December 1, 2022

U.S. Environmental Protection Agency
ATTN: Environmental Finance Advisory Board
1200 Pennsylvania Avenue NW
Washington, DC 20004
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SUBJECT: Public Comments from the Connecticut Green Bank – Environmental Finance Advisory Board Request for Public Comments

To Chair Kerry O'Neill:

The Connecticut Green Bank ("Green Bank") appreciates the U.S. Environmental Protection Agency's ("EPA") Environmental Finance Advisory Board's ("EFAB") efforts to request public comments on the Greenhouse Gas Reduction Fund ("GHGRF"). EPA is seeking advice from EFAB on a number of things related to the GHGRF.

As the nation's first state-level green bank, the Connecticut Green Bank leverages the limited public resources it receives to attract multiples of private investment to scale up clean energy deployment. Since its inception, the Green Bank has mobilized $2.26 billion of investment into Connecticut's clean energy economy at a 7 to 1 leverage ratio of private to public funds. The Green Bank has supported the creation of 27,720 direct, indirect and induced jobs, reduced the energy burden on over 66,500 families and businesses, deployed nearly 510 MW of clean renewable energy, helped avoid 10.4 million tons of CO2 emissions over the life of the projects, and generated $113.6 million in individual income, corporate, and sales tax revenues to the State of Connecticut.

These are the public comments of the Green Bank to EFAB on the GHGRF.

Section I: Objectives – Environmental Justice Definitions and Program Efficiency

A. Environmental Justice Definitions

i. What considerations should EPA take into account in defining "low-income" and/or "disadvantaged" communities in order to ensure fair access/that the funding benefits disadvantaged communities?

Response

The Green Bank's response applies to Sec. 134(a)(1) and Sec. 134(a)(3) of the GHGRF that specifically address low income and disadvantaged communities.

The Green Bank proposes several things for EPA's consideration in defining "low income" and "disadvantaged" communities, including appropriate state and federal definitions and non-locational community definitions.

State and Federal Definitions

Consistency in the definition of "distressed", "low income", "disadvantaged", and "structurally marginalized communities" across federal agencies and state agencies (e.g., state energy offices, departments of health and departments of housing) would support the successful deployment of capital to these high interest communities. In Connecticut there are two (2) definitions of relevance – environmental justice community and vulnerable communities.

- **Environmental Justice Community** – the definition of an *environmental justice community* (Connecticut General Statutes "CGS" 22a-20a)[1] consists of (A) a United States census block group, as determined in accordance with the most recent United States census, for which thirty percent or more of the population consists of low-income persons, not including institutionalized individuals, that are 200% below the Federal poverty level, or (B) a "distressed municipality"[2] (CGS 32-9p).

[1] https://portal.ct.gov/-/media/DOT/CGSSec22a20aEnvironmentalJusticeCommunitypdf.pdf

[2] "Distressed municipality" means, as of the date of the issuance of an eligibility certificate, any municipality in the state which, according to the United States Department of Housing and Urban Development meets the necessary number of quantitative physical and economic distress thresholds which are then applicable for eligibility for the urban development action grant program under the Housing and Community Development Act of 1977, as amended, or any town within which is located an unconsolidated city or borough which meets such distress thresholds. Any municipality which, at any time subsequent to July 1, 1978, has met such thresholds but which at any time thereafter fails to meet such thresholds, according to said department, shall be deemed to be a distressed municipality for a period of five years subsequent to the date of the determination that such municipality fails to meet such thresholds, unless such municipality elects to terminate its designation as a distressed municipality, by vote of its legislative body, not later than September 1, 1985, or not later than three months after receiving notification from the commissioner that it no longer meets such thresholds, whichever is later. In the event a distressed municipality elects to terminate its designation, the municipality shall notify the commissioner and the Secretary of the Office of Policy and Management in writing within thirty days. In the event that the commissioner determines that amendatory federal legislation or administrative regulation has materially changed the distress thresholds thereby established, "distressed municipality" means any municipality in the state which meets comparable thresholds of distress which are then applicable in the areas of high unemployment and poverty, aging housing stock and low or declining rates of growth in job creation, population and per capita income as established by the commissioner, consistent with the purposes of subdivisions (59) and (60) of section 12-81 and sections 12-217e, 32-9p to 32-9s, inclusive, and 32-23p, in regulations adopted in accordance with chapter 54. For purposes of sections 32-9p to 32-9s, inclusive, "distressed municipality" also means any municipality adversely impacted by a major plant closing, relocation or layoff, provided the eligibility of a municipality shall not exceed two years from the date of such closing, relocation or layoff. The Commissioner of Economic and Community Development shall adopt regulations, in accordance with the provisions of chapter 54, which define what constitutes a "major plant closing, relocation or layoff" for purposes of sections 32-9p to 32-9s, inclusive. "Distressed municipality" also means the portion of any municipality which is eligible for designation as an enterprise zone pursuant to subdivision (2) of subsection (b) of section 32-70.

- **Vulnerable Communities** – the definition of *vulnerable communities* (Public Act 20-05)[3, 4] builds on the environmental justice community definition to also incorporate the disproportionate impacts of climate change for low- and moderate-income communities, environmental justice communities, communities eligible for the Community Reinvestment Act of 1977, and allowing for further changes in the definition by DEEP in consultation with community representatives.

The Department of Energy ("DOE") has led a Justice 40 Initiative which identifies and prioritizes serving disadvantaged communities ("DACs"). The DOE defines DACs as people groups with cumulative burden over a broad list of indicators, including types of socio-economic vulnerability, environmental and climate hazards, etc. The DOE definition of DACs also references the Office of Management and Budget's Interim Guidance definition of a community: a community is a geographic location (i.e., census tract) and can be a people group not physically in the same area with a shared-common experience.

Connecticut's public policy definitions of environmental justice communities and vulnerable communities are consistent with the DOE's Justice 40 Initiative, as well as the intent of the GHGRF's low-income and disadvantaged communities.

If EPA were to align the GHGRF definitions to appropriate, existing state (e.g., environmental justice communities, vulnerable communities) and federal definitions (e.g., DOE's Justice 40 Initiative's DACs), it would have an amplifying impact on where and how these funds reach this critical audience. EPA should consider such state and federal definitions for low income and disadvantaged communities for the GHGRF where appropriate.

