U.S. Environmental Protection Agency

Farm, Ranch, and Rural Communities Federal Advisory Committee

Public Meeting Notes

August 5–6, 2024

Location: Lancaster, PA, and Virtual

Respectfully submitted by Venus Welch-White, EPA Designated Federal Officer

Certified as accurate by Beth C. Sauerhaft, Chair, Farm, Ranch, and Rural Communities Federal Advisory Committee

NOTE AND DISCLAIMER: The following is a summary of remarks and conversation during the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect consensus advice from the Committee. 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 Committee advises that additional information sources be consulted in cases where any concern may exist about statistics or any other information contained within the meeting summary.

Contents

Mission

The FRRCC is a policy-oriented committee that provides policy advice, information, and recommendations to the Administrator on a range of environmental issues and policies that are of importance to agriculture and rural communities. The FRRCC addresses specific topics of relevance to agriculture as identified by the Agriculture Advisor to the Administrator and reports its policy advice and recommendations to the EPA Administrator through the Agriculture Advisor.

The meeting was announced in the Federal Register (see https://www.federalregister.gov/documents/2024/07/19/2024-15740/farm-ranch-and-rural-communities-advisory-committee-frrcc-and-animal-agriculture-and-water-quality).

The agenda is available at https://www.epa.gov/system/files/documents/2024-08/frrcc-agenda_august-5-6-2024_080224.pdf .

For current FRRCC members and affiliations, please see https://www.epa.gov/faca/farm-ranch-and-rural-communities-federal-advisory-committee-frrcc-membership.

Day 1

Opening and Welcome

Beth Sauerhaft | Chair, FRRCC
Michael Crowder | Vice Chair, FRRCC
Rod Snyder | Agriculture Advisor to the EPA Administrator
Venus Welch-White | FRRCC DFO, EPA

Venus Welch-White, EPA Designated Federal Officer (DFO), called the meeting to order. She announced that Dr. Raymon Shange has stepped down and Michael Crowder has been appointed the new Vice Chair. She turned the floor to the Chair, Dr. Beth Sauerhaft.

Beth Sauerhaft thanked members for attending in person and online. She said she is proud of the Committee and for each of the three workgroups for their work since the last meeting.

Michael Crowder thanked the Committee for the opportunity to serve.

Rod Snyder thanked the Committee for their work and said that EPA is continuing to work through the Committee's most recent recommendations. He said that since the Committee last met, EPA created the first Office of Agriculture and Rural Affairs, and they are currently building up the staff.

Venus Welch-White welcomed attendees and thanked those who helped make the meeting possible. She said the two-day meeting is open to the public and said that deliberations are reserved for Committee members, except during the public comment period. However, as no member of the public had registered to share comments, they will skip that part of the agenda. She said public comment can be submitted by an email to FRRCC@epa.gov until August 21, 2024. She shared the URL for EPA's FRRCC website (https://www.epa.gov/faca/frrcc)

Roll Call

Beth Sauerhaft conducted the roll call.

Barry Berg, present
Brad Bray, not present
Emily M. Broad Leib, present
Don Brown, present
Phillip H. Chavez, present
William (Bill) Couser, not present
Eddie Crandell, Sr., not present
Michael Crowder, (Vice Chair), present
Matthew Freund, present
Sharon Furches, not present
Jeffrey Gore, present
David Graybill, present
Jennifer James, present
Sarah Lucas, present
Nicholas McCarthy, not present
William Thomas (Tom) McDonald, present
Christopher L. Pettit, present
Clay Pope, not present
William R. Pracht, present
James Pritchett, present
Nithya Rajan, present
Graciela I. Ramírez-Toro, present
Lindsay Reames, not present
Charles R. Santerre, present
Raymon Shange, not present
Jennifer Simmelink, not present
Chantel Simpson, present
Ryan Smith, present
Stacy Wayne Smith, not present
Jeff M. Witte, present

Venus Welch-White confirmed a quorum.

Ad Hoc Workgroup Status Report

Water, Energy, and Climate Workgroup Updates

Note: see appendix A for slide presentations.

Michael Crowder, workgroup chair, introduced vice chair Matt Freund and members Bill Pracht, **Graciela Ramirez-Toro,** Jennifer Simmelink, Nithya Rajan, Jennifer James, and Chris Pettit.

Michael Crowder said the workgroup's focus shifted to developing recommendations on how EPA can scale up public–private partnerships, market-based approaches, and innovative financing to accelerate the adoption of agricultural conservation practices that deliver climate and water quality benefits.

Michael Crowder said they held four sessions in which they heard from expert speakers, and they brought some speakers back once draft recommendations had been developed. Key questions to the speakers included:

- What barriers did you overcome?
- What opportunities did you seize?
- What are the key ingredients of success?
- What did you need to scale up or expand?
- How can we sustain revenue streams?
- What can EPA do to help scale up?

Rod Snyder added that the workgroup did a great job of defining what some of the vague language from the charge meant and identifying examples from across the United States.

Climate Mitigation, Resilience, and Adaptation Workgroup Updates

Jeff Witte, chair, acknowledged the hard work and leadership of workgroup member James Pritchett, and he thanked workgroup members Chantel Simpson, Stacy Smith, Charles Santerre, Latosha Thomas, Clay Pope, Nicholas McCarthy, Dave Graybill, Jeff Gore, Don Brown, Raymon Shange, Brad Bray, and Barry Berg.

Jeff Witte said the workgroup was charged with developing recommendations that advanced climate mitigation and adaption strategies for U.S. agriculture, and the workgroup focused on biotechnology and surrounding issues, such as development costs, approval processes, and market access. He said they also considered emerging issues in biotechnology, including agriculture as a solution in the climate space. He said the workgroup concentrated on how to encourage the adoption of new technologies. He said that experts spoke to their workgroup, as well.

Climate Finance, Social Inclusion, and Technical Assistance Workgroup Updates

Workgroup chair Chantel Simpson thanked co-chair Philip Chavez and members Emily Broad Leib, Tom McDonald, Ryan Smith, Sarah Lucas, Graciela Ramirez-Toro, Eddie Crandell, and Chris Pettit.

Chantel Simpson said her workgroup has been working on building capacity by streamlining issues, particularly related to developing grant applications and administrative guidelines to increase access to funding in rural and underserved communities. The workgroup also discussed mitigating the impacts of drought and flood resulting from climate change.

Chantel Simpson said that future issues for discussion include the adoption of standard operating procedures across resource support programming. She said that EPA's Esther Sosa explained how TCTACs work and noted that they do not all function in the same way, yet there cannot be a one-size-fits-all approach.

Sustainable Dairy Pennsylvania: Public–Private Partnerships

Jenna Mitchell Beckett | PA Director and Agriculture Program Director at the Alliance for the Chesapeake Bay

Note: see appendix A for slide presentations.

Jenna Mitchell Beckett said the Alliance's partnership with Maryland and Virginia Milk Producers Cooperative Association (MDVA) rose out of a shared value to help farmers do the work in a way that makes sense to them. She said that MDVA comprises more than 900 farmers in 11 states and many MDVA farms are plain sect. The average farm size is 125 cows but can be as small as 50 and as large as 2,000. They have 900 employees and six milk processing plants in three states.

Jenna Mitchell Beckett said the mission of the Alliance is to bring together communities, companies, and conservationists to improve the lands and waters of the Chesapeake Bay. She said the Alliance estimates that it has brought $45 million for MDVA farmers, largely through grants and state cost-shares. She said the Turkey Hill Clean Water Partnership (between Turkey Hill Dairy and the Alliance) has been awarded about $9 million and has leveraged an additional $15 million. In 2020, it won an Outstanding Supply Chain Collaboration Award from the Innovation Center for U.S. Dairy. She said that in 2019 the Alliance received a $500,000 grant from the Natural Resources Conservation Service (NRCS) to test the theory that if calls for sustainability come from the private sector rather than from the government or nonprofit sector, the response from farmers will be greater.

She said MDVA has been critical to establishing relationships and building trust with farmers, and they try to keep the process simple and straightforward for farmers. Working with a co-op means the Alliance can reach hundreds of farmers at a time, not just one-by-one. Jenna Mitchell Beckett said that the research on whether the private sector was a more positive influence on farmers showed that it was. MDVA has recently partnered with Starbucks.

Jenna Mitchell Beckett shared some examples of dairy farm initiatives that improve water quality as well as animal welfare and farmer livelihoods, such as building infrastructure to improve manure management and installing a 35-foot riparian forest buffer on streams that run through dairy farms.

Jenna Mitchell Beckett said the Alliance is also partnering with Land O'Lakes and Hershey. She said it takes a lot of work to make sure partnerships are strategic and mutually beneficial, especially given how complicated the issues are. The majority of farmers supplying Hershey through Land O'Lakes are plain sect farmers, who don't use anaerobic digestors or much of the other available technology, so the Alliance puts a lot of time into figuring out what practices would allow support to Amish farmers.

Jenna Mitchell Beckett said that EPA can scale up the work by ensuring the Agency has staff in place to build relationships with stakeholders to understand ground-level needs, challenges, and opportunities, and by shifting toward service. She noted that EPA is not currently a service agency, so it needs local partners to deliver dollars. She added that EPA funding could have more impact if there were larger amounts available for matching funds, if EPA were more flexible regarding how some of the funding is

used, and were creative about finding priority matches and developing solutions. She said that they aim for a 10 percent farmer buy-in, with 90 percent of any solution funded with other sources.

Charles Santerre asked about the technology used on plain sect dairy farms, such as whether they pasteurize and chill their milk. Jenna Mitchell Beckett said yes; MDVA has a quality control team that inspects farms, and they're all held to the same food safety regulations.

Matthew Freund asked whether the flexibility the Alliance is seeking refers to design standards. Jenna Mitchell Beckett said that they have to follow NRCS guidelines for design, engineering, and installation no matter what project they're doing. She said she was referring to flexibility in what funds can be used for.

