U.S. Environmental Protection Agency
Environmental Financial Advisory Board

Greenhouse Gas Reduction Fund
Mobilizing Private Capital Speaker Series

Public Minutes

July 30, 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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Contents

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-2024-07-09/pdf/2024-14821.pdf

To view the agenda, see www.epa.gov/system/files/documents/2024-07/efab-ggrf-webinar-agenda-nz-buildings.pdf

Welcome and Review of Agenda

Ed Chu | EFAB Designated Federal Officer

Ed Chu opened the webinar and welcomed participants. He said that today's webinar is the first in a planned series of three public webinars being conducted by the Environmental Financial Advisory Board, in response to its charge from the Office of the Greenhouse Gas Reduction Fund at the EPA. He emphasized that the meeting is a public meeting, and said that per the *Federal Register* notice, the Board is not accepting oral statement during the event. He further explained that the Board is accepting written comments during or immediately following the webinar, which the public can submit by emailing them to efab@epa.gov. He stated that no written public statements were received in advance of today's meeting.

Office of Greenhouse Gas Reduction Fund Opening Remarks

David Widawsky | Office of Greenhouse Gas Reduction Fund Director

David Widawsky expressed his good fortune to lead an organization within the EPA that is implementing a historical investment by the U.S. government in a clean energy future with $27 billion in grants across 3 grant programs. He explained the three key pillars of the GGRF: i) reduction of greenhouse gas; ii) increasing financial access to low-income and disadvantaged communities that may have been left behind in the clean energy transformation; and iii) deploying private capital as an important catalyst in expanding and amplifying the success of the GGRF. He said the third pillar is the focus of the current webinar series.

David Widawsky said the day's conversation would look at different characteristics of market and market access where private capital can take advantage of and partner with GGRF programs to maximize success. He thanked the EFAB members and those specifically on the mobilizing private capital workgroup for helping to guide the exploration of this important topic.

GGRF Mobilizing Private Capital Charge

Lori Collins | EFAB Mobilizing Private Capital Workgroup co-chair

Lori Collins introduced herself as the founder of Collins Climate Consulting and a member of EFAB. She 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.* She explained that the webinar series would focus on three priority project areas for GGRF: Distributed Energy Generation, Net Zero Buildings, and Zero Emission Transportation. The EFAB agreed to convene experts in each of these arenas through three to four public expert gatherings to discuss capital mobilization, points of entry for financial leverage, and the scope and scale of private financing.

Lori Collins then introduced Susan Leeds, the moderator for the discussion. She said Susan Leeds is best known as being the founding CEO emeritus of the New York City Clean Energy Efficiency Corporation where she launched, built, and managed all aspects of the organization from its inception in 2011 through 2018. She explained that Susan now specializes in green bank formation and management and development of financing solutions to mitigate climate change. Lori emphasized that EFAB is delighted to have Susan leading the discussion. She thanked Susan and the panelists for their expertise and time.

GGRF Mobilizing Private Capital Net Zero Buildings Session

Susan Leeds | Climate Finance Consultant

Susan Leeds said she is pleased to moderate the discussion and explained that the webinar addresses mobilizing private capital, a key GGRF program objective, with a focus on a single GGRF priority sector - NZB. She underscored that the GGRF program must figure out how to engage private investment capital to support an equitable transition to a clean energy economy. She stressed that the EPA has, in the Notice of Funding Opportunities (NOFOs) and related guidance, invited GGRF awardees to think expansively about the topic, and to open their toolbox and innovate. She suggested that this open invitation gives rise to several questions:

- *How should we think about mobilizing private capital; the project capital stacks?*
- *How should we think about mobilizing private capital at the balance sheet level?*
- *How should we think about secondary market transactions?*
- *How should we think about attracting private capital through different phases of project financing? From pre-development, through construction, through permanent capitalization?*

Susan Leeds then introduced the first speaker, Michael Freedman-Schnapp.

Private Capital Mobilization in the Net Zero Building Space – Experts

Michael Freedman-Schnapp | Forsyth Street Advisors Managing Director
Topic: Overview of Types of NZB Projects

Michael Freedman-Schnapp opened his discussion by providing some basic information about the history of energy efficiency and green buildings. He explained that original models were predicated on the thesis that saving energy saves money in the operation of the building and that the sector could use cost savings to finance the upfront costs of energy saving measures.