Non-Locational Community Definitions

Incorporating a non-location community definition would allow EPA to develop programing that is adaptable to changing community dynamics, such as indigenous populations that may or may not be co-located. Although low income and disadvantaged community designations are noted in the GHGRF, the alignment to support distressed and marginalized communities is shared across the federal and some state governments.

In reference to possible criteria or tools, another consideration for EPA in prioritizing greenhouse gas emissions and other air pollution reduction efforts is the tie between low-income and disadvantaged communities and the geographic location of historic industrial land use. Connecting with research support can help to identify specific locations and support the changes in locating potential air polluting facilities. Dr. Robert Bullard, Dr. Beverly Wright and scholars within topics of environmental justice and distributive justice have researched the connections between marginality and transportation access and emitting facilities. In Connecticut, those cities identified as disadvantaged using DOE's definitions align with historic

[3] "An Act Concerning Emergency Response by Electric Distribution Companies, the Regulation of Other Public Utilities and Nexus Provisions for Certain Disaster-Related or Emergency-Related Work Performed in the State" – click here.

[4] "Vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by the Department of Energy and Environmental Protection in consultation with community representatives.

industrial cities with aging infrastructure (e.g. Bridgeport, Harford and Waterbury) and compounding environmental impact on natural resources (e.g. air quality, emissions). This will likely look different across the nation, but in the northeast, GHGRF can support these types of low-income distressed areas, including those with brownfields.

EPA should consider state-determined brownfields within its definition of low income and disadvantaged communities.

ii. How can EPA ensure that communities and organizations who have received little or no funds in the past receive priority consideration for funding? How could EPA identify the low-income and disadvantaged communities it should prioritize for greenhouse gas and other air pollution reduction investments?

Response

The Green Bank's response applies to Sec. 134(a)(1) of the GHGRF.

Please see responses within Section 1 Bii (below) regarding fund distribution and Ai (above) regarding identifying low-income and disadvantaged communities.

An Intended Use Plan ("IUP") is considered one of best practices of the State Revolving Fund, and the Green Bank supports it as a tool to ensure an equitable, competitive distribution of funds. Through such an IUP, EPA could require states identify communities and organizations that have received little or no funds in the past, prioritize those communities in fund allocation. Such IUP's could also require states to identify low income and disadvantaged communities it should prioritize for greenhouse gas and other air pollution reduction investments.

iii. What kinds of technical and/or financial assistance should GHGRF funding recipients provide to ensure that low-income and disadvantaged communities are able to be direct or indirect beneficiaries of GHGRF funding? Please identify supports that could help communities with project implementation.

Response

The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

GHGRF funding could provide a variety of technical and/or financial assistance to ensure low-income and disadvantaged communities are able to be direct or indirect beneficiaries of GHGRF funding.

Technical Assistance

Several DOE technical assistance programs, present best practice models for community engagement, including, but not limited to:

- **National Laboratories** – the DOE has an extraordinary resource in its seventeen (17) national laboratories that can provide various forms of technical assistance. For example, the National Renewable Energy Laboratory ("NREL") provided rigorous, integrated engineering-economic analysis to the Los Angeles Department of Water and Power through

the Los Angeles 100% Renewable Energy Study ("LA100").[5] NREL is doing something similar with PR100 in Puerto Rico.[6]

- **Communities LEAP**[7] – a pilot technical assistance program that brings together resources from the nation's premier national laboratories with disadvantaged communities across the country to develop or implement local clean energy plans. Grounded in the eight (8) policy principles of the DOE's Justice 40 Initiative, resources from the GHGRF should be provided for Communities LEAP to be replicated and scaled-up across the country to support more low-income and disadvantaged communities.

- **SunShot Initiative** – a program to reduce "soft costs" from the deployment of solar PV, the SunShot Initiative provided technical assistance resources to communities to reduce permitting and zoning barriers, reduce customer acquisition costs through community-based marketing campaigns (e.g., Solarize,[8] Solar for All[9]), and increase information on financing to enable investment in and deployment of clean energy. The GHGRF should provide technical assistance resources to replicate and scale-up such community-based activities with a focus on low-income and disadvantaged communities.

Such technical assistance in community action planning, implementation, and engagement, with support to remove local barriers and increase customer adoption of technology through marketing and financing, while meeting the needs of the community, will ensure low-income and disadvantaged communities are able to be direct or indirect beneficiaries of GHGRF funding.

Financial Assistance

There is a need for continuous and ongoing financial assistance training and certification of workers. For example, there are several "best practice" certificate programs, including, but not limited to:

- **Financing and Deploying Clean Energy Certificate Program**[10]– a year-long online admissions-based certification program offered by Yale for working professionals who seek to accelerate the transition to a clean economy. The key objective of this program is to help professionals understand the interplay of the financial, technological, and socioeconomic drivers in financing and deploying clean energy.

- **Solar Lending Professional Training and Certification**[11]– an online program offered by Inclusiv, designed to increase the capacity of community-based lenders (credit unions, community development financial institutions ("CDFIs"), and community banks) to offer solar financing. The training is offered free of charge to cohorts of lending professionals who have high capacity to implement solar loan programs at their institutions.

[5] https://www.nrel.gov/analysis/los-angeles-100-percent-renewable-study.html
[6] https://www.nrel.gov/news/program/2022/doe-launches-study-to-consider-equitable-pathways-to-power-puerto-rico-with-100-renewable-energy.html
[7] It should be noted that the Green Bank, working in collaboration with the Greater Bridgeport Community Enterprises and Operation Fuel, were among the awardees for Communities LEAP technical assistance pilot.
[8] https://cbey.yale.edu/sites/default/files/2019-09/Solarize%20Your%20Community%20Rev1%20Dig.pdf
[9] https://www.ctgreenbank.com/solarforall/
[10] https://cbey.yale.edu/financing-and-deploying-clean-energy-certificate-program/about-the-certificate
[11] https://inclusiv.org/inclusiv-center-for-resiliency-and-clean-energy-free-solar-lending-professional-training-certificate/

Such financial assistance should be encouraged and scaled up through funding from the GHGRF, which will not only ensure low-income and disadvantaged communities are able to be direct or indirect beneficiaries of GHGRF funding, but also provide useful workforce development and credentials to support the advancement of people of color within financial services.