James Pritchett asked about the processes that support the collective action; for example, whether there is a co-op meeting or anything else that catalyzes participation, and what EPA's role was in that. Jenna Mitchell Beckett said that they have a collective impact group (Lancaster Clean Water Partners), that was founded by the former CEO of Turkey Hill to grow corporate engagement, and that group has a lot of meetings and community events. She said the MDVA co-op has its own processes. Dave Graybill, who is a member of the co-op, said that every member is an owner of the coop and there is a lot of trust.

Sarah Lucas asked about the considerable time it took to developing agreements with EPA and asked about opportunities to streamline it. Jenna Mitchell Beckett said the issue was that they did not have clear solutions regarding how companies are investing in reducing their greenhouse gas emissions, so the Alliance, Land O'Lakes, and Hershey needed to decide what they were going to do together.

Financing Point-to-Nonpoint Source Water Quality Projects: Pennsylvania Agriculture-Municipal Stormwater Program (MS4)

Evan Branosky | Managing Director, Conservation Innovation Fund

Note: see appendix A for slide presentations.

Evan Branosky said the Conservation Innovation Fund raises and revolves funding for conservation practices on agricultural lands through a market-based system. He said their goal is to invest in projects that can generate environmental commodities and to sell those commodities to other users of the reductions to recapitalize the fund. His organization is currently working on climate, biodiversity, and water quality projects. Regarding alternative compliance, he said the issue is whether there is a cost savings from negotiating a transaction through projects that result in tangible land conservation benefits.

Evan Branosky said four main sectors affect water quality: wastewater treatment plants, municipal separate storm sewer systems (MS4), development parcels, and non-point agriculture. He said he did not include CAFOs because it lacks a market-based opportunity for water quality management, but he shared some examples of water quality trading in these sectors.

Evan Branosky described projects the Innovation Fund is doing in Pennsylvania's Kennett Township and East Lampeter Township, which are phase 2 municipalities. He said their organization enrolled one large producer in Kennet Township and financed high residue no till and cover crops, as the pollutant identified was sediment. He said the permit for this project is imminent. They enrolled 12 producers In East Lapeter Township and again will finance high-residue no-till, cover crops, and riparian grass buffers.

He said that in Kennet Township, their project was 4 times lower in cost per pound of sediment reduction than any alternative storm water project that the township could have installed, so paying for these agricultural practices to meet storm water requirements saves the township four times what they would have paid to do traditional storm water best management practices. Such savings could allow the municipality to incentivize farmers to use these practices and provide more support than even a cost share could offer, even after the Fund's fees are accounted for. He said there are about 70 phase 2 MS4 jurisdictions in Pennsylvania, and they are looking in Delaware, as well.

Tom McDonald asked whether the commitment farmers are making is for the term of the permit or longer. Evan Branosky said that his organization has a 20-year contractual commitment with the Board of Supervisors for each of the townships, and a 5-year contract with individual farmers, which is the length of the permit term. He said it's expected that they will re-enroll the farmers, but it's important to keep them enrolled because every permit term will have a reduced baselines from which that municipality is starting. He said timing is very important.

Ryan Smith asked if they were doing any edge-of-field or edge of pipe testing or adding sensors to the field. Evan Branosky said no, because the models they are using have a long, well-tested history.

EPA Technical Assistance

Olivia Smith | Environmental Protection Network (TCTAC Partner)

Note: see appendix B for slide presentations.

Olivia Smith said the Environmental Protection Network was founded by former EPA alumni and now provides pro-bono technical assistance to communities. TA consists of connecting former engineers, scientists, attorneys, and permit writers (among others) with communities NGOs and CBOs. The Network helps communities understand Agency rulings, environmental data, and funding opportunities. The Network in national in scope and has a formal relationship with many TCTACs. A small staff is supported by many volunteers across the country. They provide support for grant applications , local initiatives, and forming partnerships. She said they provide support at several levels, from emails, funding, guides and updates, to online convenings and office hours, to one-on-one support.

To access one-on-one TA, an organization completes an initial intake form and then meets with their regional outreach associate to discuss their TA needs. Then EPN matches them with resources and alumni volunteers, if appropriate. EPN stays in touch with the organization as long as needed.

She said that EPN is focusing on Community Change Grants this summer, supporting communities with the registration process, one-on-one support for project planning, application assistance, reviewing proposal drafts, and providing updates on federal funding.

Beth Sauerhaft asked if TCTACs provide support for only EPA grants, or whether they provide support for other federal or state funding opportunities. Olivia Smith replied that they support communities with non-EPA funding opportunities relating to community-based environmental justice initiatives.

Olivia Smith said she had reviewed the FRRCC's previous recommendations and added that the EPA is preparing to support the Thriving Communities Grantmakers program, including offering support for early-phase planning, which is one of the things the FRRCC has called attention to. The EPN is developing

resources, including pre-award toolkits and quality assurance resources. She said EPN can also support communities with wrap-around support such as project scoping and timeline planning.

Tom McDonald said that many communities are run by small staffs or even by volunteers, and he asked EPN how they get information and resources go those communities. Olivia Smith replied that EPN is grappling with that challenge. As the Network has grown, EPN has been able to visit communities in person and hear about their gaps and TA needs. She said that processes that begin with checks to see if a community may be a good fit for a program may mitigate some of the risk that low-capacity communities feel. Timely feedback on a community's application also helps build trust.

Sarah Lucas asked about the most common types of TA requests and whether they point to consistent barriers. Olivia Smith said communities want support around funding opportunities. One challenge is that EPN can't write grants for communities; another is supporting partnerships at the community level. Partnerships are required in the Community Change grant, for example, but EPN can't broker those agreements. In addition, Olivia Smith said a lot of communities are looking to shut down polluters in their communities. While EPN can't advocate on behalf of communities, it can point communities to local or federal agencies that they can work with.

A FRRCC member asked how EPN is partnering with TCTACs, such as through shared webinars or doing other events together. Olivia Smith said that TCTAC partners work closely together, such as by participating in one another's outreach events or public presentations. She said the systems are integrated and partners share the same task manager, for example.

Biotechnology Registration and Review Process for Startups

Dan Jenkins | VP Regulatory and Government Affairs at Pairwise

Note: see appendix C for slide presentations.

Dan Jenkins said Pairwise is a health-focused food and agriculture startup that uses gene-editing technologies to solve problems in the food system. For instance, the company is working on producing nutrient-dense, quality food that uses fewer resources while lowering emissions. He said the need for genome editing and precision breeding is increasingly acknowledged in the policies of many nations.

Dan Jenkins said that his company uses CRISPR (clustered regularly interspaced short palindromic repeats), which is a DNA-editing tool that supports very precise changes. He explained that no foreign DNA is used in gene editing; CRISPR can be thought of as a breeding tool.

Dan Jenkins gave a brief description of gene editing, which can make a change in one generation that would take multiple generations using traditional breeding methods. He said the company is working on a trait that allows soybeans to tolerate Asian soy rust, which is a multi-billion-dollar disease. A gene-editing solution would dramatically reduce pesticide use while increasing yield and value. He shared another example of their experiments with corn, making several edits to increase yield by about 10 percent. He said they created these mutations in 24 months, whereas it would have taken 40–50 years through conventional breeding methods.

Dan Jenkins said Pairwise launched the first gene-edited produce in the United States about a year ago, which is a better tasting mustard green. He said they are also working to make fruits and vegetables

more desirable, such as by making them seedless, thornless, or even more compact, which can save water. He said there are other benefits, as well, such as making plant-based eating more attractive, which reduces greenhouse gas emissions.

Dan Jenkins shared a chart on U.S. venture capital by sector depicting gross underinvestment in the agriculture sector, despite the fact that it is the only sector that touches all 17 of the UN sustainable development goals. He said that to make sure the investment is present and sustained, they need predictable, science-based, risk-proportional systems. He said issues include GMO-like requirements, determination process timing and requirements, post-market requirements, trade challenges, and unnecessary (repeated) submissions. He said that all these transactional costs inhibit investment. In addition, he said, the historical lack of investment means that a lot of groundwork has not yet been done. For example, he said, there are about 700 species of berries that had never been characterized, so they had to sequence them all in partnership with AgCanada, USDA, Cornell, and other universities. Beyond genome mapping, Dan Jenkins said, there is editing and growing the plants and evaluating them in the greenhouse. He said the consultation process must be completed early to enable R&D, and there is field testing and consumer testing to be done, as well.

Dan Jenkins said the reality of permits and specialty crops make it difficult for small companies to find cooperators, and unlike with row crops (for which there is already infrastructure), cost is greatly increased. For example, he said the cost to produce an acre of corn is about $800, and the cost to produce an acre of berries in California is about $800,000. Whereas a large company may be able to bear the cost, small companies that need to attract investment face a significant challenge.

Regarding the need for a predictable system, Dan Jenkins shared a chart showing review times in various countries, with the United States greatly exceeding other countries—for example, 10 hours to 2 weeks in Canada in 2024 vs. 120 to 540 days in the United States. He said they do field trials in other countries. He spoke of proportionality and a “paradox of precision” in biotech in which the ability to be precise causes greater worry about differences, whereas in other fields, variations may be shrugged off. Also, he noted that resistance management is not required for some chemical pesticides, but it is for biotechnologies, and it is an extra burden for startup companies, which may not have the expertise and funding required. In addition, he shared examples of other inconsistencies and multiple standards at play in the product development process, which greatly increases costs. He said there is a lot of uncertainty around plant growth regulators (PGRs), which frightens potential investors.

