, and indigenous communities.

Michelle Madeley offered to bring in experts among the EPA staff in EPA’s Office of Environmental Justice to discuss other EPA initiatives that could be relevant to Margot Kane’s question. Margot Kane thanked Michelle Madeley and stated this offer will be helpful to the EFAB Opportunity Zones Workgroup.

Joanne Throwe and Ed Chu discussed taking a break, and Joanne Throwe called a break.

STORMWATER CREDIT TRADING WORKGROUP

Joanne Throwe introduced Craig Holland and Ted Henifin, Co-Chairs of Stormwater Credit Trading Workgroup.

Craig Holland began by thanking Tara Johnson (EPA) for helping the Co-Chairs find an EPA sponsor for this proposed EFAB charge. Craig Holland discussed how Heather Goss and Rachel Urban with EPA’s Office of Water had explained to the Co-Chairs that EPA was currently working on off-site stormwater management programs. Craig Holland stated that “off-site stormwater management” would probably become the relevant focus for any final EFAB charge, given EPA’s ongoing efforts within the Office of Water. Heather Goss suggested waiting until EPA’s Office of Water had published their initial products (e.g., webpage, case studies, clarifying definitions for consistent terms, clarifying distinction between off-site stormwater management and water quality trading) later this spring.

Craig Holland reviewed the original EFAB rationale for this proposed EFAB charge and reminded EFAB members that this was an EFAB-generated charge.

Craig Holland explained that Heather Goss and Rachel Urban informed the Co-Chairs that most MS4 permittees were already permitted to have the flexibility to structure off-site stormwater management programs, but this flexibility and possible ways to structure such programs vary by permittee and on a

state-by-state basis. Craig Holland reviewed several options suggested by Heather Goss for how EFAB could potentially engage: 1) a written advisory report (e.g., best practices, tools), 2) listening sessions among various stakeholders who had experienced challenges in attempting to implement off-site stormwater management, 3) an expert panel of municipal and private sector leaders who had successfully implemented or participated in off-site stormwater management. Craig Holland noted that Heather Goss and Rachel Urban were not available to participate in the discussion during this EFAB session.

Craig Holland asked EFAB members about whether EFAB should pursue refinement of this charge, given the EPA Office of Water feedback about this proposed EFAB-generated charge.

Ted Henifin suggested that a lesson learned for EFAB may be to spend more time earlier in identifying whether an EPA sponsor exists before developing a proposed EFAB-generated charge.

Ted Henifin added that Heather Goss and Rachel Urban had also informed the Co-Chairs that individual development projects within an MS4-permitted community may be structured differently for off-site stormwater management, creating another set of underlying details among different development projects in such communities.

Craig Holland and Joanne Throwe noted that the change in Administration contributed to the delays experienced in moving forward on this proposed EFAB-generated charge.

STORMWATER CHARGE DISCUSSION AND NEXT STEPS

Joanne Throwe opened up discussion.

David Zimmer noted that CSO communities in New Jersey were older and disadvantaged communities near New York City that he believed could benefit from credit-trading programs for stormwater mitigation that involved redevelopment projects. David Zimmer believed that there was much interest in New Jersey in buying off-site coverage for controlling CSOs and this could be incorporated into the SRF.

Craig Holland stated he appreciated David Zimmer's input, but questioned whether a real market that could actually function might exist versus a localized innovative effort (i.e., a small market).

David Zimmer noted he may like to volunteer New Jersey as a case study for this EFAB charge. Craig Holland mentioned that he thought Heather Goss and Rachel Urban would be interested in including a case study.

George Kelly mentioned considerations for incorporating this idea for stormwater mitigation involving redevelopment projects and controlling CSOs, and suggested taking an approach that would evaluate how to use flexible mechanisms within an SRF context.

Craig Holland emphasized that EFAB must come up with ways to make the ideas in this EFAB-generated charge distinct from water quality trading.

Ted Henifin noted that state and local regulators are generally risk adverse and suggested that EPA providing guidance on these ideas would help those who are less risk adverse.

Joanne Throwe and Craig Holland discussed that the next step was to wait for EPA's Office of Water. Craig Holland requested that those EFAB members who still wanted to be part of this EFAB-generated charge should contact the Co-Chairs about their level of interest. Craig Holland stated he would be working with Tara Johnson (EPA) to coordinate with EPA's Office of Water.

Ed Chu concluded this session by emphasizing that this was exactly how the process in the EFAB Operating Manual was intended to work for an EFAB-generated charge. Ed Chu stated that tabling an EFAB-generated charge was actually a positive step with respect to determining the best timing to proceed. Ed Chu provided several examples of previous EFAB-generated charges that had been tabled for timing reasons. Joanne Throwe added that this had been an excellent opportunity to provide ideas from EFAB experts to EPA.

ENVIRONMENTAL RISK AND COST OF CAPITAL WORKGROUP

Joanne Throwe introduced Chris Meister, Ted Chapman, and Jan Beecher, Co-Chairs of the Environmental Risk and Cost of Capital Workgroup. Chris Meister began by noting that this charge addressed a broad topic. Chris Meister had collected quotes that he believed were relevant to this broad topic and read those quotes to the EFAB members.