B. Program Efficiency

i. How can the GHGRF grant competition be designed so that funding is highly leveraged (i.e., each dollar of federal funding mobilizes multiple dollars of private funding)? How can the funding be used to maximize "additionality" (i.e., the extent to which funding catalyzes new projects that would not otherwise occur)? How can EPA balance the need for grants for capacity building and short-term results with financial structures that will allow capital to be recycled over time? Where (if at all) is it appropriate to impose sustainability requirements on direct or indirect beneficiaries of GHGRF funding?

Response

The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

Leverage

The capital required to address federal and state goals for carbon reduction, together with the particular emphasis for environmental justice for low-income and disadvantaged communities, far outstrips the $27 billion of funding available under the GHGRF. As such, it is indisputable that higher private-sector leverage, as well as the ongoing sustainability of grant funds once issued by EPA, is a particularly desirable criteria for GHGRF grant awards. At the same time, the Green Bank recommends considering the following:

(1) Leverage can be a challenging metric to define and measure – particularly across different activities (lending vs. market building for instance)
(2) Certain financial institutions may have an inherent advantage over other financial institutions in leveraging grants with the private-sector
(3) Some institutions that will be potential GHGRF program applicants will be "non-financial" entities (such as States, municipalities, and Tribal governments pursuant to Sec. 134(a)(1)) – and may find strict requirements for private-sector leverage a challenging barrier – but should still qualify for grants
(4) Still other worthy institutional applicants or indirect recipients may yet exist (as suggested in Sec. 134(b)(2)) and their ability to achieve private-sector leverage upon commencement of operations could be limited for a prolonged period.

While the Green Bank feels that leverage should be an essential criteria for GHGRF awards, awards should consider a series of factors – such as the demonstrated ability of an organization to reach and serve their designated market area, deploy capital into GHG reducing activities, attain carbon reductions, reduce energy burdens (with additional credit for serving low-income customers and disadvantaged or underserved / underbanked communities). EPA would be better served by appreciating the diverse capabilities of different market actors and using criteria which enables EPA to allocate grants and establish deliverables or outcomes based on: a demonstrated track record of GHG reducing activities; pathways to local communities, either directly or via active partnership activities; clear coordination with state energy, housing and

transportation policies for climate action; and robust systems to track capital deployment and environmental outcomes.

To accommodate new participants without a track record of success but that may still be essential in the transition to a green economy, EPA should invite applicants to provide a process that embraces and provides access to funding for innovative models on the horizon while respecting the need for these new players to demonstrate outcomes that satisfy GHG, climate justice and economic development goals.

Additionality

The Green Bank supports the GHGRF policy to facilitate additionality but emphasizes that demonstrating additionality can be challenging. The program should prioritize grants for GHG reduction purposes which, in the absence of the grants, would not have occurred. However, in practice it can be difficult to attribute causation to a particular intervention.

Today, access to capital for GHG reduction projects can be constrained by several barriers such as a lack of willingness of capital providers to fund certain technologies, types of end users (e.g., LMI customers or multifamily affordable housing situations), or certain geographies. Increased costs for capital can also be a barrier to financing such as a disparity between perceived vs. actual risk, market failures, or constrained supply of a particular source of capital (e.g. tax equity). The time required to source capital for projects or the scale of the activity may be yet another barrier.

While the funding available through the GHGRF may allow projects to address these barriers and develop projects that otherwise would not be realized, demonstrating this may be a barrier. In considering additionality, we recommend EPA take a holistic approach such that GHGRF scale, impact, efficiency, and equity are not sacrificed for a strict ability to evidence additionality.

Recycling Capital

To create the generational change envisioned by the GHGRF, it is likely that some organizations will be involved in capacity building, market building, education, or technical assistance and that this support may take the form of grants. However, to maximize the impact of the GHGRF, the Green Bank supports a policy of recycling grants to ensure continued operability. It is expected that the cost of the grants detailed above to support activities such as capacity building will be recovered long term through financing activities.

Best Practices and Lessons Learned from ARRA

The GHG grant competition can be designed so that funding is highly leveraged and maximizes additionality by considering the “best practices” and “lessons learned” from the American Recovery and Reinvestment Act (“ARRA”). In addition to that, EPA needs to balance the need for grants for capacity building and short-term results with capital structures that will allow capital to be recycled over time (i.e., revolving loan funds). The Green Bank provides the following comments.

EPA should consider "best practice" program design features from ARRA, which taught many state and local governments how financial assistance can increase and accelerate the investment in and deployment of clean energy, including, but not limited to:[12]

- **Loan Loss Reserves** – by providing community development financial institutions, credit unions, and community banks with loan loss reserves, the Green Bank was able to stretch public resources further; and

- **Interest Rate Buydowns** – by initiating special offers to lower interest rates to encourage new technology adoption (e.g., solar PV, air source heat pumps, ground source heat pumps), the Green Bank was able to increase and accelerate the investment in and deployment of clean energy.

The Green Bank invested $8.3 million of financial assistance from ARRA, in combination with $16.5 million of its own resources, to mobilize $158.1 million of private capital investment in clean energy. Beyond the significant leverage of ARRA funds, the investments were a catalyst to new financing opportunities within Connecticut (e.g., from CT Solar Lease to Solar for All) and investment outside of Connecticut (e.g., CT Solar Loan).

For details on the financing products and the social impact resulting from resources provided through ARRA – see Attachment A.

This investment resulted in supporting over 9,000 families reducing energy burden from clean energy deployment, while creating over 2,000 jobs, reducing nearly 600,000 tons of CO_2 emissions, and reaching over 50% of the projects with nearly 40% of investment in vulnerable communities. Several of the residential financing programs supported by ARRA, including new programs created as a result of ARRA (i.e., Solar for All), led to significant investment and projects directed at vulnerable communities – see Table 1.