At the same time, he said EPA has some positive policies, such as data waivers, fee reductions, and not needing a permit for things under 10 acres, among others. He said innovation could be incentivized by, say, EPA awards for companies that innovate in areas that serve the mission, such as the Agency does with clean air. Regarding future proofing, Dan Jenkins suggested activities such as an annual state of technology or pipelines with industry and academia; communicating regularly to share and hear concerns and comments from the industry; risk/benefit proportionality; and thinking about what the Agency is regulating, the products or the process, particularly when it comes to requiring submissions. Lastly, he said, there is room for improvement in communication among agencies, where the desire to coordinate can cause slowdowns that could destroy a small company. He suggested the Agency could have MOUs or reciprocity agreements to streamline reviews. He encouraged EPA to continue to make their websites accessible.

Beth Sauerhaft asked for clarity about the length of reviews in the United States versus other countries. She asked if consumers could be as confident with the faster reviews provided by other countries. Dan Jenkins said they are relatively comparable. He said other countries have a default presumption that

there isn't a risk in gene editing. He said safety is protected in other countries, and in fact, in Colombia, regulators have visited the company in person. He said USDA is on a path to make the process simpler and faster.

Charles Santerre asked if there were any test that would determine whether a cherry from Argentina was genome edited, if that information hadn't been declared. Dan Jenkins said it would be mandatory for USDA to review it, unless it was exempt, and there would be a chain of records for that product, especially given traceability rules.

Emily Broad Leib asked what specifics the FRRCC could recommend to EPA to facilitate product development. Dan Jenkins said that the uncertainties about the path through EPA inhibits investing. Large companies can endure the process, but small companies that require investors cannot. Regarding risk, he added that, with chemistries, for example, there tends to be a more rational approach based on decades of experience, but risks in biotech may be unreasonably amplified because of the relative newness of the technology. He added that he has seen agency coordination used as a reason to not move forward—not because there was any hypothesis of harm. When predictability goes down, costs go up, and investors get scared off.

Jeff Witte observed that regulations are far behind where the technology is, and labels don't yet fit the new technology. Dan Jenkins agreed and said that agency–industry communication may help.

Charles Santerre asked if Pairwise has calculated the cost of regulation; Dan Jenkins replied no.

Emily Broad Leib asked about state government requirements. Dan Jenkins replied that there are also numerous issues arising with and among states.

Charles Santerre asked about the costs of development for some of these products; Dan Jenkins said it is in the millions or tens of millions. He said the difficulty and costs drive research toward crops that could be farmed at scale, such as corn. But there are problems to be solved in other areas of the food system.

Committee Discussion and Reflections

Beth Sauerhaft | Chair, FRRCC
Michael Crowder | Vice Chair, FRRCC

Emily Broad Leib volunteered to look back on the recommendations on gene editing and GMO for potential changes. Beth Sauerhaft said that anyone who may have changes should bring them to the workgroup lead as soon as possible. Jeff Gore said that hearing from Dan Jenkins at a workgroup meeting would have been very beneficial.

Regarding future work, Graciela Ramírez-Toro said that the Committee may want to look more into the structure of co-operatives and what it means to be a member of these rural co-ops and how they decide on projects. Regarding TCTACs, she said there is an opportunity for TCTACs to learn about the needs of communities to proactively approach communities.

Sarah Lucas concurred with Graciela Ramírez-Toro and said that Olivia Smith's remark about the need to develop relationships at the local level is important. Rod Snyder added that the next charge to the

Committee isn't written yet, and he is also concerned about getting information and resources to rural communities. He said the new Ag and Rural Office will add capacity.

Emily Broad Leib suggested recommending that EPA give feedback to small community applicants that are not funded. She also suggested that TCTACs be allowed to help with grantwriting.

Tom McDonald asked how EPA interacts with and funds the Chesapeake Bay Alliance. An attendee from EPA said that EPA has a program called the Innovative Nutrient Sediment Reduction Program administered by the National Fish and Wildlife Foundation, which gives out about $12 million per year in grants. She said the Alliance receives about $1 million a year for their corporate partnership work. When they grow enough to manage bigger projects, they move to the USDA's Regional Conservation Partnership Initiative.

David Graybill said that EPA has had to improve its image with farmers. He said they gained the trust because they listened.

Graciela Ramírez-Toro asked Dave Graybill about the co-op relationship with member money. Dave Graybill said that every milk check he received had money taken off it that stayed with the co-op so the co-op could make capital investment, so members are invested in the co-op.

Ryan Smith said there are exciting opportunities for public–private partnership, and the question is how to stack. His company, for example, could fund equipment and infrastructure that the government can't.

Jennifer James said that she is concerned that the Solar for All recommendation discourages EPA from building solar on farm and ranch land. She recommended removing language referring for solar arrays on large-scale farmland. Beth Sauerhaft said she had made some edits to that language and may not have understood Jennifer James' concern.

Emily Broad Leib said there may be a conflict if resources for solar end up on farmlands instead of rural areas. Beth Sauerhaft said the recommendation intends to ensure farmers and ranchers and people in rural communities have the information they need to make informed decisions about solar.

Wrap up and Day One Adjourns

Beth Sauerhaft | Chair, FRRCC
Venus Welch-White | FRRCC DFO, EPA

Beth Sauerhaft thanked members for their work and reminded members that they will start at 8:30 the following morning.

Rod Snyder added that Deputy Administer McCabe will be in Nebraska to amplify a $300 million award through the Pollution Reduction Grant Program that is largely going toward climate smart ag practices in the state. He said it's exciting to see things the Committee talked about being deployed. He added that several regional advisors are present, and he encouraged members to connect with their regional advisor.

Venus Welch-White iterated that public comments can be submitted until August 21.

Day 2

Call to Order

Beth Sauerhaft opened the meeting.

Roll Call

Barry Berg, present
Brad Bray, not present
Emily M. Broad Leib, present
Don Brown, present
Phillip H. Chavez, present
William (Bill) Couser, present
Eddie Crandell, Sr., not present
Michael Crowder, (Vice Chair), present
Matthew Freund, present
Sharon Furches, not present
Jeffrey Gore, present
David Graybill, present
Jennifer James, present
Sarah Lucas, present
Nicholas McCarthy, not present
William Thomas (Tom) McDonald, present
Christopher L. Pettit, present
Clay Pope, not present
William R. Pracht, not present
James Pritchett, present
Nithya Rajan, present
Graciela I. Ramírez-Toro, present
Lindsay Reames, not present
Charles R. Santerre, present
Raymon Shange, present
Jennifer Simmelink, not present
Chantel Simpson, present
Ryan Smith, present
Stacy Wayne Smith, not present
Jeff M. Witte, present

Venus Welch-White confirmed a quorum.

Beth Sauerhaft reviewed the day's agenda.

Ad Hoc Work Group Recommendation Review and Discussion

Note: Presentations for Day 2 are in appendix D. The text of the draft recommendations is in appendix E.

1. Water, Energy, Climate Nexus

Michael Crowder said there are four major themes to the recommendations: regulatory and policy, funding and finance, engagement and collaboration, and verification. He read the workgroup's recommendations on the regulatory and policy section, and, on request of the Chair, shared the background of his workgroup's approach for members who did not attend the previous day's meeting.

David Graybill asked what the committee was thinking about regarding its recommendation on pay for performance. A workgroup member said the workgroup had several discussions on ways to scale up successful approaches, and there needs to be regulatory flexibility to make sure successful approaches are encouraged, such as by EPA publicly endorsing examples of successful public–private partnerships. David Graybill asked for an example of pay-for-performance. The workgroup member gave the example of the Soil and Water Outcomes Fund in Iowa, in which farmers were paid for a certain amount of nitrogen reduction that results from implementing cover crops or other practices; in other words, farmers are paid for the environmental outcome, not for adapting a particular practice. Rod Snyder added that there is a draft policy statement and proposed rule that mirrors this language, but the policy is not yet out for public comment.

Barry Berg raised the issues of MS4 SRF NPS funds to reduce pollutants in rural parts of the watershed instead of in the more expensive urban areas. He said a lot of money is wasted figuring out what credits should be worth. He said the market will drive the amount that makes the practice viable; traditional research is unnecessary. He also advised post-BMP modeling to see if results meet expectations.

Matthew Freund suggested that the recommendations stay more general and not get too specific because different areas of the country have different challenges.

Michael Crowder turned to the funding and finance recommendations. Emily Broad Leib asked about the reasoning behind the recommendation to structure the Greenhouse Gas Reduction Fund (GHGRF) to support agriculture. Rod Snyder provided some background on the GHGRF and said the recommendation is on the terms and conditions that awardees would follow.

A member suggested that regarding recommendation 6c, a link to the existing list of approved conservation practices be provided. Bill Pracht said the list should be developed by USDA, not EPA. Michael Crowder said referencing a list may not be accurate, so they can change the wording.

Graciela Ramírez-Toro said states could benefit from having information about approved practices that would qualify for funding.

Emily Broad Leib said that GHGRF awardees don't seem to be in agriculture at all, so perhaps the language could be strengthened to ensure the inclusion of agriculture.

A member noted that NRCS already has ag practices for reducing greenhouse gas emissions in place.

Michael Crowder brought attention to the engagement and collaboration portion of the recommendations. Tom McDonald said that recommendation 9 and 10 may be the right place to add language about modeling.

Regarding the Solar for All recommendation, Matthew Freund said that he disagrees with yesterday's comment that the language is restrictive. Jennifer James clarified that they're citing a program that generally doesn't require land; Solar for All is for rooftop solar. She said that most of the language around the recommendation has no relevance. Tom McDonald said he would work with Jennifer James to streamline the language. Committee members had a brief discussion about adding language up front about protecting property rights. Jennifer James noted that, in retaining highly productive farmland, the farmer foregoes much more income than is available through a solar lease.

2. Climate mitigation, Resilience, and Adaptation

Jeff Witte provided a summary of the background to the recommendations for members who may have missed they discussion on the previous day. He said the recommendation themes are to (1) quantify climate benefits in assisting agriculture as it mitigates climate change impacts; (2) identify critical priorities for future development, including crops, pesticides, and their applications that advance climate goals; and (3) expedite potential approval and reduce the regulatory burden across federal agencies.

