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

# Greenhouse Gas Reduction Fund
# Mobilizing Private Capital Speaker Series

## Public Minutes

November 12, 2024

Location: Virtual

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

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## Purpose

The U.S. Environmental Protection Agency's (EPA) Environmental Financial Advisory Board (EFAB or Board) is an advisory committee chartered under the Federal Advisory Committee Act (FACA) to provide advice and recommendations to the EPA on creative approaches to funding environmental programs, projects, and activities. The purpose of the webinar was for the Board to support the Greenhouse Gas Reduction Fund (GGRF) charge workgroup. This webinar addressed mobilizing private capital across a single GGRF priority sector, Net Zero Buildings (NZB), providing concrete examples of deals and transactions that have been successful. Examples included financial innovations and structures that reduce the overall risk of NZB projects, efficient development and deployment models that reduce overall capital costs or policy innovations such as tax credits that enable communities to advance harder-to-fund projects.

The webinar was announced in the *Federal Register*; see https://www.govinfo.gov/content/pkg/FR-2024-10-25/pdf/2024-24786.pdf

To view the agenda, see https://www.epa.gov/system/files/documents/2024-11/efab-ggrf-webinar-agenda-deg.pdf.

## Welcome and Review of Agenda

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

Tara Johnson opened the webinar and welcomed participants. She said that today's webinar is the third in a planned series of three public webinars being conducted by EFAB, in response to its charge from the Office of the Greenhouse Gas Reduction Fund at the EPA. She said a summary and recording of the first webinar that was held in July is available on the EFAB public website and that a summary and recording of the second webinar held on September 19$^{th}$ would be posted to the EFAB website shortly. Tara Johnson emphasized that the meeting was a public meeting and said that, per the *Federal Register* notice, the Board is not accepting oral statements during the event. She further explained that the Board is accepting written comments during and immediately following the webinar, which the public can submit by emailing them to efab@epa.gov. She stated that no written public statements were received in advance of today's meeting. Tara Johnson noted that the webinar would be recorded and posted on the EFAB website within 90 days.

## Office of Greenhouse Gas Reduction Fund Opening Remarks

**David Widawsky** | Office of Greenhouse Gas Reduction Fund Director

David Widawsky thanked Tara Johnson and the entire Board, particularly the workgroup that has supported the exploration on mobilizing private capital as an important pillar and a goal of the Greenhouse Gas Reduction Fund. He provided a quick summary of the Greenhouse Gas Reduction Fund program – a historic investment under the Inflation Reduction Act to promote clean energy transformation, to promote energy independence and resilience, and to explore the opportunities for creativity and innovation of America's financing institutions to effectuate a clean energy transformation and bring those to bear in our financing institutions. David Widawsky underscored that the $27 billion grant program is oriented around mobilizing private capital as an important attribute to the whole financing ecosystem. He stressed that EPA is very lucky to have a workgroup consisting of about a dozen experts, led by Lori Collins, who was not able to join today, and Jeff Diehl to explore opportunities for mobilizing private capital in a GGRF context.

David Widawsky highlighted the past webinars on decarbonizing buildings and decarbonizing transportation and expressed that today's conversation on distributed energy generation is as an exciting next step in moving the capital mobilization work forward. David Widawsky said that he is joined in the effort by several colleagues, in particular Ashley Allen Jones who is the program's Senior Advisor for Finance and has a long career in finance and capital formation and deployment. He expressed EPA's eagerness to hear the conversation on distributed energy generation and pointed out the incredible lineup of speakers for today's webinar.