Chris Meister noted that this was an EFAB-generated charge and provided some background on this EFAB workgroup's activities. Chris Meister noted that this workgroup did not yet have a formal EFAB charge and did not yet have an EPA sponsor. Chris Meister mentioned that Ed Chu had offered to connect this workgroup with career economists at EPA.

Chris Meister discussed how this EFAB workgroup's efforts might relate to climate change and the new EPA Administrator's priorities. Chris Meister will share climate-related articles and a range of finance articles that he had collected with EFAB members.

Chris Meister noted again that the ideas in this EFAB-generated charge were big ideas and broad ideas, and observed that the challenge for this workgroup will be to narrow this EFAB-generated charge to what would be relevant and useful to the EPA Administrator.

Chris Meister offered observations about existing EPA environmental finance programs (SRF, WIFIA) and climate finance. Chris Meister also provided observations about other federal agencies that are currently working on climate finance.

Ted Chapman discussed recent trends in sustainable and green investments. Ted Chapman believed that the investor community would agree that demand for green bonds is vastly exceeding supply. Ted Chapman believed that with the SRFs and WIFIA that EPA is one of the biggest investors in local communities. Ted Chapman strongly encouraged EFAB to refine this EFAB-generated charge to address lowering the cost of capital to communities.

Jan Beecher also noted that this workgroup did not yet have an EPA sponsor, but was encouraged by Ed Chu's offer to connect this workgroup to EPA economists. Jan Beecher provided suggestions about types

of products (e.g., workshop, report, recommendations for tools, literature review) that this workgroup could produce for this EFAB-generated charge. Jan Beecher suggested that community engagement tools or evaluation tools might exist at EPA that EFAB could contribute to improving or provide case studies related to those tools. Jan Beecher offered observations for thinking about environmental risk from climate change and considering climate justice.

Joanne Throwe asked if any other EFAB members on this workgroup had additional comments about progress on this EFAB-generated charge before starting the EFAB discussion. No response.

ENVIRONMENTAL RISK AND COST OF CAPITAL CHARGE DISCUSSION AND NEXT STEPS

Brent Anderson believed this EFAB-generated charge was a timely and huge topic, but it clearly needed refinement. Brett Anderson suggested that defining nebulous terms (e.g., climate risk) would help in refining this charge. Brent Anderson agreed with Jan Beecher that it was necessary to ask what product EFAB could produce from this charge. Brent Anderson suggested that it would be important to distinguish between outcomes and benefits in the process of refining this charge. Brent Anderson believed this was a great topic and opportunity for EFAB.

Craig Holland discussed pre-disaster mitigation and resilience efforts among various other federal agencies (FEMA, HUD) and also noted that conversations around the infrastructure bill may be relevant. Craig Holland discussed quantifying the economic impacts of future climate risk and providing such information (e.g., to banks, companies) to improve understanding of risk exposure. Craig Holland also suggested considering outcomes that might be possible from performance-based contracting.

Jan Beecher added that she believed this topic was not disaster-oriented, but these were fundamental changes that were affecting infrastructure reliability instead of only resilience associated with disaster-related problems.

Craig Holland and Ted Chapman discussed inter-agency cooperation and the need to understand different agency authorities. Joanne Throwe emphasized that addressing overlap with other agencies could be an important part of this EFAB-generated charge.

Brent Anderson asked how this workgroup is defining the term “environmental risk.” Chris Meister agreed that was an important question and believed that EFAB had expertise. Chris Meister discussed that recently such risk has focused on climate. Chris Meister suggested that the anticipated discussions with EPA economists would be helpful to gain insights about EPA’s current efforts. Ted Chapman described previous EPA efforts to incorporate sustainability into water infrastructure.

Eric Letsinger and Joanne Throwe suggested engaging representatives from the insurance industry to gain insights. Jan Beecher agreed that the insurance industry and other parts of the private sector are relevant and explained that was already included in this EFAB-generated charge.

Cynthia Koehler expressed concerns that this topic was broad and asked about the direction that the workgroup expected to go with this topic. Ted Chapman mentioned different ways (e.g., charrette, expert panel) that this EFAB workgroup could develop recommendations for this EFAB-generated charge. Cynthia Koehler asked more specifically whether this topic could become more concrete and operational with respect to its relevance at the local level.

Joanne Throwe explained that initial ideas for an EFAB-generated charge are often broad and need refinement to narrow the charge. Ed Chu explained that this Administration is still within the first 100 days and pointed out there was a new climate-related Executive Order just issued and that a new climate-related office was just established in the White House. Ed Chu noted that EPA is still deciding on how to proceed under this Administration and understand its budget priorities.

Ed Chu recommended an iterative process in engaging EFAB with EPA to narrow down this EFAB-generated charge as EPA develops an understanding of how this Administration is evolving. Ed Chu suggested that the timing involved might take several additional EFAB meetings before it would be possible to complete refinement of this EFAB-generated charge. Ed Chu explained further about his reasons as DFO for connecting this EFAB workgroup with EPA economists, which would be both necessary and helpful throughout the process of refining this EFAB-generated charge.