Michael Freedman-Schnapp went onto explain that electrifying buildings can be expensive and complex – between $20,000 to $100,000 per unit of housing – and is often more than the cost of the energy savings from the electrification. He said the ability to mobilize private capital often depends on available incentives, such as those available via the Inflation Reduction Act (IRA), or it depends on the ability to blend private capital and public capital together.

Michael Freedman-Schnapp then gave some examples of different types of NZB deals and the complexities inherent therein.

- *Single Family Buildings:* Easier because putting a lot of commercially available technologies together in one location; for example, heat pumps require a single trade.
- *Multi-Family Buildings:* More complex because there may be constraints around size of roof to generate solar, common load and demand, and seasonality issues. In the case of affordable housing, the projects already have a lot of subsidies and financing in them.
- *Commercial Buildings:* Have the issues of split incentives between the landlord and the tenant, and how projects are financed and who claims the benefits.
- *Existing Buildings:* Higher level of complexity due to multiple systems (electrical, HVAC, etc.) and multiple trades overlapping.

Michael Freedman-Schnapp said that, in the context of state and Federal incentives that are available now, there is potential for more projects to get done. However, he emphasized the importance of balancing risks and returns relative to private capital. He said that private capital is being asked to take on additional risks, and there is not a long history with some of the projects, which results in more tension as more private capital comes into the mix. He also underscored the additional GGRF requirements, such as prevailing wage and Build America, Buy America (BABA) policies, that can increase pricing significantly. He then closed by saying that despite these challenges, people are looking at the opportunity and that there's a lot of energy behind the GGRF. He said he fields numerous calls seeking to access GGRF money, but again emphasized the importance of balancing sources of capital and risk/return scenarios.

Esther Toporovsky | Community Sustainability Partners Executive Director
Topic: NZB in Low-Income and Disadvantaged Communities

Esther Toporovsky introduced Community Sustainability Partners as experts in clean energy finance and community development who work with public agencies, advisers, community lenders, and developers on green lending strategies focused on low-income housing. She said it's not a one-size-fits-all solution when trying to attract private capital into deals, emphasizing, as Michael Freedman-Schnapp did, that there are many nuances between multi-family versus single family housing and retroverts versus new construction.

Esther Toporovsky then posed the question: "How do you bring non-traditional capital sources into housing transactions, particularly strategies for low-income and disadvantaged communities?" She suggested that past strategies had worked in fits and starts, but she sees GGRF capital as positioned to act as gap filler that lower the cost of private capital and reduce risk. Examples include using GGRF capital to:

- fund *all* energy measures within a project, in order to make the entire deal operate more efficiently (for example, funding measures with concessionary capital that may not directly show the high levels of energy savings or returns but are part of the entire energy efficiency solution for a building);
- expand the use of investment tax credits and other types of tax credits;

- create decarbonization soft loans that free up more debt and equity for affordable housing deals (one specific example cited was using grant money from the New York State Housing Agency Home and Community Renewal program to purchase energy from the State Energy Agency to support more private capital leverage);
- lowering cost of capital (for example, providing 1-2% rates from concessionary capital that are blended with 7% commercial rates to lower the overall rate to allow for more capital leverage with same loan payment);
- providing second mortgages that decrease the overall costs of a mortgage and increase proceeds to cover deeper upgrades; and,
- de-risking deals through loan loss reserves and loan guarantees to create better terms for borrowers.

Esther Toporovsky presented a sample deal on a spreadsheet that showed a typical capital stack for an affordable housing deal. The deal presented was a 4% development project that uses GGRF funds to create a $1.5 million subordinate loan alongside new solar tax credits. The subordinate loan creates $5 million of additional private capital capacity to cover hard construction costs.

Guy Van Syckle | HASI Director
Topic: Enterprise-level (developer) Project Finance

Guy Van Syckle thanked EFAB for the opportunity to participate in today's call. He said he thinks of the topic of enterprise-level project finance as "how can we mobilize many of the stranded projects out there." He suggested that many top developers have projects in their queues that, from a credit profile or cost of capital perspective, have been unable to come to fruition. He said HASI has the good fortune of partnering with some of the best energy efficiency developers and, in those contexts, HASI is the capital provider and takes upwards of 90-100% of project costs. He provided an example of a $30 million project to upgrade a school district, municipal building, or commercial industrial energy efficiency site including all lighting, heating, and cooling, often some solar, battery storage, etc. He said in these contexts, if the underlying school district or commercial entity does not meet private capital requirements, GGRF dollars could come in to help mobilize capital.