He said their overall recommendation is that EPA incorporate a regulatory foundation to quickly evaluate and expedite the approvals for tools which can be incorporated in the climate smart agriculture applications related to biotechnology. He said that after the discussion on the previous day, they added new language aimed at getting new products to the marketplace, which was inspired by the

presentation from Dan Jenkins. Beth Sauerhaft asked whether EPA has enough staff. Rod Snyder replied that there probably aren't enough staff now to make a difference, and the area is growing fast. Charles Santerre remarked that a big EPA staff might result in more regulation, and he suggested that EPA follow the example of USDA in 7CFR part 340; more regulation slows the process and pushes out small innovators. At the same time, Emily Broad Leib and others noted that companies and consumers want clear regulations, even about exemptions.

Regarding the issue of streamlined multi-agency review, Don Brown said the question is whose priorities should take precedence. Instead of "priorities," he feels the language should be "creates benefits."

Dave Graybill noted that the language in recommendation D may need to be changed because EPA cannot directly ask congress to fund agency requests.

3. Climate Finance, Social Inclusion, and Technical Assistance

Chantel Simpson provided a summary of how the workgroup came to draft the recommendations. She said they have two overarching themes: (1) Building capacity by streamlining procedures: developing grant application and administrative guidelines to increase accessibility for funding for rural and underserved communities; and (2) Drought and flood resistance to climate change impacts. Sarah Lucas shared some examples of how these recommendations are used on the ground.

A member asked what streamlining refers to. Sarah Lucas said there are potentially thousands of examples, but the Community Change grant application has hundreds of pages that applicants have to read. She said communities are quickly overwhelmed.

With the second set of recommendations, Chantel Simpson said the workgroup wanted to ensure that there were sustained resources for communities.

A member suggested thinking about funding resources beyond episodic grant awards and reframing how EPA works with organizations to provide longer-term stability. Another member said they need to be targeted in terms of the way EPA can engage on the issue, particularly with funding. For example, he said, cuts to the SRF programs are large enough to impact clean water and drinking water up to 50 percent, and fund earmarked projects.

Another member asked about where the funds would come from. A member suggested it would be state-by-state through the block grants. The member cautioned that the government could facilitate conversations among potential partners but has to avoid playing favorites. Another member said that any number of funds could be restructured to support the work. This member said that the constant need to apply for short-term is a barrier to an organization's ability to plan.

A member asked how EPA will ensure rural communities have access to the funding that other communities have.

A member mentioned the challenging human and social components to outreach and said that trusted advisors and money only go so far.

Graciela Ramírez-Toro said that may communities are run by volunteers and operations and management change all the time because they are volunteer roles. She said the issue has been explored since the 1990s and in her view there needs to be a separate strategy to deal with these communities.

She suggested that TCTACs could work with these communities at the ground level and not wrap them into strategies designed for bigger communities that have more resources and expertise.

Chantel Simpson said another recommendation related to drought and flood resistance to climate change impacts; the workgroup discussed ensuring that smaller water systems are not negatively impacted by flood and drought. Their recommendations include EPA efforts to update guidance and other tools for these communities.

A member asked if, when drafting recommendation 32, the workgroup looked at which models EPA is using. Graciela Ramírez-Toro said that proposals for funding or implementing new technologies, EPA has various models to evaluate the proposal and quantify potential benefits. Specific models may not be appropriate for all conditions or areas.

Recommendation Discussion and voting

Beth Sauerhaft | Chair, FRRCC

Beth Sauerhaft reviewed the procedures for discussing and voting on the recommendations.

Michael Crowder moved to accept the recommendations from the Water, Energy, Climate Nexus workgroup as currently written. A member seconded the motion.

Beth Sauerhaft asked for discussion. Chris Pettit moved for amended language on recommendation 1b to be adopted into the text. It was seconded. Beth Sauerhaft called for a vote, and the amendment carried.

On recommendation 6, there was a motion to include background language, and the motion was seconded. Beth Sauerhaft called for a vote. The amendment carried.

Emily Broad Leib moved to accept the new language providing background to recommendation 10. James Pritchett seconded the motion. Beth Sauerhaft called for a vote. The amendment carried.

Jennifer James had a question about pay-for-performance. Rod Snyder said that the term is interchangeable with outcomes-based-payments.

Emily Broad Leib moved to delete some language on the background to recommendation 10. Jennifer James seconded. A member noted that the proposed strikes identify different strategies and so are important. After some discussion, this motion was withdrawn.

Beth Sauerhaft called for a vote to accept the recommendations from working group 1 as amended. The recommendations were approved as amended.

A member moved to bring the Solar for All recommendations to the floor. James Pritchett seconded the motion. Jennifer James moved to accept the text per her revisions; that motion was seconded.

In the discussion, Jennifer James said she struck text referring to large-scale utility and revised some text to focus on rural projects as well as rooftop solar.

A member said that the revisions remove the issue that prime farmland is being used for solar because there is a lot of money in solar compared with farming; and it's an important issue. Tom McDonald said the issue is that the original background doesn't apply to the Solar for All program, which is not for utility-scale solar.

Upon further discussion, Jennifer James moved to withdraw her motion and table the associated background and recommendation. There was no discussion about tabling the motion. Beth Sauerhaft asked for a timeframe in which to revisit the recommendation. Venus Welch-White said they are nearing the end of the fiscal year. Beth Sauerhaft suggested a virtual meeting by September 30.

Graciela Ramírez-Toro said the changes that they need to make to that section are not major.

Beth Sauerhaft called a vote on tabling the Solar for All content (recommendations 11 and 12). After a roll call vote, the motion to table carried.

There was a motion to accept recommendation 13. On behalf of Don Brown (who had to leave the meeting), Jeff Witte suggested a brief edit based on his concern about leaving it up to agencies to determine priorities. There was a motion to accept the edit and a second. Emily Broad Leif said the text doesn't make sense without the language. Bill Pracht liked the proposed edit because it makes clear that the Committee is seeking a shortened review process for everything, not just agency priorities.

After brief discussion, Beth Sauerhaft called for a vote. The motion carried.

Regarding the recommendation on EPA staffing, the workgroup had a discussion in which edits were proposed. There was a motion to accept the point as revised, which was seconded. Beth Sauerhaft called for a vote and the motion carried.

Beth Sauerhaft called for a vote on the second workgroup's recommendations to be accepted. They were accepted.

Beth Sauerhaft clarified that there have been no edits to the Workgroup 3 recommendations since the Committee last saw them. Chantel Simpson moved that the Committee approve recommendations 14–24, and the motion was seconded. There was no discussion, so Beth Sauerhaft called for a vote to accept the recommendations. The recommendations were approved as written.

Chantel Simpson moved to approved recommendations 25–28 as written, and it was seconded. Beth Sauerhaft called for a vote, and the motion passed.

Chantel Simpson moved to approved recommendations 29–32, and the motion was accepted. Beth Sauerhaft called for a vote and the recommendations were approved.

A motion was made and seconded to accept the overall recommendations and prepare to forward them to the administrator.

There was a brief discussion about whether to do more work on the Solar for All background at the current meeting or at another time. Beth Sauerhaft suggested taking a short recess to work on the background and then deciding what to do.

Following the recess, there was a motion to take the Solar for All issue off the table. Michael Crowder explained that two new sentences were added to the start of the background section. Other changes

included changing reference to the Solar for All program to solar in general. Emily Broad Leib added that revisions also included going through the recommendations and finding points everyone agreed on. Michael Crowder walked members through the other revisions.

A motion was made and seconded to bring the recommendations back on the table.

Beth Sauerhaft called for a vote on whether to accept the recommendations under discussion. The recommendations were accepted.

Jeff Witte moved to accept the recommendations and prepare them to forward to the EPA Administrator. Chantel Simpson seconded the motion. The Committed voted to approve.

Next Steps

Beth Sauerhaft | Chair, FRRCC
Michael Crowder | Vice Chair, FRRCC

Beth Sauerhaft said she will fix any typos, format the document, and draft a transmittal letter and will submit to Rod Snyder and Venus Welch-White to send to the Administrator.

Wrap Up and Closing Remarks

Beth Sauerhaft | Chair, FRRCC
Michael Crowder | Vice Chair, FRRCC
Rod Snyder | Agriculture Advisor to the EPA Administrator

Venus Welch-White congratulated the Committee for their work. She said they are one of 23 federal advisory committees for EPA, and they have been encouraged to collaborate with these other FACSAs, particularly with the Local Government Advisory Council (LGAC), the Environmental Finance Advisory Board, and the Children's Health Advisory Board. She said there are still several months in which the committee can collaborate or explore topics of mutual interest.

Beth Sauerhaft asked about the process for moving forward if the FRRCC identified areas of interest with other FACAs. Venus Welch-White said it would be up to the chairs and DFOs. She said the Committee could form a steering committee with exploratory committees that would look into potential areas of alignment.

Beth Sauerhaft asked if there was interest among the Committee. Jeff Witte said interaction with LGAC would be useful. James Pritchett said he sits on the LGAC, and they are focused on PFAS and water systems, and biosolids, which would be relevant to the FRRCC. James Pritchett said the LGAC is working a lot on plastics.

Beth Sauerhaft asked for a vote to indicate interest in forming exploratory groups, and there was. Chris Pettit, Jeff Witte, Matt Freund, and Sarah Lucas expressed interest in LGAC. Graciela Ramírez-Toro expressed interest in Children's Health.

Beth Sauerhaft thanked members for working with them all and for sharing their opinions and to explore issues and for being able to disagree yet finding a way forward.

Rod Snyder also thanked the members for making the FRRCC active again, which was especially challenging during the Covid pandemic.