Table 1. Green Bank Residential Clean Energy Financing Programs by Investment and Projects for Vulnerable Communities

Program	Investment ($MM's)			# of Projects		
	Not Vulnerable Communities	Vulnerable Communities	% Vulnerable Communities	Not Vulnerable Communities	Vulnerable Communities	% Vulnerable Communities
Smart-E Loan[13]	$75.1	$41.3	34%	3,689	2,627	42%
CT Solar Loan	$6.7	$2.4	26%	197	82	29%
CT Solar Lease[14]	$30.2	$16.1	35%	746	443	37%
Solar for All[15]	$27.9	$90.5	76%	929	3,363	78%

One of the many "lessons learned" supporting ARRA implementation, specifically as it applied to residential clean energy financing and deployment, was categorical exemptions for Davis Bacon, National Environmental Policy Act ("NEPA"), and historical preservation. Recognizing the

[12] It should be noted that the use of ARRA funds for "third party insurance" was not pursued by the Green Bank, however, given the increasing impacts of climate change, such an approach could be useful in the future.
[13] Annual Comprehensive Financial Report for FY22 (270) – click here
[14] Ibid (354)
[15] Annual Comprehensive Financial Report for FY21 (266) – click here

importance of a just transition and the need for Community Benefit Agreements ("CBAs"), the Green Bank would suggest that EFAB consider similar treatment as ARRA for eligible projects (e.g., not applying to projects with construction costs less than $5 MM) for residential customers supported by the GHGRF, including those residing in single family homes and multifamily affordable housing.

ii. Are there programs/structures at the federal or state level that could effectively complement the GHGRF? How can EPA best leverage the GHGRF to support lasting, long-term (beyond 2024) transformation of the clean energy and climate finance ecosystem, especially for disadvantaged communities, and greenhouse gas and other air pollution reductions?

Response

The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF as noted in the comments below.

Complementary State and Federal Programs

For Sec. 134(a)(1), EPA should consider the alignment of an applicant's projects with or advancement of state and federal equity goals such as location-specific pollution reductions, the projects' alignment with or advancement of state decarbonization and/or resilience plans, and a portfolio's likelihood and scale of financial standing improvement for disadvantaged communities. EPA should allow grants to act as flexible, gap-filling monies to complement other sources of funding (i.e., BIL or state incentive programs) and to unlock private-sector investment not only for projects that need credit enhancement but also for projects and communities, particularly environmental justice and vulnerable communities, that currently have limited access to financial markets due to systemic inequities.

The same can be said for application of GHGRF grants pursuant to Sec. 134(a)(1), (2) and (3), toward projects benefitting from rebates, tax credits and other support from the Inflation Reduction Act, the Bipartisan Infrastructure Law ("BIL") or American Rescue Plan Act. The BIL offers a myriad of opportunities to advance GHG reduction priorities. Various Connecticut state agencies have already participated in dozens of RFIs, FOAs, and RFPs issued in support of the BIL. The Green Bank has participated in these activities as they align to our mission of supporting Connecticut to achieve our policy goals of a 45% reduction from 2001 levels by 2030 (equivalent to 50% reduction from 2005 levels by 2030). We provide support to these requests by: sharing lessons learned from our decade of work in the clean energy space and ensuring that environmental justice community leaders are aware and have the resources to participate in these activities.

To achieve federal, state, and local GHG reduction targets, GHGRF grants need to be as flexible as possible – particularly when used to advance investment in low-income and disadvantaged communities – to be gap-filling and catalytic funds to complement increased investment in qualified projects.

Equitable Competitive Distribution of Funds

In terms of a structure at the federal level that could effectively complement Sec. 134(a)(1) of the GHGRF, while supporting lasting, long-term transformation, the Green Bank suggests that EFAB consider an "equitable, competitive distribution of funds" using "best practices" from existing EPA financing programs (i.e., State Revolving Funds ("SRF") and Water Infrastructure Finance and Innovation Act ("WIFIA")).

As EPA begins to layout a process for determining how the GHGRF will be distributed, it need not look beyond the best practices it has already established through the SRF and WIFIA funds. The SRF has provided nearly $190 billion of low-cost financing for a wide range of water quality and drinking water infrastructure projects since inception – 43,000 water quality and 16,300 drinking water projects.[16] Within the Bipartisan Infrastructure Law ("BIL") (or Infrastructure Investment and Jobs Act ("IIJA")), EPA will allocate $44 billion in dedicated SRF to States, Tribes, and Territories with nearly half of this funding available as grants or principal forgiveness loans that remove barriers to investing in essential water infrastructure in underserved communities. And WIFIA, has provided more than $13 billion in 72 loans to accelerate investment in the nation's water infrastructure by providing long-term, low-cost supplemental credit assistance for regionally and nationally significant projects.[17] By combining the allocation approach of SRF, with the competitive approach of WIFIA, EPA has a proven and transparent process for implementing Sec. 134(a)(1) of the GHGRF that would result in an **equitable, competitive distribution of funds**.

For example, the BIL provided an SRF allocation to States, Tribes, and Territories for both clean water ("CWSRF") and drinking water ("DWSRF"). EPA should apply this allocation formula (e.g., CWSRF and/or DWSRF). And then, per the competitive approach of WIFIA, States, Tribes, and Territories would submit a letter of interest in such allocation, and then submit an application (including a plan for reaching low-income and disadvantaged communities) to compete for such funds. A State, Tribe, or Territory could request funds greater than their CWSRF and/or DWSRF allocation, however, they will only receive such additional funds beyond their allocation if there aren't enough strong applications for such funds or if allocation fails to be used in a timely manner in accordance with the terms of the grants (i.e., such funds could be redeployed to other allocatees).

In addition, states working together within an EPA region, could request additional funds for regionally significant projects.

The GHGRF should not be looked at as a one-time investment. Instead, if invested properly, then perhaps there could be an annual recuring source of funding approved by Congress. EPA should prepare for success in investing funds, just as it has done with the SRF and WIFIA funds and follow its own best practices towards the **equitable, competitive distribution of funds**.

Section II: Program Structure – Eligible Recipients, Eligible Projects, and Structure of Funding

A. Eligible Recipients

i. Who could be eligible entities and/or indirect recipients under the GHGRF? What should the thresholds for deployment be – both amount and timing – for GHGRF funding by these entities? Please provide references regarding the total capital deployed by these entities into clean energy and climate projects.