Guy Van Syckle suggested the GGRF leverage could provide capital and capacity in the form of:

- capital reserves to lower risk;
- project aggregation to meet mobilization cost thresholds; and,
- development capital to cover upfront costs that ultimately can be taken out by private capital.

He said that financing has gotten efficient in the energy efficiency space, particularly using Federal energy savings performance contracts. However, he suggested that places still exist, particularly in the commercial industrial space, where if GGRF can blend down the cost of capital materially, more projects can be funded under energy service agreements.

Guy Van Syckle said that previously, funding of qualified energy conservation bonds and clean renewable energy bonds that were funded as part of the IRA stimulus were extremely successful in bringing down cost of capital and mobilizing projects. He challenged developers to look for projects that are on the precipice of success but have gotten stalled, and to look for capital firms that can structure financings that can creatively layer in GGRF capital to solve problems. He suggested additional strategies that drive transaction efficiency including standardization of contracts and project structures which could open the door to institutional investors including pension funds and insurance companies.

Chrissa Pagitsas | Pagitsas Advisors Principal
Topic: Secondary Market Opportunities and Challenges

Chrissa Pagitsas expressed that the GGRF is bringing forward many great experts and great ideas that have been working in the background for many years, if not decades, and that the current effort reflects a culmination of all this great work. She summarized questions around GGRF including:

- how do you use GGRF funds to basically add extra value to the deal;
- how do you think about engineering issues and challenges;
- how do you think about impact and measurement; and,
- how do you think about touching your investors.

She then posed the question: "What are we really building through GGRF, and how are we going to do it within our existing organizations?" She said the panel is really talking about how GGRF can amplify the power of organizations to create scalable solutions to transform markets and how those solutions can be replicated by others.

Chrissa Pagitsas explained that she was the first head of green financing at Fannie Mae for the multi-family business. She further explained that Fannie Mae serves the single family and multi-family housing markets in the U.S. as a secondary lender and its final product is securitization of pooled loans. She shared lessons she has learned about scaling a product and reaching the secondary market.

She said the sector must ask: "What is the product going to look like to a non-green investor?" She assumed that most people on the call are knowledgeable or at least interested in having an understanding of sustainability, energy efficiency, and various financing mechanisms for clean energy. She then underscored that the group represents a small minority of all financial professionals and that the sector has to decide if it is building solutions for specialized green/climate investors or trying to create a liquid product of interest to a broader set of investors.

She said the Fannie Mae program has gone from zero to over $100 billion in green bonds issued and backed by multi-family green loans. She said that this was only possible because Fannie Mae cultivated and invested in a network of lenders that truly understand green products. Chrissa Pagitsas said these lenders are complemented by a network of energy auditors and capital markets teams that understand the specific underwriting and securitization requirements of green loans.

She raised a question about the level of commitment from individual organizations to a sustainable mission and suggested that some organizations are fully dedicated, while others might have other priorities in addition to climate or might have no existing green loans but are working to figure it out. She recommended that financial professionals spend time thinking about internal and external stakeholders. She underscored that it took more than two years at Fannie Mae to get to a product launch on a new green product.

Chrissa Pagitsas then raised the topic of external parties including regulators, industry associations, and other organizations working in the sector, who need to be partners in creating scalable amplified and market transforming solution.

Stuart Kaplow | Stuart D. Kaplow, P.A. Attorney and Principal
Topic: Legal Issues in NZB Sector

Stuart Kaplow opened by saying that from a legal perspective, there are broad and deep opportunities in the NZB sector. He suggested he would pivot the conversation to focus on the Fortune 100 companies that are not by their nature or their mission green, and that he would touch on five germane legal issues:

- how buildings get to be net zero, since the conversation is changing now that the goal is not just energy efficiency but “net zero”;
- matters of timing to get to net zero;
- green hushing and green bleaching;
- definitions of net zero; and,
- where the Federal Trade Commission (FTC) sits in the sector, which is very important in in the corporate world.