Venus Welch-White said that the FRRCC is in an active nomination period that will run through September 5, 2024, and asked those who are interested in reapplying to let them know as well as to submit nominations for new members. She thanked members whose terms expire this fall.

Venus Welch-White iterated that public comments could be submitted until 11:59 pm on August 31 to frrcc@epa.gov. She thanked the EPA team and regional advisors.

Adjourn

Beth Sauerhaft adjourned the meeting.

Appendix E. FRRCC Draft Recommendations

Below are the recommendations to the full FRRCC from each ad hoc workgroup. The recommendations are listed in the order of the ad hoc work group numbers with the corresponding letters for consistency as the recommendations advance through the review, voting/ adoption and submission process.

(A)

Ad Hoc Workgroup #1 – Water, Energy and Climate Nexus

EPA FRRCC Water, Energy and Climate Ad Hoc Working Group

Final DRAFT Recommendations

Scaling Up Agriculture Conservation Practices through Public-Private Partnerships, Market-Based Approaches, & Innovative Financing

Introduction and Background

The U.S. Environmental Protection Agency's (EPA) Farm Ranch and Rural Communities Federal Advisory Committee's (FRRCC) is a policy-oriented committee that provides policy advice, information, and recommendations to the Administrator on a range of environmental issues and policies that are of importance to agriculture and rural communities. The current charge of the FRRCC is to advance climate mitigation and adaptation strategies for U.S. agriculture. To support the FRRCC's charge, one of the Committee's working groups - the Water, Energy, and Climate Nexus Ad Hoc Working Group -- focused on developing recommendations to the EPA Administrator on how the Agency can scale up public-private partnerships, market-based approaches, and innovative financing to accelerate adoption of agricultural conservation practices that deliver climate and other environmental co-benefits.

The Working Group held six meetings in April, May, and June 2024 to discuss with experts and farmers across the country successful examples of public-private partnerships, market-based approaches, and innovative financing. The discussions centered around the challenges, opportunities, key ingredients for success, and needs for scaling up this important work (Figure 1).

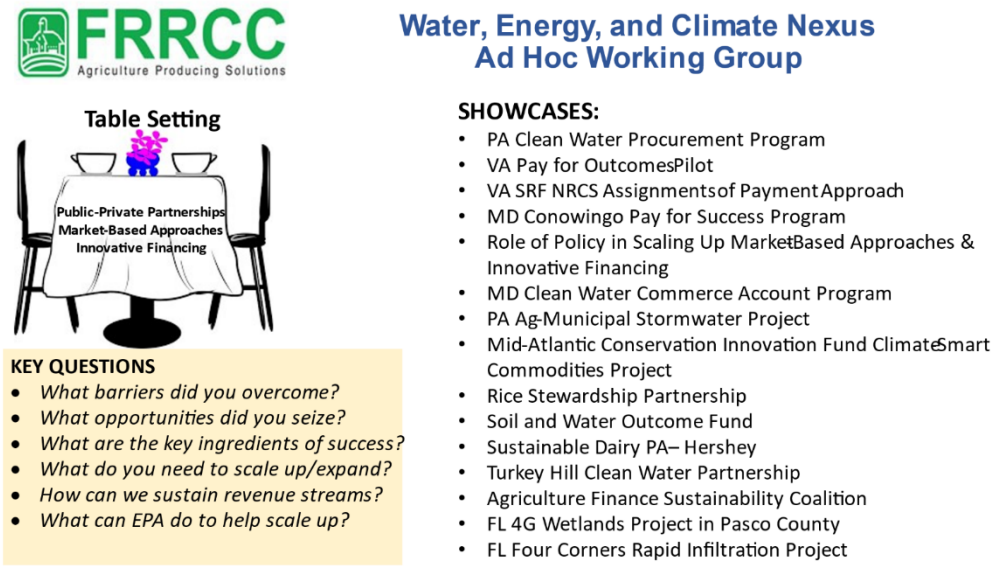

Fig 1. Key questions asked and showcases featured at Working Group meetings

Recommendations: Recs 1-10, voted and approved as amended/ Rec 11-12, voted and tabled, send back to workgroup (yeahs-11/nah-6/abs-3)

Based on these discussions, the ad hoc work group developed the following recommendations for the EPA Administrator regarding roles that EPA can play to scale up public-private partnerships, market-based approaches, and innovative financing to accelerate adoption of agricultural conservation practices that will benefit climate and other environmental co-benefits. The recommendations are organized by the following EPA roles: Regulatory & Policy; Funding & Financing; Engagement & Collaboration; and Verification.

Regulatory & Policy Roles: Accepted as Amended

1. **EPA Offer Regulatory Flexibility**:
   a. EPA should finalize a policy statement and rulemaking that allow for flexibilities in implementing market-based approaches for the National Pollutant Discharge Elimination System (NPDES) permit program.
   b. EPA should encourage and promote market-based and pay-for-performance approaches for states that have delegation authority for EPA Clean Water Act and Safe Drinking Water Act regulatory programs.
   c. EPA should support rewarding early innovators: EPA should find ways to support rewarding early adopters of conservation practices that benefit climate and water quality, so that they can participate in market-based and pay-for-performance programs.

Background: The working group wants to ensure EPA regulatory programs and policies support flexibilities, such as water quality nutrient trading and alternative compliance measures, that allow for market-based approaches in the NPDES permitting program. An example of alternative compliance measures is allowing municipal separate storm sewer systems (MS4s) to include pollution reductions from agricultural conservation practices in meeting stormwater permit

requirements, rather than through more costly point source controls. These efforts have had support by EPA for many years. The working group supports EPA's ongoing efforts to finalize a policy statement and rulemaking that will give States the endorsement they need to continue to pursue these types of efforts.

Oftentimes, pay-for-performance programs pay for a farmer's conservation efforts that have been implemented after a state-designated baseline year. Farmers who were early adopters of practices before the established baseline year are often not rewarded for their conservation efforts and cannot participate in these markets. To deal with this inequity, some countries (United Kingdom) and states (Maryland) have established earlier baselines that allow farmers to "bank" the environmental benefits they have created from their conservation practices and sell them at a later date.

In the EPA Office of Water's April 6, 2022, memorandum, "*Accelerating Nutrient Pollution Reductions in the Nation's Waters*," the Agency committed to finalizing a policy statement on flexibilities for implementing market-based approaches within the NPDES permit program and initiating a rulemaking to explicitly state that NPDES permits may include conditions allowing market-based approaches, including trading and off-site stormwater management, to meet applicable effluent limits. EPA's policy statement has been under review by the Office of Management and Budget (OMB) since August 2023. EPA will submit the rulemaking to OMB once OMB completes its review of the policy statement. Beyond the Clean Water Act and NPDES permitting programs, EPA also should assess additional opportunities for regulatory flexibility under the Safe Drinking Water Act.

Funding & Financing Roles: Accepted as Amended

2. **EPA To Promote Successful Ways to Use EPA Funding:** EPA should work closely with the state agencies and local partners to encourage flexibility in funding utilization and to promote successful ways to use and leverage EPA funding for public-private partnerships, market-based approaches, and innovative financing (e.g., EPA's Clean Water State Revolving Fund (SRF), EPA's Drinking Water State Revolving Fund, 319 nonpoint source funding, etc.). For example, EPA could:
   a. Promote ways that States can use the non-federal portion of SRF funding as match for market-based approaches that are funded through public money (for example, as match for the USDA Natural Resources Conservation Service's (NRCS) Regional Conservation Partnership Program (RCPP)).
   b. Promote ways that states can be flexible with SRF loan interest rates they offer to incentivize market-based approaches.
   c. Promote ways that states with large SRF balances can offer SRF administrators the flexibility to use their investment authority to invest in market-based projects. A prime example is the Iowa Clean Water SRF investment in the Soil and Water Outcomes Fund.
   d. Promote ways states can use SRF as bridge loans to provide upfront capital farmers need to install agricultural conservation practices. These loans can then be paid back with United States Department of Agriculture (USDA) Farm Bill funding directly to SRF, without having to burden the farmers (e.g., NRCS Assignments of Payment for SRF in Virginia).

e. Promote how the SRF can be used to support "Watershed Financing Partnerships" that support partners (private, nonprofit, or public-private partnerships) playing an aggregator role to bring together multiple funding streams, identify high-return projects, and implement those projects within a watershed.

Background: The working group identified a number of successful approaches for using EPA funding to support public-private partnerships and market-based approaches. Many of the EPA funding pools such as SRF and 319 are managed by the states. There is wide variability in how states choose to spend this funding and whether they prioritize advancing public-private partnerships and market-based approaches and the innovative financing needed to make these projects work. Therefore, it is important for EPA to work closely with the States and local partners to compile these successful approaches and promote them for wider use throughout the country to scale up this work. The Maryland Clean Water Commerce Act provides an example of how state funds can be used to purchase pollutant reductions from agricultural conservation practices to meet state clean water targets under the Clean Water Act.

3. EPA To Address Match Requirements Barriers: EPA should find ways to help partners meet public grant match requirements.
   a. EPA should work with States and USDA to find and promote eligible ways to use EPA funding (SRF, 319, geographic watershed grants, etc.) as match for USDA NRCS's Regional Conservation Partnership Program (RCPP).
   b. EPA should write memoranda that clearly articulate eligible funding that can qualify as match.
   c. EPA should explore the feasibility of offering flexibility in meeting match requirements for EPA grant programs.

Background: The USDA RCPP supports projects that make performance-based payments for environmental outcomes. These projects can be funded at levels up to $10 million, but they require an equal match (partner contribution), which can be challenging for applicants to meet. Fortunately, there are examples of how EPA funding can be used to meet these match requirements. For example, states can use the non-federal portion of SRF (which can be a significant amount) as match. EPA and USDA wrote a decision memorandum articulating conditions under which EPA's Chesapeake Bay grants can be used as partner contribution for the RCPP. Additionally, there may be ways for EPA to offer more flexibility in meeting match requirements such as offering lower match rates for rural communities or allowing for more in-kind match (versus cash match) where feasible.