Response

[16] EPA Press Release of February 16, 2022 (click here)
[17] EPA Press Release of March 24, 2022 (click here)

The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

EPA has been allocated a limited amount of funds to administer and oversee the GHGRF program. Therefore, as a practical matter, EPA will need to constrain grants to a limited number of ultimate recipients and should therefore solicit applications whereby the ongoing access to financial and technical assistance can be assured over many years. Green Bank suggested separately in its RFI response to EPA that EPA solicit proposals for a substantially capitalized national clean energy financing platform – a national climate bank (NCB) funded via grants sourced under Sec. 134(a)(2), and Sec. 134(a)(3) – could fulfill this need for ongoing access to financial and technical assistance for a wide range of applicants over many years to come. But the NCB will only be able to fulfill its mandates for direct and indirect investments and financial and technical assistance (including grants as well as financing for equity grants and long-term, patient capital (with no – low cost of funds) for intermediaries with a substantial grant from EPA. Provided the governance, leadership and management of the NCB is acceptable to EPA (as described in Green Bank's RFI responses), EPA should be confident granting a very substantial grant (not less than $10 billion) to such NCB. EPA could even stipulate that the NCB allocate to intermediaries or sub-grantees a defined amount of the original grant to be so allocated in the form of grant or near equity funds that could permit the intermediaries or sub-grantees to leverage these funds with private-sector investment or capital. The NCB should be required to demonstrate that it allocates in grants or financing a minimum of 100% of the funds granted to it by EPA within 5 years from the date the funds are received by the NCB. As described in Green Bank's RFI responses, EPA should expect the NCB to leverage its balance sheet by at least $2 for every $1 of "net assets" (effectively the NCB's equity) - and potentially this could be $3 or even $4 per $1 of "net assets". The NCB may attract other revenue streams as it matures, but unlike some development bank analogs, the NCB will not have "callable capital" from sponsoring governments – so it is uncertain in practice how much leverage the NCB could achieve. We do observe that the UK Green Investment Bank achieved this "100%" target in just over 3 years – so this does suggest that the NCB could considerably exceed this target by year 5.

Separate from the NCB, the Green Bank asserts that there should be a strict: "use it or lose it" rule. This is another benefit of the NCB addressed in the Green Bank's RFI responses – the ability to provide "capital on demand". In this way – entities needing capital or grants (which would be subject to a competitive process) – would apply only for the capital or grants they could actually deploy in a particular period of time. In the event that recipients were unable to deploy the capital, the balance of the grant or capital allocation would be redeployed to others ready and able to make use of the funding. From this perspective, the deployment period might be short (since the capital is available "on demand") - such as 12, 18 or 24 months. It would be less likely that funds would be recaptured (unless the failure to deploy was so substantial that recovery of some portion of the undeployed funds would be mandatory). More often, the case would be that the next "tranche" of funding would be reduced or deferred. In any event, the allocation of capital would be more dynamic and more akin to the way financial institutions all over the nation make funds available to their borrowing clients.

ii. What eligible entities and/or indirect recipients would best enable funds to reach disadvantaged communities? What are their challenges and opportunities and how can EPA maximize the use of these channels?

Response

The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

An "eligible recipient [entity]"[18] and/or "indirect recipient,"[19] such as a statutorily created state or local green bank, working in concert with community development financial institutions and other local lenders, could enable GHGRF grants to support investment in and deployment of GHG and air pollution reducing projects in low-income and disadvantaged communities. For example, the Green Bank is a quasi-public agency created through an act of legislation by the Connecticut General Assembly ("CGA"). As a quasi-public agency, the Green Bank is a nonprofit organization that supports the State of Connecticut in confronting climate change by reducing GHG emissions by 45% and no less than 80% from 2001 levels by 2030 and 2050, respectively, through the investment in and deployment of clean energy and environmental infrastructure.

Within its Comprehensive Plan, the Board of Directors of the Green Bank, established a goal that by 2025, no less than 40% of investment and benefits from the Green Bank be directed to vulnerable communities. Since its inception, the Green Bank has made progress towards this goal – see Table 2.[20]

Table 2. Investment in and Deployment of Clean Energy in Environmental Justice Communities in Connecticut with Support from Green Bank (2012-2022)

Investment		Deployment		Projects	
$MM's	**%**	**MW**	**%**	**#**	**%**
$787.0	36	162.2	32	23,648	39

The investment in and deployment of clean energy will avoid the emissions of GHGs and air pollution – see Table 3.[21]

Table 3. Emissions Avoided from Investment in and Deployment of Clean Energy in Connecticut

CO_2 Emissions (lifetime tons)	NO_x Emissions (lifetime pounds)	SO_2 Emissions (lifetime pounds)	$PM_{2.5}$ Emissions (lifetime pounds)
10,432,372	11,148,904	9,657,105	857,422

For a summary of the Green Bank's social impacts – see Attachment B.

B. Eligible Projects

[18] Means a nonprofit organization that (A) is designed to provide capital, leverage private capital, and provide other forms of financial assistance for the rapid deployment of low- and zero-emission products, technologies, and services; (B) does not take deposits other than deposits from repayments and other revenue received from financial assistance provided using grant funds under this section; (C) is funded by public or charitable contributions; and (D) invests in or finances projects alone or in conjunction with other investors.

[19] Undefined under Sec. 134

[20] Annual Comprehensive Financial Report for FY22 of the Green Bank (155)

[21] Ibid (147-149)

i. What types of projects/sectors/market segments could EPA prioritize for funding through the eligible recipients?

Response

The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

In addition to "distributed technologies on residential rooftops," in terms of "qualified projects"[22] and "zero emissions technology,"[23] the Green Bank would suggest that EPA look to the Clean Energy and Sustainability Accelerator ("Accelerator") passed out of the House of Representatives,[24] National Climate Bank Act introduced in the Senate,[25] and state level projects (e.g., environmental infrastructure) consistent with the intent of the GHGRF for additional guidance.

Accelerator and National Climate Bank

The Green Bank, supporting work being led by the Coalition for Green Capital, assisted Congresswoman Dingell with the drafting of the Accelerator, including the definition of "qualified projects" with a focus on "confronting climate change" by avoiding or reducing GHG emissions, and increasing resilience against its impacts.