## GGRF Mobilizing Private Capital Charge

**Jeff Diehl** | EFAB Mobilizing Private Capital Workgroup co-chair

Jeff Diehl introduced himself as the Chief Operating and Compliance Officer for Coalition for Green Capital and a member of EFAB. He welcomed attendees to the webinar. Jeff Diehl then described the GGRF Mobilizing Private Capital charge objective: *to provide advice regarding the execution and achievement of the GGRF's key objective to mobilize private financing and private capital to* *stimulate additional deployment of projects that drive greenhouse gas and air pollution reductions.* He explained that the charge focused on three main priority project domains: 1) clean energy, such as solar in single family and multi-family communities; 2) energy efficiency across all buildings as well as electrification; and, 3) transportation, specifically electrification of passenger, commercial, battery storage and charging. Jeff Diehl explained that EFAB agreed to convene experts in each of these areas to discuss capital mobilization, points of entry for financial leverage, and the scope and scale-up of private financing. He said EFAB agreed to do this through three public discussions with experts, each focused on a specific priority project domain. Jeff Diehl said the current webinar would focus on distributed energy generation.

Jeff Diehl then introduced Stephen Abbott as the moderator of the discussion. He said that Stephen Abbott is a principal at RMI where he manages RMI's programmatic efforts to help U.S. cities and communities to leverage federal programs to accelerate the adoption of clean technologies through providing technical insights, best practices, and tactical guidance to communities. Stephen previously led RMI's Business Renewables Center where he led projects to develop technical manuals and guides and create the program's web platform. He also worked for a renewable energy developer and economic consulting firm on issues related to corporate decisions. Jeff Diehl thanked Stephen Abbott for leading the conversation.

## GGRF Mobilizing Private Capital Distributed Energy Generation

**Stephen Abbott** | Principal, U.S. Programs, RMI

Stephen Abbott opened the discussion by echoing comments already made about the historic investment of $27 billion across three different programs to combat climate change: the National Clean Investment Fund (NCIF), the Clean Communities Investment Accelerator (CCIA), and Solar for All. He underscored that 80% of the funds have been allocated and that a portion of those funds would be invested in low-income and disadvantaged communities (LIDACs). He then explained the limitations of $27 billion to address deployment across more than 30 million low-income households and the related assumption that clean energy deployment would need to reach hundreds of billions if not trillions of dollars invested in the coming decades. Stephen Abbott said GGRF recipients are aiming to leverage private capital between 2:1 and 7:1 under the program. He then pointed to a series of potential obstacles that the the program needs to address to effectuate targeted change:

- Deal economics are often challenging for LIDACs particularly when projects don't have sufficient equity capital to make down payments and therefore are more reliant on financing which can erode cost savings.
- LIDACs often struggle to meet underwriting criteria due to lack of sufficient credit history or an overly low FICO score.
- Smaller projects tend to have higher financing costs relative to large projects.
- The market has a lack standardization, which inhibits secondary markets or securitizations.

Stephen Abbott posed the overriding question: "How can we take this historical investment of $27 billion in funds and help to create an engine or an ongoing sustainable market engine leveraging private capital to truly address challenges that help communities that are most in need?" He then turned to the panelists to explore challenges with the group collectively.

## Private Capital Mobilization in the Distributed Energy Generation Space – Experts

**Jon Abe** | Co-Founder and CEO, Sunwealth

Jon Abe introduced himself as the co-founder and CEO of Sunwealth, which develops, owns, and operates what he calls "impactful community based solar projects" with an emphasis on benefitting underserved communities. He said Sunwealth has been around for ten years and has deployed about a quarter of a billion dollars, with 727 projects in 17 states plus Washington, D.C., including over 200 low-income solar projects. Jon Abe said that more than half of Sunwealth projects are within low-income communities and explained that Sunwealth projects tend to be relatively small, about 100 kilowatts or 10,000 square feet of roof space.

**Nancy Pfund** | Founder and Managing Partner, DBL Partners

Nancy Pfund introduced herself as Managing Partner of DBL Partners in the San Francisco Bay Area. She explained that DBL Partners has been in the business of funding the climate transition since the early 2000s and financed some of the early electric vehicle companies including Tesla in 2006 and several first-generation solar companies, such as SolarCity, Powerlight and NEXTracker. Nancy Pfund thanked EPA for bringing the group together and stressed her excitement to be part of the conversation and to explore the many lessons learned in the first generation about how private capital can work with the public sector. She stressed that many of these solutions have now been codified into law but still merit examining as there are still challenges in the sector. Nancy Pfund underscored that many public policy incentives drove the progress that exists today in climate investing and that these policies changed the landscape for jobs, communities, and innovation and mitigating the risks of climate change. Nancy Pfund said she is excited to unpack how the private capital markets can work with public policy and have done so to allow us to enjoy the energy transition.