4. EPA To Provide Administrative and Technical Assistance Funding:
   a. EPA identify and promote opportunities to use EPA funding (SRF, 319, grants) to support administrative and technical assistance activities that are critical for keeping market-based projects simple for farmers – including watershed planning, strategic deployment of agricultural conservation practices, and quantification of environmental outcomes.

Background: Trusted local partners who are implementing these public-private partnerships and market-based approaches are working to keep things easy for the farmer by pooling funding from many sources, providing flexible and easy contracts to farmers, and providing upfront payments to them for practice installation. Oftentimes, programs like USDA NRCS's RCPPs do not fund sufficient technical assistance to support this vital role that local partners provide. A portion of EPA's SRF and 319 funding may be used for administrative and technical assistance activities and may help meet this need. For example, state agencies that manage the SRF funding establish "set asides" for technical assistance in their SRF Intended Use Plans.

In the EPA Office of Water's April 6, 2022, memorandum, "*Accelerating Nutrient Pollution Reductions in the Nation's Waters*," the Agency commits to provide technical assistance and other support to help ensure that states, tribes, and territories have the knowledge, skills, and resources to scale effective nutrient reduction strategies.

5. **EPA To Help Blend/Stack Funding Pools & Attract Private Capital:**
    a. EPA should actively engage with corporations, foundations, project sponsors and developers to blend private-public funding pools (grants, philanthropic, private capital) to sustain funding for public-private partnerships and market-based approaches.

Background: EPA should intentionally cultivate partnerships with corporations and foundations. Foundations can provide critical early-stage capital to jump start financial innovation (e.g., Blue Forest Conservation's Forest Resilience Bond financing framework in California). Corporations can bring private capital to the table and send signals to food producers that a certain level of conservation is expected which will help scale up this important work. For example, the Sustainable Dairy PA project with EPA, Alliance for the Chesapeake Bay, Hershey, and Land O'Lakes where Hershey matched EPA funding to scale up farmers' conservation efforts. Another example is the Conservation Innovation Fund's Climate Smart Commodities partnership with USDA and corporations to develop market transactions for climate and water solutions. In each of these cases, project sponsors have leveraged private and public capital to develop various elements of market-based solutions.

EPA To Structure Greenhouse Gas Reduction Fund to Support Agriculture:
Accepted as Amended
6.
    a. EPA should highlight segments of the Greenhouse Gas Reduction Fund's "allowable activities" and terms and conditions that enable the agricultural sector to access these funds. The $14 billion National Clean Investment Fund program within Greenhouse Gas Reduction Fund has such flexibilities.
    b. EPA should take a closer look at appropriate project standards, definitions of eligible producers (including equity considerations) and financial institutions, reporting requirements, simplicity of applications and timeliness of decisions, and other requirements to ensure that agriculture is not inadvertently disadvantaged in its opportunity to participate.

c. EPA should include a list of approved agricultural conservation practices that are eligible for the Greenhouse Gas Reduction Fund and prioritize those practices that significantly benefit both climate and water quality.

Background: The Greenhouse Gas Reduction Fund (GGRF) created within the Inflation Reduction Act is a historic $27 billion investment to combat the climate crisis by mobilizing financing and private capital for greenhouse gas- and air pollution-reducing projects in communities across the country. The National Clean Investment Fund (NCIF) represents a $14 billion portion of the GGRF program. In April 2024, EPA selected three NCIF applicants to establish national clean financing institutions that deliver accessible, affordable financing for clean technology projects nationwide, partnering with private-sector investors, developers, community organizations, and others to deploy projects and mobilize private capital at scale. The FRRCC urges eligibility and inclusion of agricultural projects in the deployment of NCIF funds.

Engagement & Collaboration Roles:

7. **EPA To Develop and Implement a Communications, Engagement & Collaboration Strategic Plan to Publicly Promote Successful Approaches**
   a. EPA leadership should promote to USDA, State, and local partners successful public-private partnerships, market-based approaches, and innovative financing. EPA's endorsement will provide a green light for States and local partners to pursue these approaches, build them into their state statutes and policies, and scale up this work. Examples include:
      i. Write a letter from EPA that encourages states to use market-based "alternative compliance" mechanisms for MS4, post-construction stormwater, and other permit-based compliance programs under the Clean Water Act.
      ii. Write a letter from EPA that encourages market-based purchase pools for clean water, including allocations from the SRF (e.g., Maryland's Clean Water Commerce Account Program).
      iii. Promote projects through meetings with States and local partners, podcasts, webinar series, mentoring programs, in order to encourage support for them and to increase number of projects.

Background: The working group evaluated more than a dozen public-private partnerships and market-based approaches across the country and documented what made them successful, what challenges remain, and what is needed to scale up this work across the country. A resounding recommendation from the practitioners was for EPA leadership to publicly promote successful approaches to State and local partners. Promoting this work will provide a signal to the States that EPA leadership supports and endorses these approaches and that they are allowable under the Clean Water Act. This work could involve publishing success stories; identifying the best geographies within which to scale up this work; holding meetings with USDA, State and local partners to discuss how to work together to scale up this work; and promoting these projects through EPA letters, podcasts, webinars, and mentoring programs.

In the EPA Office of Water's April 6, 2022, memorandum, "*Accelerating Nutrient Pollution Reductions in the Nation's Waters*," the Agency states that many of the most successful and lasting efforts to significantly reduce nutrient pollution have resulted from partnerships between farmers, ranchers, local water utilities, municipalities, industry, and conservation organizations. These partnerships succeed because they benefit from the diverse knowledge and perspectives of their participants. EPA committed to seek opportunities to highlight successful partnerships, and to create the enabling conditions for their continued success.

8. EPA Coordinate with USDA: EPA should work with USDA to:
    a. Institutionalize successful ways to coordinate federal funding to scale up public-private partnerships and market-based approaches.
    b. Find ways for EPA funding to serve as match for RCPP and other projects (for example, the non-federal portion of SRF funding, geographic specific grants). Consider feasibility of EPA and USDA establishing matching arrangements upfront versus project by project through a joint agreement or Memorandum of Understanding.
    c. Determine how EPA funding can be used to fill gaps in technical assistance in RCPP projects.
    d. Find ways to attract private capital (for example, requiring that the private sector match the public funding levels).
    e. Formalize a successful way to use SRF as bridge loans to cover capital costs of agricultural practice implementation that are directly repaid with USDA Farm Bill funding (without burdening the farmer).

Verification Roles:

9. EPA To Help Quantify Carbon Benefits of Water Quality Practices:
    a. EPA should invest in and support research and monitoring of climate and water quality benefits of agricultural conservation practices to take advantage of both water quality and climate funding for these approaches.

EPA To Help Quantify Environmental Outcomes to help with payments for environmental services. Accepted as Amended

10.

Background: Many agricultural conservation practices have a dual benefit to water quality (e.g., nutrient and sediment reductions) and climate (greenhouse gas emission reductions). Identifying those practices that provide both water quality and climate benefits will enable agricultural partners to access both water quality and climate funding to support implementation of those practices. EPA can continue to work with USDA to support research and monitoring to quantify the water quality and climate benefits of conservation practices. EPA can continue to work with USDA and other partners to quantify the environmental outcomes of pay-for-performance and market-based projects which will involve consistent use of models (which use latest science to estimate pollution reductions) and monitoring to assess actual pollution reductions.

Solar for All

Introduction and Background

The US Department of Energy projects that over 10 million acres of ground mounted utility-scale solar will be needed to decarbonize the nation's electrical grid by 2050, with 90% of this expected in rural communities. Further modeling by American Farmland Trust reveals that, without intervention, 83% of this projected development will take place on farmland, with nearly half of that on our most productive, versatile, and resilient farmland best suited for growing food and other crops. This makes sense as solar developers prefer flat, open, well-drained landscapes near existing electrical infrastructure for arrays.

Solar, particularly utility-scale solar, will present both significant opportunities and challenges for farm viability, farmland protection, agricultural planning, and rural development in the years to come. While ground-mounted utility-scale solar projects can provide lease income to landowners and new investment in rural communities, it can also take good farmland out of production, displace farmer-renters who cannot compete with the prices developers offer, and have wider impacts on the local farm economy as projects trend larger. A just transition cannot be achieved unless public funding for solar energy development is awarded in ways that maximizes benefits and minimizes negative impacts on these communities, including through EPA's *Solar for All* program.

The *Solar for All* program will serve as an important vehicle for residential and residential serving distributed solar, providing affordable access to solar for low income and disadvantaged communities. By generating power for residential customers closer to where it will be needed, *Solar for All* provides resilience to the electrical grid and has the potential to reduce the need for much larger and more land intensive utility-scale solar in certain areas.
Community solar will be one of the key facets of power for all, resulting in distributed solar generation on landfills, brownfields and suitable open lands (not specifically targeting yet potentially including farm and ranchlands, and potentially serving rural communities) and typically needing less than 50 acres (assuming a 5 MW community solar project capacity).

Recommendations

The FRRCC has two recommendations to ensure *Solar for All* funding maximizes benefits to rural communities and minimizes impacts:

11. EPA should provide reliable information to landowners considering community solar and educate them about the solar leasing process.