Within the Accelerator, the following "qualified projects" were included:

- Renewable energy generation (e.g., solar, wind, geothermal, hydropower, ocean and hydrokinetic, and fuel cells26)
- Building energy efficiency, fuel switching and electrification
- Industrial decarbonization
- Grid technology such as transmission, distribution and storage to support clean energy distribution, including smart grid applications27
- Agriculture and forestry projects that reduce net greenhouse gas emissions
- Clean transportation (e.g., battery electric vehicles, plug-in hybrid electric vehicles, hydrogen vehicles, other zero emissions fueled vehicles)
- Related vehicle charging and fueling infrastructure28
- Climate resilient infrastructure

In addition to the Accelerator, the following "qualified projects" could be considered within the context of the National Climate Bank Act:

[22] Includes any project, activity, or technology that (A) reduces or avoids greenhouse gas emissions and other forms of air pollution in partnership with, and by leveraging investment from, the private sector; or (B) assists communities in the efforts of those communities to reduce or avoid greenhouse gas emissions and other forms of air pollution.

[23] Means any technology that produces zero emissions of (A) air pollutant that is listed pursuant to section 108(a) (or any precursor to such an air pollutant); and (B) any greenhouse gas.

[24] https://www.congress.gov/bill/117th-congress/house-bill/806/text

[25] Included within the Senate proposed National Climate Bank Act of 2021 (i.e., not the Accelerator)

[26] In Connecticut, given its leading global hub for manufacturing, stationary fuel cells are within the Class I RPS

[27] In Connecticut, there are efforts by the electric distribution companies to install advanced metering infrastructure as the backbone to its clean energy future, including, but not limited to distributed energy resources (e.g., behind-the-meter renewable energy, demand response, battery storage, electric vehicles), improved measurement and verification, on bill financing, etc.

[28] It should be noted that the Green Bank led an effort of multiple stakeholders to develop the voluntary carbon offset standard for electric vehicle charging stations – https://verra.org/methodology/vm0038-methodology-for-electric-vehicle-charging-systems-v1-0/

- Water efficiency, including residential, commercial, and industrial

The Green Bank would recommend that EPA consider all "qualified projects" outlined within the Accelerator, and consideration of measures within the Climate Bank Act, to apply to the GHGRF for direct and indirect investments.

In addition to these "qualified projects," the Green Bank suspects that there will be preexisting health and safety issues (e.g., lead, mold, asbestos) on properties, especially within low-income and disadvantaged communities, that prevent the deployment of projects. Because such preexisting issues are a barrier to deployment, the Green Bank would recommend that a portion of the GHGRF be allocated to support preexisting health and safety issues on properties as they too, should be considered "qualified projects" as long as there is a nexus with other projects supporting the GHGRF.

Environmental Infrastructure

Following the passage of the Accelerator by the House of Representatives, in June 2021 Connecticut Governor Lamont led a bipartisan effort to expand the scope of the Green Bank beyond "clean energy"[29] to include "environmental infrastructure"[30] through the passage of Public Act 21-115.[31] The Act seeks to apply the green bank model to environmental infrastructure, while advancing the capabilities of the Green Bank, including, but not limited to:

- **Environmental Infrastructure Fund** – establishing a fund within the Green Bank that can receive funding from federal sources (e.g., Accelerator, GHGRF) to be invested in environmental infrastructure.

- **Bonding** – enables the Green Bank to issue revenue bonds for up to 50 years for environmental infrastructure.

- **Expanding Reporting Requirements** – expands the Green Banks reporting requirements beyond the Energy and Technology Committee and Commerce Committee, to also include the Environment Committee and Banking Committee of the CGA to increase accountability.

[29] "Clean energy" means solar photovoltaic energy, solar thermal, geothermal energy, wind, ocean thermal energy, wave or tidal energy, fuel cells, landfill gas, hydropower that meets the low-impact standards of the Low-Impact Hydropower Institute, hydrogen production and hydrogen conversion technologies, low emission advanced biomass conversion technologies, alternative fuels, used for electricity generation including ethanol, biodiesel or other fuel produced in Connecticut and derived from agricultural produce, food waste or waste vegetable oil, provided the Commissioner of Energy and Environmental Protection determines that such fuels provide net reductions in greenhouse gas emissions and fossil fuel consumption, usable electricity from combined heat and power systems with waste heat recovery systems, thermal storage systems, other energy resources and emerging technologies which have significant potential for commercialization and which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission, financing of energy efficiency projects, projects that seek to deploy electric, electric hybrid, natural gas or alternative fuel vehicles and associated infrastructure, any related storage, distribution, manufacturing technologies or facilities and any Class I renewable energy source, as defined in section 16-1.

[30] "Environmental Infrastructure" means structures, facilities, systems, services, and improvement projects related to water, waste and recycling, climate adaptation and resiliency, agriculture, land conservation, parks and recreation, and environmental markets (e.g., carbon offsets, ecosystem services).

[31] "An Act Concerning Climate Change Adaptation" – click here

The Green Bank has been anticipating the passage of the GHGRF (i.e., Accelerator) in its efforts to support the passage of Public Act 21-115 in Connecticut.

In 2022, the Green Bank conducted stakeholder outreach to understand the various components of environmental infrastructure. With its mission to "confront climate change" through the cross-cutting issues of reducing greenhouse gas emissions, increasing climate adaptation and resilience, and enabling investment in vulnerable communities, there were several primers produced on land conservation,[32] parks and recreation,[33] and agriculture[34] reflecting the observations, findings, and initial recommendations from stakeholders.

In addition to the "qualified projects" included within the Accelerator and Climate Bank, and in support of "environmental infrastructure" to "confront climate change" within Connecticut, the Green Bank would recommend the following additional "qualified projects" be considered:

- Water
- Waste and Recycling
- Climate Adaptation and Resiliency
- Agriculture
- Land Conservation
- Parks and Recreation
- Environmental Markets (including, ecosystem services and carbon offsets)

EPA should consider "qualified projects" that can be supported through the GHGRF from the perspectives of state and local government if those governments have climate change policies consistent with the intentions of the GHGRF.

ii. Considering each major project type/sector/market segment, discuss:

1. What are the barriers to private sector capital?

Response

As detailed in Section 1 Bi (above) regarding additionality, private sector capital can be constrained by several barriers including lack of willingness to fund certain technologies or types of end users (e.g., LMI customers or multifamily affordable housing). Without a sufficient track record of project returns, private capital cannot accurately predict the risk of lending into new markets.