Joanne Throwe agreed with Ed Chu that EFAB should continue this conversation as EPA develops an understanding of how EPA will implement climate-related Executive Orders under this Administration. Joanne Throwe suggested collecting relevant documents and resources that could be shared with EFAB members.

Public Comment

Ed Chu started the public comment period and explained each commenter will have three minutes.

Dr. Sacoby Wilson, Associate Professor with the Maryland Institute for Applied Environmental Health and Department of Epidemiology and Biostatistics in the University of Maryland, College Park School of Public Health, provided comments about environmental justice and equity with respect to environmental infrastructure. He is an environmental health scientist with expertise in environmental justice and environmental health disparities. He is also on EPA's National Environmental Justice Advisory Council (NEJAC), which is another federal advisory committee for EPA.

Sacoby Wilson explained that some communities of color and low-income communities have limited access to publicly regulated sewer and water infrastructure. As an example, Sacoby Wilson mentioned his work with [Uniontown, Alabama](#), where they rely on a lagoon (where solids settle out) and a spray field (where remaining liquid effluent is pumped) for their human waste because this community has had problems updating their wastewater treatment infrastructure. Sacoby Wilson requested that EFAB provide advice to EPA on how to integrate environmental justice and equity more effectively into financial investments as well as tax credits or incentives.

Jerry Lee Bogard discussed a groundwater system developed in Arkansas that was turned down for WIFIA three different times, basically because they do not have an AAA bond rating. Jerry Lee Bogard believed that a public-private partnership is required to provide more solutions for environmental finance.

David Zimmer noted that SRFs are allowed to guarantee loans and suggested that approach may be a solution.

Josif Brifman could not be heard on the Zoom meeting, and Ed Chu called for a 5-minute break to contact him.

Ed Chu explained that Josif Brifman was contacted and was asked to submit his comments in writing.

Ed Chu concluded the public comment period.

Joanne Throwe and Ed Chu discussed the agenda for Day-2 of this EFAB meeting.

Joanne Throwe thanked the EFAB members and asked Ed Chu to close out this EFAB meeting for Day-1.

Ed Chu expressed appreciation to the EFAB members for their service.

Recess

Ed Chu closed Day-1 of this EFAB meeting for recess.

DAY 2

Ed Chu opened Day-2 of this EFAB meeting. Joanne Throwe reviewed the agenda for Day-2 of this EFAB meeting.

EFAB CHAIR'S CORNER

Joanne Throwe stated that, as the current EFAB Chair, she would write a letter to welcome the new EPA Administrator. Joanne Throwe emphasized that this letter is not a public document, and should be first seen by the EPA Administrator. Joanne Throwe explained that she was interested in hearing thoughts of what should be included in the EFAB Chair's letter.

Joanne Throwe outlined what was covered in her draft letter and how her letter will introduce EFAB to the new EPA Administrator. Joanne Throwe discussed a range of topics related to EFAB expertise that could be included in that letter, such as green banks, climate resilience finance authorities, using rural and urban linkages/connections to expand the climate economy, investing in the co-benefits of climate change mitigation and resilience, agriculture and rural community issues, and financing for environmental justice initiatives.

Dennis Randolph discussed issues about how to evaluate return on investment with respect to environmental justice and equity. Dennis Randolph suggested getting away from the idea of a hard return, such as using benefit-cost analysis. Instead, Dennis Randolph encouraged broadening what was used to evaluate investments in projects, in both the private sector and public sector, to facilitate bringing environmental justice to those communities with unresolved environmental problems.

Carl Thompson agreed with Dennis Randolph. Carl Thompson acknowledged Dr. Sacoby Wilson's public comments at the end of Day-1 of this EFAB meeting and encouraged greater EFAB focus on environmental justice and equity.

Kerry O'Neill appreciated that green banks would be included in the letter and explained opportunities for EPA with respect to green banks. Kerry O'Neill noted that the local green bank movement is burgeoning across the country and mentioned this being spurred in part by the proposed legislation for a Clean Energy and Sustainability Accelerator, which is also in the American Jobs Plan and in President Biden's summary document of the proposed legislation. Kerry O'Neill pointed out that green banks can focus on environmental justice and equity issues.

Ashley Allen Jones suggested that the letter could end with a section on what EFAB thinks environmental finance will look like in 30 years. Ashley Allen Jones noted that the cost of capital could "price in" environmental risk and environmental impact, which would be a bold vision for the future. Ashley Allen Jones stated that some people are already working on pricing environmental risk into the cost of capital. Joanne Throwe liked the idea of including in her letter suggestions about how EFAB could help inform EPA's strategic foresight thinking process.

Margot Kane discussed environmental justice communities and believed that their community voices and community experience were not systematically "at the table" during decision-making for such communities. Margot Kane suggested more consideration about how to direct resources effectively to such communities and include their community voice and experience in making decisions about how to design solutions and invest resources in those communities. Margot Kane also encouraged not using a top-down decision-making or governance process (e.g., when setting up green banks) to ensure that solutions designed reflect those communities' immediate needs and priorities.

Craig Holland agreed with Margot Kane. Craig Holland explained that the foundation and philanthropic sector has spent much time in recent years thinking about how to re-orient their grant programs to include more voices in the process. Craig Holland also noted that the foundation and philanthropic sector has looked at their grant administration processes and how to work more effectively with small entities that have limited administrative capacity. Craig Holland noted his comment was not meant for the EFAB Chair's letter, but for EFAB to consider in the future.