**Aldric Seguin** | Managing Director, Global Sustainable Future

Aldric Seguin thanked everyone for putting together the event and introduced himself as head of Global Sustainable Future, a specialty finance entity that co-develops and finances sustainable infrastructure projects. He said that at Global Sustainable Future, he sees both sides of the capital equation and experiences how hard it is to raise capital associated with certain projects and how difficult it is to justify spending capital. Aldric Seguin explained that the field includes a range of different enterprises and credit profiles from developers to construction companies to end users. He said it brings in a different impact to the utilities and that understanding each participant's pain points and what each participant considers "success" is a big part of today's conversation.

**Emily Robichaux** | Director of Climate Partnership Lending, Amalgamated Bank

Emily Robichaux introduced herself as the Director of Climate Partnership lending at Amalgamated Bank. She explained that Amalgamated is a 101-year-old financial institution founded by a union in New York at a time when members of the union could not easily access banking services and that the bank continues to carry that mission forward making it a "socially responsible" bank. Emily Robichaux said that during today's conversation she would share the perspective of private capital providers, particularly debt providers that are excited about the opportunity that the GGRF presents for financing climate solutions. She said that Amalgamated is the first U.S. bank to receive Science Based Target Initiative approval of its Net Zero Strategy and explained that nearly 40% of Amalgamated's lending portfolio is in climate solutions. Emily Robichaux said that Amalgamated is a federally regulated financial institution and that she is particularly excited about the credit enhancement and co-lending opportunities that the GGRF presents which will allow the bank to reach more borrowers.

**Chris Lee** | Senior Manager, Structural Finance and Transactions, Euclid Power

Chris Lee introduced himself as a Senior Manager with Euclid Power, a software and service company serving the renewable energy sector. He explained that Euclid currently has over 500 renewable energy and storage projects aggregating over four gigawatts on its platform. Chris Lee highlighted his experience as a clean energy investor and developer, and that his current role at Euclid is to assist developers and investors to structure and execute clean energy and storage financings. He said he looks forward to the conversation.

## Private Capital Mobilization in the Distributed Energy Generation Space – Discussion

Stephen Abbott curated the group discussion first by asking specific questions to the individual panelists, with the first question posed to Nancy Pfund: "Given your experience in impact investing, I thought it might be helpful to hear about how private capital has worked with the public sector to support clean energy in the past; what worked, what didn't, and what is still hard to finance today? Nancy Pfund offered the following insights:

- When we started [clean energy investing] was a niche business and the solutions were too expensive for the masses. So, we needed to work with our policy colleagues to help create demand that would allow for more scale in manufacturing of solar panels and electric vehicles (EVs) so that prices would come down.
- Some of the policy levers that were important, for example, were the Investment Tax Credit (ITC) which provided the ability to get a tax credit on rooftop solar panel deployment. The ITC was hugely important because the panels were expensive and had to be paid for upfront. The ITC created a tax equity market and brought in banks and corporations that could use their tax liabilities to create solar leases and then funds around them.