A key part of the green bank model is working with community and private sector financial institutions to address gaps in the market as well as to demonstrate profitable models and acceptable technology, project, and end-user risk (or risk mitigated) structures to the private sector. The Green Bank would suggest that the program be structured in a way that also encourages recipients to partner with private sector financial institutions to leverage the public funds. It is through these partnerships, as the Green Bank has demonstrated, that private sector organizations will gain comfort with clean energy and climate finance. In Connecticut, the Green Bank has addressed several market gaps in the residential solar market with a variety of tools

[32] Land Conservation Primer – click here
[33] Parks and Recreation Primer – click here
[34] Agriculture Primer – click here

that have sparked private sector investment. In the early days of the residential solar market, the Green Bank identified a lack of options for residential consumers in terms of financing these systems. Our predecessor organization, the Connecticut Clean Energy Fund, pioneered the solar lease with the launch of Solar Lease I. As the market matured and demand increased, the Green Bank noticed persistent gaps in financing options and launched the CT Solar Loan product and the CT Solar Lease II product. Both products relied on the private market not only for contractors to install the solar but also on private sector capital to finance the installations. Both served as ways to educate private financiers on how these structures could work and demonstrated profitability for the financiers with acceptable technology, project and end-user risk and a reduction in energy burden for the homeowners. After the initial run of both offerings, there existed in the market enough competing offers that the Green Bank felt that we did not need to continue to offer a solar loan or lease product for homeowners.

Similarly, as the market matured, the Green Bank observed a market gap regarding where the solar adoption was taking place. To address slower rates of adoption in disadvantaged communities, the Green Bank issued an RFP looking for installers with experience reaching similar communities and worked to create an added income-based incentive. The Green Bank selected PosiGen as a partner and provided financing to support their activities in the disadvantaged communities in the state. As a result, the gap that existed between affluent and disadvantaged communities in terms of solar adoption has now been closed and Connecticut is now installing solar at higher rates in disadvantaged communities than in affluent ones thereby achieving the status of a solar with justice state. The financing provided by the Green Bank has not just helped the initially targeted communities (participating homeowners have seen a reduction in their energy burdens) but has also proven that investment in these communities is profitable.

2. Please provide any citations to relevant case studies in low-income and disadvantaged communities, in terms of emissions reductions and other benefits, including cost effectiveness, wealth creation, economic empowerment, workforce development, etc.

Response

The Green Bank has supported the development of several case studies to evaluate the impact of greenhouse gas reduction projects. The first, *Mapping Household Energy & Transportation Affordability in Connecticut*,[35] reviewed spending on building energy (heating and electricity) and transportation across Connecticut and discusses how clean energy and energy efficiency programs can close the affordability gap and reduce energy burden for low- and moderate-income households. As a key finding, this study identified that the savings generated through installation of solar and energy efficient appliances through a program administered by the Green Bank and other partners could close the affordability gap entirely for many households. A supplemental savings analysis titled *Connecticut Green Bank Low and Moderate Income Solar Program Savings Analysis*[36] detailed these benefits.

Beyond supporting households disadvantaged by income, the Green Bank also published a review on *Reaching Households in Underserved Communities of Color in Connecticut*.[37] This

[35] https://www.ctgreenbank.com/wp-content/uploads/2020/11/Mapping-Household-Energy-and-Transportation-Affordability-Report-Oct-2020.pdf
[36] https://www.ctgreenbank.com/wp-content/uploads/2020/11/CGB-LMI-Solar-Program-Savings-Analysis-Oct-2020.pdf
[37] https://www.ctgreenbank.com/wp-content/uploads/2020/11/CGB-LMI-Solar-Program-Savings-Analysis-Oct-2020.pdf

study examined the benefits of the Green Bank's rooftop solar program with a focus on addressing key barriers to adoption by communities of color.

3. What project-level gaps could the GHGRF fill for each type of project? What form could capital take to fill these gaps? Please provide references that analyze the deal-level economics for the various types of projects, including whether and how these may vary by geography.

Response

Low-income and disadvantaged communities will face a variety of gaps that differ depending upon the technology (solar, heat pumps, storage, etc.), end-user (residential single family, own vs. rent, multifamily properties, small-medium enterprises ("SMEs"), etc.), and by geography.

End-User Repayment Risk

Some gaps are – for the most part – universal, such as gaps created by concerns with end-user repayment risk. Typically, capital from green banks or mission-aligned investors have stepped in to mitigate these risks for traditional capital. This often takes the shape with a funded or balance sheet (unfunded) loan loss reserve and can be for a first loss or (as the Green Bank has demonstrated) with a second loss product that provides assurance on the basis of portfolio performance for homeowner clean energy loans provided by credit unions and CDFIs ("Smart-E").

Advance Rate

Some gaps are experienced by community lenders seeking to fund their portfolios of clean energy loans to homeowners. Quite often, the capital a traditional lender will lend against such a portfolio is only 65%-75% of the face value of the loans (the "advance rate"). This leave the community lender with a gap that needs to be filled by their equity – which is difficult to raise. The Green Bank has filled this gap for a major CDFI originator by lending between the 75% advance rate of a traditional lender and 90%. This reduces the CDFI's equity requirement by 60%, enabling the CDFI to originate and hold on its balance sheet 150% more loans than without the funding from the Green Bank.

Technology Performance

Other gaps stem from uncertainty with technology performance. For instance, many lenders will only advance to a solar PV project or a series of these projects on the basis of 99% assurance of performance attainment (so-called "P99"). Participation by a green bank of the basis of a more lenient expectation for performance (P90, for example) could reduce the cost of energy supplied under the power purchase agreement (or PPA) without a material increase in risk. Green banks can often step up for these risks due to their longer horizon for investment recovery. The difference between a P99 vs a P90 scenario might be recovering the loan in 12 years vs. 10.