George Kelly raised questions regarding the idea of what climate resilience finance authorities could be (e.g., pooling sources of capital) with respect to their applicability to inter-state efforts.

Jan Beecher believed the overarching theme might be that EFAB could challenge conventional thinking on diversity, equity, inclusion, and justice issues, but EFAB could also take it down to practical issues about how programs work and how programs are developed at the local level.

Chris Meister offered a suggestion to refer to green banks as climate banks instead, or perhaps say "climate bank and green bank." Chris Meister commented about durability of results and how the durability of financial relationships, such as loans, might be better than regulations that can be rolled back. Chris Meister discussed issues related to tax-exempt conduit issuers and how existing state-based conduit issuers for long-term bonds already exist and suggested building upon what already exists.

Joanne Throwe noted that she would welcome any additional feedback from EFAB members after this meeting.

Joanne Throwe explained that her term as EFAB Chair will be officially ending in June and thanked all EFAB members. Ed Chu discussed EPA's process for selecting a new EFAB Chair and mentioned some

ideas about how EPA would facilitate the transition to a new EFAB Chair. Ed Chu thanked Joanne Throwe for serving as EFAB Chair and for serving as a long-term EFAB member.

UPDATE FROM ENVIRONMENTAL FINANCE CENTER NETWORK (EFCN)

Joanne Throwe introduced Jennifer Cotting, Director of the EPA Region 3 Environmental Finance Center (EFC) at the University of Maryland, which is part of the Environmental Finance Center Network (EFCN). Joanne Throwe also noted that Jennifer Cotting (see Appendix for bio) is the current EFCN President.

Jennifer Cotting stated that she would discuss EFCN in her presentation: *Environmental Finance Center Network* (see Appendix). Jennifer Cotting began by pointing out several issues related to Opportunity Zones, which had been discussed during Day-1 of this EFAB meeting.

Jennifer Cotting described the organization of EFCN, what EFCN does, and the sectors that EFCN works in. Jennifer Cotting described the climate resilience work being conducted across the EFCN, provided examples of tools and resources as well as local support, and discussed EFC projects in water systems and food systems.

Khris Dodson (see Appendix for bio) from the Syracuse University EFC, and Martha Sheils (see Appendix for bio) from the New England EFC, discussed the Southeast New England Program (SNEP) Network. Martha Sheils described how the SNEP Network is a partnership of 16 environmental organizations, academic institutions, and consultants who work collaboratively to advance sustainable financing and long-term climate resilience within southeastern Massachusetts and Rhode Island. Martha Sheils reviewed SNEP Network accomplishments.

Khris Dodson, Syracuse University EFC, and Tonya Bronleewe (see Appendix for bio) from the Wichita State University EFC, discussed the Work in Water program. Tonya Bronleewe encouraged EFAB members to review information about the Work in Water Program using hyperlinks she had provided.

Joanne Throwe asked if EFAB members had any questions for EFCN. No response.

Joanne Throwe thanked EFCN for being a great resource for EFAB.

PRESENTATION OF NEW PROPOSED CHARGES

Ed Chu introduced Dr. David Widawsky, Director, Data Gathering and Analysis Division, Office of Pollution Prevention and Toxics, to discuss a proposed charge from EPA about Financing Small Manufacturer Pollution Prevention Projects. Ed Chu noted that EFAB members were already provided David Widawsky's bio (see Appendix).

Ed Chu explained that the EFAB SOPs in the EFAB Operating Manual outline that EFAB has the opportunity to discuss an EPA proposed charge and decide whether EFAB has relevant expertise and interest to take on that EPA charge or refine it prior to taking on that EPA charge.

David Widawsky introduced Alison Kinn Bennett who was joining him for his presentation: *Facilitating Access to Capital for Pollution Prevention in Small Manufacturing Facilities: Exploring a Role for EPA* (see Appendix). David Widawsky noted that Alison Kinn Bennett leads EPA's Pollution Prevention Finance

Workgroup. David Widawsky explained that EPA's Pollution Prevention Finance Workgroup includes EPA staff, representatives from some of EPA's pollution prevention grantees, and other stakeholders.

David Widawsky discussed EPA's Office of Pollution Prevention and Toxics and reviewed how pollution prevention (source reduction) is at the top of the waste management hierarchy.

David Widawsky described EPA's Pollution Prevention (P2) Program, which includes technical assistance to advance P2 in National Emphasis Areas: Food/Beverage, Auto, Aerospace, Fabricated Metals, and Chemicals. David Widawsky stated that EPA has devoted substantial effort to developing P2 case studies that highlight best practices in those areas. David Widawsky described two voluntary programs: Safer Choice and Environmentally Preferable Purchasing.

David Widawsky discussed how EPA was using the Toxics Release Inventory (TRI) for national P2 analysis (e.g., to identify candidate P2 facilities) and also noted the limitations of TRI data. David Widawsky reviewed examples of small business P2 interventions: good housekeeping, materials substitution, manufacturing modifications, and resource recovery. David Widawsky presented information about P2 results achieved from metal finishing technical assistance in EPA Region 9. David Widawsky also provided examples of potential financing opportunities from P2 in solvent distillation or plural component spray paint.