- The ITC reduced the heavy upfront cash requirement and allowed for scaling and allowed for standardization in leasing terms, which eventually led to securitization. This allowed us to drive down the cost of capital which is a huge part of the goal here.
- Other demand stimulation policy tools that we used in California included the "1 million solar roofs" policy that allowed a rebate for solar rooftop purchases, and things like net metering that allowed owners to sell back excess power at retail rates to the utility.
- On the zero-emission vehicle side, the California Resources Board mandated that traditional car companies had to pay a certain amount of money to those creating low or no emission vehicles, as a way of coaxing people toward lower emissions. Therefore, a company like Tesla was able to get those payments from Honda and other companies because of this law. We have proven examples of what worked and allowed the industry to scale.
- In terms of low-income communities, policymakers created a set-aside for multi-family low-income housing that was an enhanced rebate. It was a small percentage of the program, but it went after the fact that these communities needed an enhanced rebate. It was used up in months, so the fact that we see a 40% set-aside in federal laws is solving some of the issues we faced.
- The incentives cannot all be in one demographic; there must be a balanced portfolio in financial instruments, so it can't have all one state or one demographic. This will remain a challenge.
- Additionally, the Community Reinvestment Act (CRA) was critical in directing investments into lower income neighborhoods. The DBL Fund was heavily funded by CRA money in its first fund.
- We have proven that we can scale on a broad base, so we are beginning to get double digit percentages, but it's going to take some additional tweaking to get us to low-income communities.

Stephen Abbott then turned to Jon Abe and requested an overview of how project finance typically works, the opportunities he's seeing, what a typical capital stack looks like, and the most common barriers where GGRF could play a critical enabling role.

Jon Abe provided the following feedback:

- None of the sector would work but for the critical work that Nancy Pfund and her colleagues and the people that came before us did over many years to build markets, companies, policy initiatives, capacity building, etc.
- Typical projects happen in and around the built environment – rooftops, parking lots, odd lots of land, etc.
- Sunwealth packages and finances these projects, providing a no upfront cost option. The capital structure is typically a combination of our equity, debt and tax equity, or direct pay policies.

- The market still has a ton of work to do and there are different financing options which will only be increased with GGRF.
- At Sunwealth we make sure to provide clear and meaningful savings to the offtakers and allow for them to own the benefits of the project. Then we reduce transaction costs by bundling projects together and attempting to standardize documentation.
- The question for us is how we best address GGRF leverage and other sources of public policy to invest a couple trillion dollars into distributed generation solar over the next generation.

Stephen Abbott then turned to Emily Robichau to discuss what types of capital she sees reaching low-income communities and what role commercial banks can and should have to move it forward.

Emily Robichaux provided the following comments related to sources of clean energy finance for low-income communities:

- It’s important that we continue to reach low-income communities with funds for clean energy deployment.
- We have seen these funds flow through Community Development Finance Institutions (CDFIs), green banks, philanthropies, and managed funds.
- CDFIs have operated for decades and are incredibly effective at reaching borrowers that have a harder time accessing traditional bank capital.
- Green banks are a slightly newer sector, but especially where they have had low-income or community development funding as part of their mission, they have been incredibly effective at reaching a low-income community with climate solutions financing.
- Many foundations are moving into program related investments that enable them to take subordinated positions which then opens the opportunity for senior debt to come into the transaction.
- Managed funds are typically non-bank groups that pool capital from various sources with a particular investment objective and ability to provide credit enhancements in a pre-formed way.

Emily Robichaux suggested three specific ways that commercial banks can provide capital to these low-income-focused clean energy transactions:

- Overcoming hurdles on specific transactions by partnering with a CDFI or a green bank;
- Providing capital to community banks to in turn deploy into transactions; and,
- Partnering with [clean energy and low-income] specialty financial firms to develop products and portfolios together.

Emily Robichaux suggested that for deals where traditional issues, such as deal size, rate, borrower track record, or liquidity, do not meet a traditional bank's requirements, then partnering with a specialty green bank or CDFI can be a particularly good way to get a deal done. She provided the example of Amalgamated working with an early-stage developer seeking permanent financing for a solar portfolio. They partnered with a local green bank to provide a credit enhancement in the form of a one-year additional payment reserve. She explained that Amalgamated has provided on balance sheet capital to CDFIs and has financed funds developed by non-bank lenders to reach borrowers at deal sizes that are unfeasible for Amalgamated. Finally, she detailed a recent co-investment with a local green bank that brought a solar deal that was too large for them to hold. Amalgamated lead the transaction and allocated a portion of the deal back to the bank as a pari passu lender.