Stuart Kaplow gave a real-world example of a commercial building owner who wanted to become net zero or net neutral. He explained that his work on this project included: i) assessing embedded carbon and calculating carbon exposure from demolition; ii) sourcing sufficient offsets for demolition loads in the same regional grid; iii) securing a power purchase agreement (PPM) for rooftop solar; iv) selling solar Renewable Energy Credits (RECs); v) modifying the construction contract so the general contractor could allow a third party to do the solar installation; and, vi) purchasing Oklahoma wind RECs to comply with FTC requirements so the project did not get tied up in greenwashing. He said that ultimately, for a 130,000 square foot renovation, the project put $45 million on top of a 1973 building to get it to be net zero. He emphasized that the construction budget now increased to $346 a square foot, which he suggested is an example of what it takes be achieve net zero in the commercial marketplace in an urban area today.

Stuart Kaplow then suggested that to pronounce something as “net zero” is often an after-the-fact adventure, since a building is not net zero at the time of the financing, at the time of construction, and at the time of occupancy. He suggested that it is usually more than a year after occupancy before net zero can occur, and that on average probably about 15 months after occupancy before a developer can determine that a project is net zero. He suggested that this timing is a big deal if lenders or others don’t understand that net zero is reached only after the construction loan is come and gone and after permanent financing is already in place on the project. This creates a challenge for lenders who may not have a lot of experience in the sector.

He introduced the third topic as unpopular to think about with many of the people who would be on a webinar: green washing and now green bleaching are very real and may be the single and biggest sustainability topic he faces. He explained that in corporate America today, his firm has assisted more companies in removing greenhouse gas data and related statements from their public-facing documents than assisting in presenting such information. He offered the example of Google which, as of three weeks ago, no longer claims to be carbon neutral and removed all references in their public-facing documents to their buildings being net zero. He said that for leaders in the space, the reputational risk and liability issues are huge, and that nearly half of the major U.S. companies are today looking at less disclosure, not more.

Stuart Kaplow then raised the fact that there needs to a better definition of net zero. He said that many of these private sector definitions are well-intentioned, but they don't align with new state laws that are coming onboard. He said he generally uses the International Organization for Standardization (ISO) net zero guidelines because they are widely and universally accepted.

On the final topic, Stuart Kaplow said that FTC provides very important guidance. For example, FTC guidance states that “if a marketer generates renewable energy but sells the renewable energy certificates for the electricity, it will be deceptive for the marketer to represent directly that it uses renewable energy.” He said this cuts directly into the ability of many, if not most, projects to be able to publicly describe themselves as net zero.

He closed by saying thank you and underscoring that NZB represent a huge and emerging area of work, not only for the legal profession but also for the business community at large, far beyond just the multi-family residential sector.

Panelist Discussion

Susan Leeds | Clean Energy Consultant

Low-income versus Commercial Housing

Susan Leeds opened the panelist discussion with a focus on NZB in low-income and disadvantaged communities. She directed a question to Esther Toporovsky on where the private capital comes from that currently reaching low-income and disadvantaged communities (LIDACs), in particular affordable housing projects.

Esther Toporovsky suggested that there is a lot going on in this sector and a lot of private capital there already, with capital stacks already layered with the soft subsidy sources discussed today. She said that when looking at low-income tax credits on the local level, about 80% of back-end investment is coming from the private sector. She stressed that there is a huge industry of tax credit investors on the low-income housing side.

Esther Toporovsky went on to say that tax credit investors are used to seeing large-scale solar utility, so housing is a very different scale. In a utility scale environment, she continued, the scale is in gigawatts; for multi-family affordable housing, the project may get 250 kilowatts. She said making deals work requires aggregation of maybe five buildings into one deal so that 250 kilowatts increase to over 1 megawatt, which would be a portfolio-level solar deal. She continued by stressing that when thinking about capital on the private/commercial side of housing, they can look at models that have done really well in the community development space including through Community Development Finance Institutions (CFDIs), many of which have been very creative in the space.

Susan Leeds responded by thanking Esther for providing insight into how the nuts and bolts of low-income housing deals work, how GGRF funds could be one more element that can be layered with various capital sources, and perhaps function in a risk reduction position in the capital stack or as another source of money with a specific goal of advancing energy efficiency and decarbonization.

Michael Freedman-Schnapp added that, if they were talking about affordable housing, the buyers are mostly tax credit investors which is a mix of banks, Fannie Mae, and Freddie Mac as well as the bond buyers who are buying through housing finance agencies. He suggested that this is a very competitive market and that it might be tight for GGRF money to be injected.