David Widawsky described challenges that EPA had identified for financing P2 for small manufacturers:

- P2 projects often require cash disbursements upfront, with potential savings (avoided costs) accruing over time;
- P2 projects must often overcome an "if it's not broken, don't fix it" mentality and must often compete for limited resources with other internal business priorities that are essential for revenue generation;
- Small businesses often have not quantified inefficiencies or loss of revenue from continuing with current approaches; and
- Small businesses may not be used to borrowing money from external sources or they may not think that they are able to do so at affordable terms.

David Widawsky described a range of current P2 financing tools (e.g., traditional lending from commercial banks, Community Development Finance Institutions or CDFIs, impact investing) and noted that EPA had not yet found ways to connect such tools to help fill gaps to reach solutions. David Widawsky reviewed potential techniques that EPA believed would help make small business loans more attractive to lenders: loan bundling, securitization, insurance, tax harvesting, and loan loss reserve. David Widawsky explained that the federal government currently does very little direct funding of small businesses for P2 projects.

David Widawsky presented the following questions with respect to evolving finance questions from EPA's P2 Program:

- How would a sector-based or intervention-based approach inform economies of scale in financing?
- How might an energy service company (ESCO) type model be used to bundle P2 projects for multiple small manufacturers within a sector?
- What could EPA's role be in facilitating such an approach?
- Are there other financing models/approaches that we should consider?

- Are there any calculators or tips to enhance or reinforce the small manufacturer’s financial strength to lenders?

David Widawsky explained that EPA has already conducted initial research related to these evolving finance questions and EPA could provide this research to EFAB.

Joanne Throwe thanked David Widawsky for his presentation. Joanne Throwe called for a short break prior to beginning EFAB discussion of this proposed EPA charge.

DISCUSSION OF PROPOSED CHARGES AND NEXT STEPS

Kerry O’Neill asked David Widawsky if EPA had determined the scale (deal size) of financing needs for P2 on a project-level basis for small businesses. Kerry O’Neill further clarified that she was interested in an average, minimum, or maximum, if any such data existed. David Widawsky replied that EPA had not yet done any type of distributional analysis and was still collecting that type of information. David Widawsky stated that he had noticed some illustrative examples, and described them as somewhere between around \$20,000 to \$100,000 for small P2 projects and maybe up to \$1 million or two for the “larger” P2 projects. David Widawsky reminded EFAB that a small business can range from one employee to up to 1,500 employees depending on the Small Business Administration’s definition.

Kerry O’Neill emphasized that this was a very challenging scale (deal size) for financing and suggested the CBFIs are an interesting partnership opportunity. Kerry O’Neill explained that CBFIs tend to be a very localized and it would probably require working with the [Opportunity Finance Network](#), which is the member network of CBFIs. Kerry O’Neill suggested working with their network on developing a structure that could replicated regionally across participating CBFIs, or finding a more small-business-oriented CBF to work with that would have the capacity to take on a pilot effort. Kerry O’Neill suggested that a loan loss reserve or loan loss guarantee would be required for this type of small business P2 lending, even with an aggregated approach. Kerry O’Neill provided examples from the “energy space” where aggregation occurs, but noted that often these involve various forms of credit enhancement.

Ashley Allen Jones suggested “CARPA” was needed now, and described her idea as Conservation Advanced Research Project Agency. Ashley Allen Jones noted that tools are available (e.g., from CBFIs) but that the private sector would need to be involved in bringing together funds from different programs and different partners and tools. Ashley Allen Jones stated that small business financing is done mostly at the deal level, and suggested that financial engineering is needed so that small businesses can develop a fund pool as an “aggregate construct” that can deal with the inherent risks.

David Widawsky stated that EPA agreed that deal size was an issue along with how to blend together available tools for small businesses. David Widawsky suggested that working with industry associations whose members might benefit could be a mechanism.

Chris Meister referred to IMEC ([Illinois Manufacturing Excellence Center](#)), which Chris Meister and David Widawsky clarified was a manufacturing extension partnership entity.¹ Chris Meister stated that IMEC was a great delivery mechanism for the types of financing products that Kerry O’Neill and Ashley Allen Jones had suggested. Chris Meister agreed with all of Kerry O’Neill’s and Ashley Allen Jones’ suggestions.

¹ U.S. Department of Commerce’s National Institute of Standards and Technology, Manufacturing Extension Partnership (NIST MEP).

David Widawsky explained that EPA has several manufacturing extension partnership entities (which are similar to IMEC) as P2 grantees. David Widawsky noted that formerly the manufacturing extension partnership entities at the state level were a resource for P2 tools and that EPA has some previous case studies about those former P2 efforts. David Widawsky explained that EPA still has a website for [E3: Economy - Energy – Environment](#), but noted that the E3 federal technical assistance framework is not as strong today as it formerly was. David Widawsky liked the idea of regenerating E3 as part of the “solution set” for P2 projects for small businesses.