Stephen Abbott asked Chris Lee about the importance of standardization in scaling private capital involvement in clean energy deals. Chris Lee offered the following points:

- Developing and building clean energy generation facilities is challenging regardless of scale, and there's not a one-size-fits-all approach. The low-income segment is particularly susceptible to these challenges.
- GGRF has a great opportunity to be a leader to centralized capacity to standardize and monetize at scale. Whether it's monetizing tax credits at scale, providing first loss reserves, credit enhancements, it's important to work closely with cash equity and tax equity sponsors to create these deal mechanisms.
- Investors are not interested in a one-off opportunity. Documents must be standardized with templates that can be fully vetted. Investors are good at making business decisions, but they aren't very good when presented with a set of documents that are unfamiliar.
- Investors also need to clearly understand the statutory requirements and what information they must provide to government/regulatory bodies that may fall beyond what they typically provide for other investments.
- Investors also must clearly understand all facets of the investment process and program administration.

Stephen Abbott asked Aldric Seguin if there is a realistic expectation of the amount of private capital that can be leveraged and the implications for U.S. communities. Aldric Seguin provided the following thoughts:

- We know that there is an immense amount of capital is looking to be deployed and the GGRF and IRA provide numerous financial benefits to multiple communities.
- The real question is how to use GGRF to marry it to address the challenges at hand.

- First, you have to identify the role of the low-income entity. Are they the project offtaker, the solution buyer, a potential asset owner, a developer, etc.? This is important because each has a different credit profile and associated risk.
- Then, it's a global question of how GGRF can assist in de-risking the low-income entity with institutional capital – first loss reserves, insurance platforms, loan guarantees, credit backstop, or enhancements.
- Additionally, the financial markets need clarity on tax treatments and other measures that impact them. Right now, there is a lot of risk because of uncertainty.
- There is a lot of work being done by multiple groups to de-risk transactions through ITC monetization and novel structures that are not just a typical bridge loan but bringing cash upfront to bring the whole cost stack down and make benefits available to all participants.
- We also see municipality-backed solar power initiatives, where municipalities act as an offset to the credit scores of the low-income participants.
- In the end, there's no lack of capital and no lack of projects but the players all must be on the same page.
- If this is successful, it means more jobs, less carbon, and more energy resilience in communities. If you can decentralize the risks associated with grid failure through community-based infrastructure efforts, that benefits everyone including the utilities.

Stephen Abbott opened the discussion to the entire group through asking for a collective perspective on some of the key issues that private finance and policy makers should consider as they seek to accelerate deployment of clean energy projects in an equitable and sustainable way.

- Nancy Pfund suggested that the emergence of artificial intelligence (AI) will cause energy, societal, and capital impacts, perhaps in low-income communities where data centers are often located. She suggested this could create new risks and new opportunities for low-income communities. The risk is that the data centers, which are often in low-income communities, will increase the vulnerability of communities. We could use some of the programs to work with communities to build solar and storage and a clean energy footprint for these data centers which would help the overall community. AI presents a real opportunity for the sector to roll up its sleeves and figure out. Nancy Pfund also pointed to the need transmission development and approval is a way to bring low-income communities into the game of the clean energy solution.
- Aldric Seguin further suggested that the AI challenge is capacity and redundancy, with redundancy in the form of generators of betters. This is an opportunity to look at public-private partnerships: Can the low-income communities serve as a secondary offtake where there is a mutually beneficial outcome?

- Jon Abe suggested that, in addition to energy equity, there is also workforce equity and a constraint in meeting demand for AI is workforce capacity issues. So, investing in low-income communities, not just in job training but to create future owners of businesses, goes hand-in-hand with enabling them to share in energy benefits of projects.

Stephen Abbott asked the speakers to reflect on the importance of tax benefits to finance the projects.