Michael Freedman-Schnapp then suggested that GGRF money itself will be very helpful but might be best used in places that aren't as mature, like community facilities where GGRF capital could be injected either on the balance sheet of lenders or as a first position lender (higher risk). He then suggested again the use of GGRF capital to buy down rates and that to make the transactions normative is the name of the game.

Susan Leeds then asked if the speakers had estimates that they might be able to share with the group on the expectations for the amount of private capital that can be leveraged. Michael Freedman-Schnapp responded that he has seen green banks achieve 5-1 or 6-1 private dollars for every public dollar. He added that it probably ranges from 3-1 to 1-1 private capital for every public dollar in the permanent financing stack for non-affordable housing deals. He concluded by saying these deals may be "higher impact," but lower leverage.

Ideal Entry Points and Standardization Requirements

Susan Leeds then posed another question: "What are the ideal entry points for private capital in the GGRF ecosystem or specifically in a transactional sense?" She shared her perspective that some of the larger, more established private capital investors often look for assets to be seasoned or for a performance track record before the funder will get heavily involved.

Guy Van Syckle suggested that seasoning is obviously important, along with asset class and credit profile. However, he said that one of the larger elements would be how much capital can be deployed in one underwriting. He emphasized that it's very difficult to mobilize institutional insurance company dollars below a $50 million threshold, so one of the roles that HASI plays is to aggregate smaller deals by setting up efficient financing platforms with development partners.

Guy Van Syckle went on to say a that a lot of capital mobilization requires standardization around documentation, standardization around structures, and clear underwriting approach or credit box, which creates opportunity to bring in private capital in larger chunks. He summarized that private capital providers have limited time and are in the business of putting dollars out the door as efficiently as possible so standardization and aggregation is very helpful.

Susan Leeds followed up with a question about specific terms or structural elements that need to be standardized. Guy Van Syckle offered the following items:

- security interest language/lender protections in contract;
- clarity on performance, operation and maintenance elements, payment calculations if the project is based on savings, and related payment;
- requirements for when capital comes in and when risk transfers from the developer to the customer in terms of payments; and,
- rights to intervene if deal goes sideways.

Susan Leeds extended a question to Stuart Kaplow on the same topic, asking if there are standardization requirements that might impede a particular transaction. Stuart Kaplow suggested that all real estate is unique, but that some standardization elements will be critical to getting deals done. He offered the example of a structure that does not trigger a default under the existing financing or that doesn't require something new like a land recording that would prohibit securitization. He also stressed that NZB are an entirely new space that often require residential or commercial leases to be changed and may require new RECs to be purchased every two years. He went on to say that dollar amounts can change, so all these factors need to be built into the deal. He ended by saying the requirements vary from jurisdiction to jurisdiction (for example, building energy performance standards, mandatory disclosure requirements, etc.).

Risks to Private Capital Leverage

Susan Leeds then shifted the conversation to how private capital leverage can increase the impact of deals, but can also come with additional risks, particularly if a smaller lender is taking on balance sheet leverage or other higher risk positions to achieve mobilization targets.

Chrissa Pagitsas responded by suggesting that no organization likes risk, whether large or small, and that the challenge is around smaller organizations, whether because they are new to the space or have limitations in their structures. She suggested the importance of understanding the length of time capital is available from internal and external sources and the commitment of senior executives in organizations to bring in partners and investors to help to mitigate risk. She underscored that the secondary market has an important role to play and that they are looking for liquid structures versus something boutique that has to be held on balance sheets.

Wrap-Up

Lori Collins | EFAB GGRF Private Capital Mobilization Workgroup co-chair

Lori Collins wrapped up the session by thanking the panelists and moderator. She said that the EFAB will host two more sessions, tentatively in mid-September and mid-November on Zero Emission Transportation and Distributed Energy Generation and invited the attendees to join those webinars as well.

Adjourn

Ed Chu | EFAB Designated Federal Officer

Ed Chu thanked all participants, particularly the EFAB members, for their voluntary time to help the EPA and the Federal government. He reminded everyone to submit written comments by sending them to EFAB@epa.gov where they would be captured and posted with the webinar materials to the EFAB website. He reiterated the upcoming two webinars scheduled for September and November and said the specific dates would be published in the Federal Register Notice at least 15 days in advance. He then closed by reminding EFAB members that the next full board meeting is tentatively scheduled for October 2024.