George Kelly noted that the challenges presented by David Widawsky were not on the finance side, but instead were on the uptake. George Kelly pointed out several specific uptake challenges, such as small businesses are not used to paying upfront, competition for limited company resources, and no quantification of the inefficiencies and the benefits. George Kelly suggested that analytical tools to demonstrate the payback from P2 projects would unleash the demand flow, or deal flow, for such projects that would facilitate an easier flow of financing. George Kelly asked David Widawsky if EPA has done any work on quantifying the inefficiencies and the benefits.

David Widawsky mentioned again that EPA was currently developing P2 case studies to profile selected P2 technologies, approaches, and typical returns and benefits, to develop a business case for them. Referring back to the deal size issue addressed earlier by Kerry O’Neill and also noting the lack of bundling, David Widawsky stated that EPA did not see an “exact analogue” for servicing the debt for P2 projects for small businesses. David Widawsky believed that creativity was still needed to match up financing tools for bundling once EPA had developed a business case.

Joanne Throwe proposed that if enough interest existed among EFAB members that an “exploratory group” could be organized to refine this charge and work with David Widawsky. Joanne Throwe stated that there was sufficient interest, based on “hands up” in the Zoom meeting, and noted that she would work with Tara Johnson (EPA) to form this group.

David Widawsky thanked EFAB and mentioned that Allison Kinn Bennett, who leads EPA’s Pollution Prevention Finance Workgroup, will work with EFAB on this charge.

EPA POLICY PRIORITIES

Ed Chu introduced Philip Fine, Principal Deputy Associate Administrator for Policy, and Al McGartland, Director, National Center for Environmental Economics, within EPA’s Office of Policy. Ed Chu stated that Philip Fine was new to EPA as President Biden’s appointee and was previously with California’s South Coast Air Quality Management District in southern California. Ed Chu noted that EFAB members were already provided Philip Fine’s bio (see Appendix).

Philip Fine stated that the EPA policy priorities under this Administration are focused on the intersection of the climate crisis (both working to mitigate greenhouse gas emissions, but also adaptation and resilience) with equity and environmental justice, but also looking at that intersection within an economic development and “just transition” framework. Philip Fine mentioned two EPA programs that are relevant to EFAB, the National Center for Environmental Economics and the Smart Sectors Program. Philip Fine noted with respect to the Smart Sectors Program that EPA is also looking to leverage the private sector, both for leadership and capital.

Philip Fine provided a detailed description of his previous work at the South Coast Air Quality Management District to illustrate why he is excited about working with EFAB.

Al McGartland (see Appendix for bio) noted that EPA's work on lead service line replacement was continuing, that EPA had begun work on meta-analyses on its large database about what water companies are doing, and mentioned the University of Chicago was interested in becoming involved as a partner in EPA's Office of Water efforts to study behavior regarding participation in lead service line replacement programs. Al McGartland noted that previous discussions with EFAB had increased EPA's confidence that relevant data was available and that New Jersey had stepped up to provide EPA most of its data.

Al McGartland stated that climate change and environmental justice were EPA priorities under the new Administration. Al McGartland noted that a carbon tax would require legislation in the U.S. Congress.

Al McGartland discussed the "whole of government approach" to climate change adaptation and mitigation, and greenhouse gas emissions reductions. Al McGartland described the contributions of different economic sectors to greenhouse gases. Al McGartland suggested that a "whole economy approach" was also needed to address sectors other than electricity and transportation, such as industrial, commercial and residential, and agriculture.

Al McGartland discussed previous EPA work on the social cost of greenhouse gases (or social cost of carbon) and the Biden Administration's Executive Order directing EPA to develop an interim value and later to finalize that work. Al McGartland mentioned that EPA's draft interim product about the social cost of greenhouse gases would be released for public comment shortly.

Al McGartland discussed how the social cost of carbon could be used in regulatory decisions and to change behavior. Al McGartland reviewed a range of issues (e.g., energy efficiency) that would not be amenable to regulatory strategies typically associated with EPA, and noted that other issues that might not get solved through regulation. Al McGartland discussed how some of those issues are associated with consumer incentives and behavioral responses.

Al McGartland discussed the work that EPA is currently doing with the Securities and Exchange Commission (SEC) about requiring disclosure of climate risk. With respect to moving toward mandatory disclosure of climate risk, Al McGartland stated that one related risk is the "transition risk" for businesses and consumers as the country transitions to a low-carbon economy and that another type of related risk is the climate impacts (e.g., more intense storm events) themselves. Al McGartland provided examples of recent private sector efforts to work toward disclosing climate risk.

Al McGartland discussed EPA's existing greenhouse gas reporting rule, and noted that EPA makes most of those reported greenhouse gas emissions estimates publicly available. Al McGartland described EPA's three categories for greenhouse emissions: Scope 1: what comes out of tailpipe, Scope 2: other emissions that occur in the process of doing business, and Scope 3: emissions within the value chain (e.g., from suppliers). Al McGartland stated that EPA will be working with SEC to understand what is important to investors and how to get investors to reflect on climate risk associated with companies.

Al McGartland discussed that EPA is working on insurance markets and how they incorporate risks related to climate change, and noted their potential to strengthen incentives for climate adaptation and resilience. Al McGartland discussed research documenting the benefits of climate change adaptation.