- Chris Lee suggested that tax credits are very important for the clean energy sector as it represents over 30% of the financing for projects. He explained that the tax credit market exists today would be much smaller without the ITC or production tax credit. He said the depreciation is important but isn't a deal-breaker. If depreciation is not fully taken advantage of, deals are still getting done. Chris Lee said that scale matters a lot. Tax credit investors are easy to come by on projects over $100 million, but non-utility scale and small scale residential is much more difficult to monetize investment tax credits. He suggested aggregation of tax credits is a potential strategy to address smaller projects.
- Emily Robichaux suggested that while tax credits policy is important, it's also important to understand how the owners can access the benefits – everything from the sizing to the counterparty and whether the participants have experience with these types of transactions.
- Aldric Seguin pointed out that a major challenge in low-income communities is knowledge of clean energy transactions, particularly the tax credit market. He suggested that perhaps banks could play a role in filling the information and expertise gap for developers seeking funding for projects.
- Emily Robichaux suggested that there are brokers and non-profit developers in the market that have expertise in monetizing through elective pay and that perhaps there's the need for a new line of business for these non-profit developers to help other developers.

Stephen Abbott asked about the role of foundations and philanthropies in helping to build the sector.

- Nancy Pfund explained that foundations made an investment in the Bay Area Equity Fund as a program related investment. In the resilience space, foundations are coming in even when it's too early for early-stage venture capitals. For example, foundation funders are supporting new approaches to wildfire management that combine AI, advanced aerospace technologies, and satellite technologies to distribute fire retardant more accurately. So, the foundations help to define the market opportunity.

- Emily Robichaux suggested that foundations and philanthropies have an opportunity to provide finance and transaction expertise to both lenders and borrowers to help advance the GGRF effort. In particular, she sees a big gap between companies that have borrowed capital from a bank and those that have not, so perhaps philanthropic capital could provide support in that area of expertise.
- Jon Abe said that foundations have provided credit enhancements for many years. There are many lessons learned and a whole toolkit that could be used for these deals.

Stephen asked if there are key distinctions between the programs that are part of GGRF that private capital providers should understand.

- Emily Robichaux suggested that the main distinctions right now are timing, along with differences among specific awardees and sub-awardees in strategies and how to best match up and pair with them on certain transactions.

Stephen Abbott posed a final question to the group about what advice they would give a private capital provider who is interested in playing in the space.

- Nancy Pfund suggested that the sector already has the playbook: work with the policymakers, work with the advocacy groups, work with the banks and the communities, and pull together a “coalition for the purpose” to implement the law.
- Aldric Seguin said that it’s very important for the financial institutions to be very clear about their need, their particular investment criteria, and their measurement approach.
- Emily Robichaux added that financial institutions need to be clear about their target market for a particular product, what they can offer, and how GGRF capital gets slotted in. She added that she thinks banks can help people navigate the ecosystem of GGRF.
- Chris Lee said that, for an individual investor, do the homework, understand the risks and opportunities, and reach out to the entities that have been awarded under the program.
- Jon Abe said that banks might have an interest in the clean energy sector, but they are busy doing other things, so the [clean energy development] community needs to dig deep into the traditional banking community and harness both existing investors and new investors.

Stephen Abbott ended the session by suggesting that the discussion provided a lot of useful direction and interesting ideas that collectively the community can take back and continue to think through. He thanked the speakers and turned the floor back over to Jeffrey Diehl.

## Wrap-Up

**Jeff Diehl** | EFAB GGRF Private Capital Mobilization Workgroup co-chair

Jeff Diehl thanked Stephen Abbott, Aldrich Seguin, Emily Robichaux, Jon Abe, and Chris Lee for taking the time from their busy days to lead the awesome discussion and help the EPA and the entire ecosystem try to make the best use of the funds.

## Adjourn

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

Tara Johnson thanked all participants, particularly the EFAB members, for their voluntary time to help the EPA and the federal government, and Lori Collins and Jeff Diehl who are the co-chairs of the EFAB workgroup. She underscored that questions could be directed to EFAB@EPA.gov, and that any written comments would be provided to EFAB and posted to the EPA website. She then adjourned the event.