Background

Making Resources Available to Empower Smart Landowner Decision Making

When faced with solar leases, landowners often do not know where to start to advocate for themselves or protect their interests. Imbalanced access to information, combined with significant financial opportunity, can leave landowners at a disadvantage, unable to negotiate effectively with experienced and well-financed developers. To help correct for this imbalance and contribute to a just transition to decarbonized energy, we recommend that EPA and other agencies make landowner resources readily available to help them self-educate, think through whether a solar lease is right for them, and advocate for themselves throughout the process. Given the primary role farmer-landowners will play in this process, there should be a focus on the unique considerations they face. While more are needed to provide information to farmers and ranchers across the country who manage varied operations, some of these resources already exist, including the:

- Solar Leasing Guide and landowner checklist developed by USDA, Ohio State, and the National Agricultural Law Center (2019)
- Solar Leasing Guide for landowners in the Pacific Northwest and accompanying webinar (which includes water considerations) developed by American Farmland Trust with support from USDA (2022)
- Farmers Guide to Solar and Wind in Minnesota from Minnesota Farmers Union (2019)
- Department of Energy's own Farmer's Guide to Going Solar
- New York Farm Bureau Landowner Considerations for Solar Leases (2016)
- Cornell Cooperative Extension Resources (2020)
- Massachusetts Fact Sheet from Extension, which is for landowners generally but covers some farmer specific legal questions in the state (2023)

12. EPA should encourage *Solar for All* funding recipients to design community solar and distributed solar energy programs that strengthen farm viability and rural vitality.

Background

Advancing Community Solar Programs that Strengthen Farm Viability with *Solar for All*

One way *Solar for All* funding is being used is to help state and local governments advance community-scale solar programs. Community solar programs will expand access to the benefits of distributed solar, and if well-designed, will incorporate critical measures to bolster farm viability, avoid negative environmental impacts, and keep land in farming. We strongly recommend that when community solar programs are funded wholly or in part by *Solar for All*, that the EPA take steps to educate recipients on how they can ensure these programs accelerate solar energy development while also strengthening farm viability and keeping farmland well-suited for agriculture in production. This can be done by encouraging recipients to incorporate

principles and policies into their programs that achieve these goals. One example is the following four Smart Solar Principles, developed by American Farmland Trust:

- Prioritize solar siting on the built environment, contaminated land, and other land not well-suited for farming to help minimize the impacts of solar energy on our nation's best agricultural land and farm businesses.
- Safeguard the ability for land to be used for agricultural production when siting solar on farmland by following best practices during construction, operation, and decommissioning that promote soil health and preserve productivity and access to water.
- Expand the use of agrivoltaics that pair agricultural production and solar energy generation to minimize displacement of farming due to solar development and to improve farm viability.
- Promote equity and farm viability in siting and permitting decisions with inclusive processes to accelerate project siting, maximize benefits, and minimize negative community impacts.

To ensure *Solar for All* supports farmer and agricultural and rural communities, funding recipients can be encouraged to set up community solar programs that:

- Ensure rural communities are able to access *Solar for All* funding administered at the state-level.
- Prioritize (and ideally incentivize) solar development on parking canopies, rooftops, landfills, brownfields, irrigation canals, and land not-well suited for farming.
- Require applicants developing traditional ground-mounted solar projects on farmland and ranchland to follow best practices during construction, operation, decommissioning, and restoration to protect and improve soil health and productivity, and retain water rights (where applicable). This includes reducing soil compaction, minimizing damage to existing farm infrastructure, and ensuring financial surety for decommissioning and restoration up-front.
- Incentivize agrivoltaic projects, or the pairing of solar energy generation and agricultural production on the same piece of land for the full life of the solar project, to keep land in farming as the U.S. decarbonizes.
- Ensure developers seeking *Solar for All* funding have followed best practices related to community engagement, including hosting inclusive meetings and developing community benefit agreements that support farm viability.

(B)

Ad Hoc Workgroup #2 – Climate Mitigation, Resilience and Adaptation

Biotechnology –

Introduction

In 2022, the EPA Administrator charged the Farm, Ranch, and Rural Communities Committee (FRRCC) with **advancing climate mitigation and adaptation strategies for U.S. agriculture.**

Under this charge, the FRRCC is considering how EPA's tools and programs can best catalyze the U.S. agriculture sector's climate mitigation, resilience, and adaptation goals. The EPA's foundational values of scientific integrity and commitment to environmental justice are an anchor point for recommendations. Prioritizing, modernizing, streamlining and staffing are primary anchor points for FRRCC stated recommendations.

The FRRCC assigned this charge to the Climate Resilience and Adaptation workgroup. An emerging theme is EPA's role in regulating and advancing biotechnology for agriculture and the impacts of technology in addressing climate goals.

Background

EPA's role in biotechnology regulation

On September 12, 2022, President Biden issued Executive Order 14081, "*Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure Bioeconomy*," with the goal of accelerating biotechnology innovation and growing America's bioeconomy across multiple sectors, including health, agriculture, and energy.

Biotechnology is defined in the Executive Order as "technology that applies to and/or is enabled by life sciences innovation or product development." (https://www.whitehouse.gov/briefing-room/presidential-actions/2022/09/12/executive-order-on-advancing-biotechnology-and-biomanufacturing-innovation-for-a-sustainable-safe-and-secure-american-bioeconomy/) "Biotechnology products include organisms developed through *in vitro* manipulation of genetic information and genetic engineering, as well as products produced via cell-free synthesis" (https://usbiotechnologyregulation.mrp.usda.gov/eo14081-section8c-plan-reg-reform.pdf 2024).

The FRRCC affirms that biotechnology is a critical tool for continued advancements in agricultural systems resilience and in accelerating agriculture's opportunities for mitigating and adapting to climate change, including development of climate smart agriculture solutions. Climate smart agriculture applications include and are not limited to: reducing greenhouse gas emissions by

enabling increased adoption of reduced tillage practices that reduce fossil fuel use; alleviating the need for and use of pesticides; reducing food waste by managing pests and improving food shelf life; enabling rapid genetic improvement for new crop varieties that could be drought or flood tolerant and pest resistant; and enhancing agricultural productivity by increasing yields and nutrient utilization in growing crops. An additional benefit can be less nutrient runoff, potentially reducing impairment of water quality. Climate and environmental benefits can translate into economic benefits for producers.

Rapid developments in biotechnology, especially those with an advantage to a changing climate, have not been fully integrated into the regulatory framework of federal agencies. An opportunity exists to re-examine regulatory processes in the EPA with the goals of:

- Integrating climate change benefits when performing a net benefit analysis of biotechnology products;
- Ensuring that risk assessments make use of the best available practices for data collection, analysis and sharing;
- Seeking opportunities to reduce review timelines and costs of biotechnology products for the benefit of all, especially small and startup businesses, federal research facilities and universities; and,
- Ensuring EPA is sufficiently staffed with qualified individuals to adequately meet the goals and suggestions stated in this document.

The FRRCC commends EPA, US Department of Agriculture and the Food and Drug Administration for their commitment to examining their regulatory processes. As written in the 2024 *Plan for Regulatory Reform under the Coordinated Framework for the Regulation of Biotechnology* (Coordinated Framework), the EPA seeks to:

- Provide regulatory clarity and assistance to developers;
- Streamline and ensure consistency across its Plant Incorporated Protectants (PIP) registration reviews;
- Update existing guidance on small-scale field testing of PIPs;
- Address the scope of plant regulator PIPs;
- Solicit feedback on additional modifications in plants that can be exempt from their respective regulations; and,
- Update information on the regulation of modified insect and invertebrate pests and working with other agencies to streamline and coordinate the regulation of modified insects.

Recommendations

The FRRCC endorses these goals to allow quicker and less expensive review of emerging biotechnology products, and suggests the following complementary recommendation:

13. EPA to incorporate a regulatory foundation to quickly evaluate and expedite regulatory approvals for tools which can be incorporated into Climate Smart Agriculture applications related to biotechnology. To aide in this process, the FRRCC encourages the following:

    a. The Environmental Protection Agency (EPA) should quantify climate benefits of approved biotechnology crops, as well as the net benefits of biotechnology in assisting agriculture as it mitigates climate change impacts. Examples could include but are not limited to drought resistant crops and extended shelf life to reduce food waste. Much of the relevant data may exist in academia or with other sources. We encourage EPA to issue a Request for Information (RFI) to see what data may exist.

       Specific objectives include:
       - Assessing the regional effects of biotechnology on mitigating the impact of agriculture on climate.
       - Develop and adopt regulatory improvements to shorten the review process, including a "regulatory sand-box" that provides expedited multi-agency review for technology that creates prioritized environmental benefits, that will incentivize innovation and reduce barriers, resulting in lower costs, for increased market adoption of emerging technologies, including biotechnology, resulting in climate net benefits.

    b. Convene a series of stakeholder workshops on emerging technologies, including biotechnology development, evaluation, and adoption and to identify critical priorities for future development, including crops, pesticides and their applications that advance climate goals.
    c. Examine data harmonization and sharing opportunities for biotechnology across the three regulatory agencies, to expedite potential approval and reduce the regulatory burden across federal agencies. For example, USDA has issued updated guidance to expedite approval of genome edited biotech crops which may be a good model for EPA to follow. The FRRCC recommends that EPA adopt a similar process.
    d. Evaluate realistic staffing needs to meet the increased submissions and review process to timely evaluate emerging biotechnology submissions and request congress to fund the agency request.

Background

The FRRCC charge reflects a need to integrate climate change adaptation, mitigation, and resilience in the agency's biotechnology product review practices. Regional efficacy is an important determinant of the how biotechnology may be scaled to address climate change, which is a global challenge. Data and work sharing arrangements may be helpful in reducing the time and cost of approval processes across agency jurisdictions and in working with state regulatory approvals. Current software technology may encourage the use and adoption of these arrangements which can reduce the regulatory cost of biotechnology, development and implementation.

Many agriculture producers grow crops categorized as specialty crops (not corn, wheat, soybeans or peanuts) and often have limited access to labeled crop technologies due to the

market size of the crop grown. By addressing the regulatory approval process, EPA and the other agencies will provide more equitable and efficient opportunities for all producers to have access to the latest available tools to implement Climate Smart Agriculture practices and be a part of the climate solution.

The FRRCC appreciates the opportunity to provide comment and insight into this increasingly important matter.