Al McGartland noted that EPA was involved in several international efforts with respect to climate change. Al McGartland explained that EPA is interested in how trade agreements might create carbon subsidies.

Joanne Throwe opened up to questions.

Jeff Diehl mentioned that the big challenge for financing programs is often uptake and believed that uptake for small businesses and residential customers is often impeded by many of the federal cross-cutters. Jeff Diehl explained that CBFIs that were well positioned to help facilitate rural energy efficiency programs later declined to participate because as small entities they could not handle the federal cross-cutters and expected their customers could not either. Jeff Diehl suggested that EPA could work to make such programs easier to administer for small businesses and residences and make it easier for entities to proceed with uptake of funds.

David Zimmer discussed how the SRF in New Jersey brings value added because the SRF can “take the lift” on many of the federal cross-cutters. David Zimmer stated that the smaller the entity, the bigger problems that arose from federal cross-cutters because they have less staff and resources. David Zimmer suggested that EPA could explore what kind of assistance or “what kind of lift” that EPA could take on to make financing initiatives more successful for smaller entities. David Zimmer noted that the state can act as an intermediary, but if EPA is dealing directly with smaller entities or participants then he suggested EPA should take on some responsibility for federal cross-cutters.

Philip Fine noted that EPA has some statutory authority and appropriations for providing training and technical assistance for participants regarding how to access funding programs, and noted the Brownfields program as an example.

MaryAnna Peavey stated that small systems under the SRF programs in Idaho receive “hand holding” to facilitate their access to funds, when the Idaho SRF staff have the capacity to do so. MaryAnna Peavey suggested that reducing silos within EPA and state agencies, and creating more similar structures among federal and state programs to make them easier to manage, would create more time for such “hand holding” to provide more assistance to small systems in accessing funds. MaryAnna Peavey explained that she manages both the drinking water SRF and clean water SRF in Idaho and tries to manage them similarly to increase results for small systems using her available manpower.

MaryAnna Peavey suggested that providing more flexibility in regulations for government agencies on the procurement side would also help small systems to obtain equipment that is not necessarily the cheapest, but definitely the right long-term investment for their small system. MaryAnna Peavey had described, as an example, flexibility to procure a water pump that may be more costly but would create a much bigger payback for the small system by recouping costs on the back end.

Cynthia Koehler described her work at the WaterNow Alliance, and suggested that NGO partners are an enormously beneficial way to leverage additional resources to connect with small, under-resourced communities.

Philip Fine explained that EPA is now looking at grant programs across EPA to ensure that all grant-funded projects are community driven, community led, and done with community partners.

Joanne Throwe asked Al McGartland if EPA would like to continue working with EFAB, and Al McGartland noted that EPA's upcoming work with SEC was a potential opportunity for EFAB to review various aspects of EPA's work with SEC. Al McGartland also mentioned the concept of climate risk.

Joanne Throwe asked Chris Meister to include Al McGartland in the next meeting of the Environmental Risk and Cost of Capital Workgroup, through coordinating with EPA. Joanne Throwe encouraged any EFAB members that are not on that workgroup to participate in that EFAB workgroup meeting if they are interested in her proposed meeting with Al McGartland.

Joanne Throwe and Ed Chu thanked Al McGartland and Philip Fine.

Ed Chu stated that EPA would follow up with EFAB about how to proceed in further engaging with Al McGartland. Ed Chu emphasized that starting with an early, informal engagement was more consistent with the EFAB SOPs in the EFAB Operating Manual.

UPDATE FROM THE CHIEF FINANCIAL OFFICER

Ed Chu welcomed David Bloom, EPA's Acting Chief Financial Officer. Ed Chu noted that EFAB members were already provided David Bloom's bio (see Appendix). Ed Chu acknowledged David Bloom's tenure at EPA in this role as evidence of his abilities serving as a senior executive managing EPA's resources.

David Bloom discussed the steps in developing the EPA budget for the fiscal year. David Bloom discussed this Administration's American Jobs Plan and noted that it included investments in drinking water and wastewater infrastructure, and funds for:

- Replacement of lead service lines through the Drinking Water SRF;
- Addressing [PFAS \(per- and polyfluoroalkyl substances\)](#);
- Investments in rural water systems and household well and wastewater systems;
- Investments in remediation and redevelopment of Brownfields and Superfund sites, along with related economic and workforce programs; and
- Electrification of school buses.

David Bloom discussed how this Administration's discretionary budget request for EPA was historically large and outlined a few items: building back staff expertise and capacity for climate change programs, reducing greenhouse gas emissions and addressing environmental justice while creating good-paying jobs, creating a new environmental justice and economic initiative for low income and marginalized communities that have been left behind, funding for critical water infrastructure projects (e.g., lead service line replacement), cleaning up Superfund sites and responding to environmental emergencies, and addressing PFAS pollution.

Joanne Throwe asked if EFAB could become part of EPA's strategic foresight process. Joanne Throwe believed that EFAB had provided many relevant comments and feedback during the discussion with Lek Kadeli during Day-1 of this EFAB meeting. David Bloom suggested a letter from EFAB and mentioned he would work with Ed Chu on how to proceed. Ed Chu suggested instead that selected EFAB members should first have an informal engagement with Lek Kadeli regarding EFAB's expertise and interest. Ed

Chu emphasized again that starting with an early, informal engagement was more consistent with the EFAB SOPs in the EFAB Operating Manual.

Ted Chapman asked about the periodic needs surveys that were previously conducted by EPA for [clean watersheds](#) (wastewater) and [drinking water](#). David Bloom noted that the last wastewater needs survey was around 10 years ago and stated he would get back to Ed Chu about where EPA's Office of Water was on those needs surveys, so that EPA could get back to EFAB.

Brent Anderson asked for clarification about the time horizon. David Bloom explained the goals and timeframes of the budget process and strategic planning process.

Cynthia Koehler discussed funding for water infrastructure at the local level and asked how increases in funding at the federal level would be converted into grants versus loans. David Bloom discussed the types of issues that would need to be addressed to determine how to distribute funding within the relevant statutes, especially regarding disadvantaged communities.

Joanne Throwe and Ed Chu thanked David Bloom.

EPA RESPONSE TO RECENT EFAB ADVICE

Ed Chu referred to *EFAB Recommendations and EPA Responses* (see Appendix), a table prepared by Tara Johnson (EPA) that compiled recent EFAB advice and updates about what has happened, based on that recent EFAB advice, among relevant EPA programs. Ed Chu specifically referred to five EFAB efforts:

- Consultation on financing and governance options for the Backhaul Alaska Program,
- "Evaluating Stormwater Infrastructure Funding and Financing" Report (March 2020),
- Revenue options for a waste backhaul service program in rural Alaska,
- Alternative service delivery options for public utility projects, and
- Financing strategies for promoting small rural drinking water system regionalization.

Joanne Throwe thanked EPA for developing this table, which is the first time that EFAB has received such information on how EPA has considered EFAB's recommendations. Joanne Throwe provided some background on the EFAB process for those five EFAB efforts.

Ed Chu noted that EPA's Report to Congress on stormwater financing is still under development.

Ed Chu recommended that particularly the new EFAB members should go back to these EFAB reports to become familiar with the many different approaches used in EFAB's previous work.

Joanne Throwe thanked Tara Johnson (EPA) again for all her efforts in supporting EFAB effectively for this EFAB meeting.

David Zimmer thanked Ed Chu for overseeing the effort to develop this table to allow EFAB members to see how EFAB recommendations are being considered at EPA.

Eric Rothstein agreed that this table was very helpful to allow EFAB members to see how EPA is using EFAB's recommendations.

Jan Beecher also agreed that this table was helpful, and suggested that next steps or follow-on projects to fill some gaps could also be included in the table.

Craig Holland discussed how the CARES Act included a program similar to an EFAB recommendation from the EFAB Stormwater Workgroup.

Joanne Throwe and Ed Chu thanked the EFAB members for their previous efforts and hard work.

Ed Chu emphasized that prioritizing EFAB's work and narrowing the scope of EFAB's future work would be increasingly important under this Administration. Ed Chu mentioned that future EFAB work should align with EFAB expertise and interests. Ed Chu also mentioned that the EPA sponsor offices will provide expertise and support.

Ed Chu recommended that EFAB members should look at the past EFAB projects in this table and should consider how EPA responded to each project in determining how to move forward with future EFAB projects.

Ted Henifin and Chris Meister suggested sharing this table with the expert consultants for the EFAB Stormwater Workgroup and also former EFAB members.

Public Comment

Ed Chu started the public comment period and stated that each commenter would have three minutes.

Sylvia Orduño, Michigan Welfare Rights Organization, stated that she was proud to be serving as the current Chair of EPA's National Environmental Justice Advisory Council (NEJAC). Sylvia Orduño discussed how it was necessary to look at long-standing environmental justice issues and how to achieve outcomes. Sylvia Orduño described how she had listened to both days of this EFAB meeting and had observed much overlap between EFAB's discussions during this meeting and NEJAC's work over many years. Sylvia Orduño suggested that EFAB work collaboratively with NEJAC. Sylvia Orduño noted that the new EPA Administrator had already met and consulted with NEJAC in March 2021. Sylvia Orduño stated that her written comments would outline relevant issues and overlaps with NEJAC's work that she had observed regarding EFAB's discussions at this EFAB meeting.

Joanne Throwe and Ed Chu discussed how to start thinking about EFAB collaborating with NEJAC. Ed Chu explained that NEJAC is in Philip Fine's office at EPA's Office of Policy.

Josif Brifman explained that his company was a registered federal contractor and described how his company was bringing a new water system based on a "gigantic new discovery" in physics to the United States next month.

Ed Chu suggested taking a short break until 2:50pm to allow additional registered public commenters to access the phone line for this public comment session.

After a short break, Ed Chu asked if any other public commenters were on the line. No response.

Adjourn

Joanne Throwe thanked Ed Chu and the EFAB members.

Ed Chu thanked Joanne Throwe and thanked the EFAB members for their great participation in this EFAB meeting.

Ed Chu noted that EPA will be publishing a meeting summary for the April 2021 EFAB meeting.

Ed Chu thanked Tara Johnson (EPA) for her excellent EFAB support and EFAB members joined in thanking Tara Johnson.

Ed Chu closed this EFAB meeting.