(C)

Ad Hoc Workgroup #3 – Climate Finance, Social Inclusion and Technical Assistance

---

Building Capacity by Streamlining Procedures: Developing Grant Application and Administration Guidelines to Increase Accessibility to Funding for Rural and Underserved Communities

Introduction and Background

Administrative processes in grant and other governmental programming are a significant barrier for communities that have limited organizational capacities. Underserved, disadvantaged rural communities are disproportionately harmed by burdensome application and administration requirements. The burden to apply for grants is continually raised by rural stakeholders and is forcing many to explore ways to secure grant writing services to keep up. While one solution to this barrier is to build capacity within communities and organizations, or to provide technical assistance for specific programs, parallel efforts to reduce administrative burdens and streamline processes can further address capacity limitations while improving access to funding. Removing some 'barriers to entry' and reducing the time and expense involved in more extensive applications and reporting requirements would be a welcomed improvement for rural and other under-resourced communities.

Recommendations (Approved as Written – 8/12/24)

The FRRCC recommends EPA assess and adopt the following examples of guidelines and administrative processes that accommodate and support lower organizational capacities:

14. Tailored eligibility, scoring, and expectations for 'Return on Investment' specific to rural areas, accounting for fewer amenities, smaller and more dispersed populations, and smaller budgets.

15. Improved access to set-asides for planning grants that provide the community with resources to develop preliminary engineering reports, cost studies and designs needed for the preparation of proposals
16. Set asides to ensure that resources are deployed across a spectrum of community sizes and types.
17. Streamlined application processes and reporting requirements to accommodate capacity burdens, including shorter application forms and forms standardized across programs and agencies to eliminate redundant data entry and application information.
18. Application processes that begin with short, simple, letters of intent that allow administrative staff to assess project 'fit' for a complete grant application process and provide recommendations for technical assistance to applicants not accepted to proceed with a full application process. This will support efforts to further develop project concepts and successful grant applications.
19. Expanded timelines to allow for planning and implementation with reduced staffing resources. For example, planning is separate from project initiation and completion, as such they should have different schedules, timeframes and/or funding.
20. Lowered or eliminated financial match requirements, allowance of in-kind matching, and inclusion of administrative or indirect costs in grant awards, to allow communities or organizations with limited resources to compete in grant programs.
21. Programming and processes that allow communities and organizations to design flexible approaches to achieve desired program outcomes.
22. Cooperative grant agreements that feature strong funder engagement and partnership in program implementation, to help communities and organizations build greater administrative expertise and capacity to successfully plan, implement, and manage.
23. EPA review of state grants, funding and programs that implement similar strategies targeting rural communities at the state level to find successful streamlining examples and opportunities for the same.
24. EPA regional coordination and tracking, in collaboration with state primacy agency partners, of technical assistance provided by providers and local government entities operating under multiple funding contracts from state and federal agencies.

Examples:

- LOI_letter_of_intent_NIFA.pdf (usda.gov)
- Building Blocks for Sustainable Communities | US EPA
- MI Neighborhood (michigan.gov)

Building Capacity with Technical Assistance and Planning Support: Developing Grant Application and Administration Guidelines to Increase Accessibility to Funding for Rural and Underserved Communities

Background

EPA's Thriving Communities Technical Assistance Centers (TCTACs) represent an important step forward in supporting rural communities, responding to a tremendous demand for assistance in navigating what are often complex and lengthy grant applications. It is vital to ensure that centers are adequately resourced to accommodate the strong demand, ensuring responsive service, to build strong relationships and trust in EPA programming.

Further, outside of the grant application processes themselves, it's clear that many communities are unprepared to undertake the extensive grant applications due to limited opportunities to plan for and develop project concepts themselves. Developing these plans requires sustained outreach to underserved communities that are unlikely to currently be engaged with EPA's programming due to lack of capacity, which presents challenges in providing needed resources and support. One model that is demonstrating progress is the Rural Partners Network, which provides designated sub-regional staff who work directly with communities to identify needs and navigate to the appropriate resources. Similar approaches might be developed in partnership with other regional entities, through grants that allow trusted partners to build capacity or 'staff up' to meet these specific planning needs.

Recommendations (Approved as Written – 8/12/24)

Regardless of approach, efforts to provide technical assistance require a sustained presence and ongoing resources to develop productive relationships, trust, and awareness. The FRRCC thus recommends the following to EPA:

25. Provide expanded, enhanced, and ongoing support to EPA's TCTACs beyond initial grant years in perpetuity.
26. Conduct proactive outreach to engage directly with **potential** applicants, including those not currently engaged in EPA programming, in order to identify specific assistance needs, including needs for early-phase planning and project development, in order to navigate communities to appropriate resources.
27. Consider resources similar to the Rural Partners Network that provide ongoing support staff at the sub-regional level to work directly with underserved communities, networking resource providers, triaging specific community needs, and providing early-phase planning support.
28. Consider resources that would allow sub-regional organizations with pre-existing relationships and trust to build capacity that would allow them to work directly and proactively on a sustained basis with underserved partners, including those not currently engaged with EPA programming.

Drought and Flood Resilience to Climate Change Impacts

Background

Food and water borne diseases are a global threat to public health. Disadvantaged and overburdened communities of vulnerable populations with poor sanitation infrastructure and public health capacity are at particular risk of infection. Worldwide more than 2.5 billion people

have limited access to improved sanitation and more than 771 million lack access to potable water and more than 140 million drink untreated surface water (WHO 2019). Water-related diseases heighten the global public health burden. Limited access to potable water and sanitation contribute to more than 800,000 deaths in children from diarrheal illnesses (CDC 2018).

The United States of America (USA) has about 148,000 small systems, each one serving 10,000 people or less, mostly in remote and poor areas of the country. Many of these are operated by community members lacking the monetary and technical capacity to respond to the challenges of serving safe water and restoring service after a climatic event. Most are Small, and very small, potable Water Supply Systems (SWSS - defined as serving 501-3,300; the majority serving <501 very small and small populations as shown in the USEPA Safe Drinking Water Information System Federal data (USEPA 2011)). There are also some privately/personally owned water supplies managed by the local, communities they serve which used to serve only a few households but now serve a greater number. Treatment, when present, is limited to disinfection with chlorine and is often inconsistent (Minnigh & Ramírez Toro 2004). A recent study assessed the burden of diarrheal disease due to inadequate drinking water quality in these communities (Hunter et al. 2010).

Under the Safe Drinking Water Act & the Clean Water Act, the EPA has devised ways for the protection of the population by means of establishing barriers between the user and the contaminants (Revision of the Safe Drinking Act Focus and Rules); most of these risks to contaminants were passed to the consumer by way of the system infrastructure. Droughts and floods now present another source of emerging risks. EPA under the then new 1990s focus, created or reviewed rules to address the need to prepare the infrastructure to confront emerging contaminant risks. EPA should continue this strategy to include the emerging impacts to water quality and quantity that droughts and floods are predicted to cause, incorporating the issues of rural drinking water supplies and both droughts and floods as yet another component of on-going strategies.

Small Water Supply Systems typically serve extremely rural and underserved populations. These systems are most at risk of increasing waterborne illness because typically these systems generally lack operational capacity and typically improperly treat and disinfect the water, and they are more likely to fail during an extreme climate event (Minnigh & Ramirez-Toro 2004; Hunter et al. 2010; USEPA 2006). For example, the US EPA reported that small system violations comprised the vast majority of the most serious of health-based standards (EPA 2016). Health based standards include monitoring for E. coli, turbidity and treatment techniques such as disinfection (Crespo-Medina et al. 2020). The myriad risk factors associated with water related illnesses are preventable.

Climate change, however, is predicted to lead to spatial and temporal changes in rainfall and temperature that may heighten the risk of pathogen and other contaminant proliferation and dissemination. The potential impacts of these anticipated changes are multifactorial. Environmental survival of many gastrointestinal pathogens is linked to exposure to incident radiation and temperature (John 2005). Changes in the intensity of rainfall events and their

patterns through time will alter the spatial disposition of pathogens in the environment through droughts or flooding and overland flow (Sanderson et al. 2017). Spatial-temporal variation in sources and the risk of encountering pathogens will alter the distribution of the disease burden. Prior studies on Campylobacter-associated disease in UK populations demonstrated the importance of weather in determining exposure to Campylobacter in rural environments, both in terms of influencing the distribution of the pathogen (Sanderson et al. 2018) and how humans utilize the landscape (Rushton et al. 2019). Climate change may also impact crop availability, livestock production, the makeup of family diets and limit further access to potable water sources. Whilst it is possible in general terms to indicate how climate will impact the environment, it is not possible to predict how this will impact exposure risk and human behaviors that are most likely to be of significance in determining the burden of disease.

Recommendations (Approved as written – 8/12/24)

The FRRCC recommends that US EPA develop guidance documents, update regulations, and prioritize funding frameworks to aid communities in the development of technical, managerial and financial plans and associated projects to increase community preparedness to the expected public health impacts of climate change:

29. Develop or integrate into existing strategic planning efforts guidance and programmatic modifications that will incentivize infrastructure improvements, with a focus on water/wastewater systems to make them resilient to change by minimizing exposure to pathogens that can reach the water systems
30. EPA should work with other executive agencies to enhance integrated planning and rulemaking frameworks as well as external communications to allow for community and stakeholder input in the process
31. Coordinate with other federal agencies (USGS/NOAA/Bureau of Reclamation) to research and develop source water and atmospheric modeling, data collection, and monitoring programs to better understand the challenges that climate variability poses to public health and food security.
32. Evaluate and improve forecast systems and climate models utilized by EPA to inform preparedness plans, including the integration of local and regional modeling efforts undertaken by state and local governments, regional agencies, and integrated climate mitigation and adaptation groups (for example, the Southeast Florida Climate Change Compact).