Without this structure, the traditional lender (typically with a term limit less than 10 years) would require more expensive equity from the project sponsor. This raises the cost to the end user (under the PPA) and constrains development because the sponsor has a finite amount of equity sources.

Pooled Transactions

Still other gaps are due to the lack of interest in smaller transactions that take time to originate and package. Here again a green bank's ability to fund directly or through intermediaries a pool

or pools of clean energy transactions, and ultimately bringing in participating capital *after* the pool gets to a critical size hastens the deployment of capital (since the green bank or its partner intermediary is the sole underwriter, which made credit decisioning more efficient), allows for payment performance "seasoning" as the portfolio is being formed, and ultimately allows the green bank to participate the pool out to other investors on a competitive basis, lowering the cost of capital. The Green Bank demonstrated this technique with a $20 million portfolio of commercial PACE assessments in 2013 which established the model for securitizing these investments.

Further Comments

Finally – there are very challenging gaps – such as with retrofitting affordable multifamily properties. Initial funding for scoping out project feasibility (so-called "predevelopment funds") are very scarce and thinly capitalized landlord don't have the funds. A properly structured predevelopment program can align lender and landlord interests so these funding gaps can be addressed – and be sustainable when final project funding is arranged.

Over our 10 years of providing clean energy financing, the Green Bank has learned that the gaps are multidimensional and require flexible capital, keen structuring skills, and multiple stakeholders who can partner and share risks, such a traditional banks, community lenders, energy utilities, and philanthropy.

4. Beyond assembling the capital stack for a deal, what other barriers and constraints exist that could constrict the pipeline of successful projects? What program strategies are needed to respond to these barriers and constraints?

Response

Transaction, programmatic, and regulatory/governmental friction are fatal to program deployment success. Funding deals and conditions that make it onerous for a contractor to manage the sales and installation process can result in slow project deployment. Contractors faced with complex rebate/incentive programs or other government red tape may opt to migrate to those states and towns where these problems don't exist or have been resolved. This is exacerbated in low income and disadvantaged communities, where local government staff can be ill-equipped to deal with the influx of technologies and inspection requirements.

For regulatory or state energy policy administrators, barriers such as existing tariff structures may not provide the right economic incentives for adopting solar PV. Other policies may encourage homeowners to switch from fossil fuel heat to electric heat pumps – only to have electric rates double (as they have in the northeast) – potentially exacerbating energy burdens for low-income customers. Access to capital is not a solution to these problems – it takes well-formed and executed energy policy and a thoughtful regulatory framework to build a successful clean energy strategy that flexible capital can scale and accelerate.

iii. What types of contracting vehicles and structures will best support rapid deployment of clean technology solutions and direct involvement of the private sector, including in supporting disadvantaged communities?

Response

In the experience of the Green Bank, we have found that having a creative, flexible, and innovative approach to creating financing products allows us to have the greatest impact.

Different market failures (e.g. underserved customer segments, high capital costs, etc.) require customized forms of intervention. The local government (State, municipal, Tribal/Territorial government) will likely be the party best suited to match the financing tool to the need identified within their geography. The following are the primary forms of financial assistance the Green Bank has used to create impact:

- **Direct Lending/Investment** – Lending to sub-recipients or to organizations in support of further development of clean energy assets. This activity includes but is not limited to equity investments, working capital loans, secured warehouse facilities, and other forms of debt. This approach works best when there is a substantial number of standardized contracts with downstream borrowers, such as homeowners and small businesses, with a sufficient history of loan performance of at least 5 years.

  In Connecticut, we have created loan facilities that increase low-income adoption of solar by lending to PosiGen and we have increased residential access to loans for energy efficiency by directly lending to a CDFI partner in support of their lending to homeowners. Our $20 million in subordinated and pari-passu loans have attracted over $350 million in capital investment in PosiGen and its projects for low- and moderate-income families. Further, through our Commercial Property Assessed Clean Energy offering, we have issued loans to hundreds of commercial property owners for energy efficiency and distributed generation projects.

- **Credit Enhancements/Credit Support/Guarantees** – Financial vehicles that de-risk the activities performed by others.

  The Green Bank has used a loan loss reserve for our Smart-E program (which lends to homeowners for energy efficiency or distributed generation) that effectively insures the lenders in the program against certain losses, thereby mitigating much of their risk and allowing them to lend money at lower rates. Rather than use cash for these loan loss reserves, a more efficient way to offer credit enhancements is to use a green bank (or national climate bank) guarantee backed by the entity's balance sheet, which the Green Bank has done successfully for the Smart-E program.

- **Project Finance** – Participating as part of the capital stack for a project, typically in the form of debt. The Green Bank has provided project financing for specific projects where our participation can lower the risk and overall cost of capital to the project by joining others in the financing.

  For example, the Green Bank worked with a community bank to repower a 1 megawatt hydroelectric facility. A Green Bank subordinate loan of $1.2 million plus a $500,000 limited guarantee enabled a $4.4 million senior loan from the bank in addition to $1 million in equity and Small Business Administration support.

- **Grants** – Providing financial assistance to help nascent or expanding organizations build their capacity and to expand to reach their targets. However, grants should be performance based, limited in size, and designed in a way that does not create organizational dependence on them in the long term.

The Green Bank has provided grants to Sustainable Connecticut, a community-based organization that partners with towns to improve the sustainability in their communities. The Green Bank has provided grants that have allowed the organization's match fund to facilitate sustainability projects. This has effectively acted as a lead generation for the Green Banks's Solar Marketplace Assistance Program which targets municipal buildings for PPA projects.

- **Secondary Markets/Securitization** – In recognition of the fact that funds coming from the GHGRF will be limited, recipients should eye ways these funds can renew themselves to further impact. Through securitizations and the selling of loans in the secondary market, recipients will be able to recapitalize themselves so that they may continue their other activities. Accessing the secondary market is a key part of the Green Bank model, would be a centerpiece of a national climate bank, and should be a crucial activity for the long-term success of any organization receiving funds from the GHGRF.

  The Green Bank has participated in secondary markets by securitizing income streams from our Renewable Energy Credits through the issuance of 3 bonds, allowing for a more timely cost-recovery of our investment in the Residential Solar Incentive Program and effective management of the organization's balance sheet. Additionally, the Green Bank has had sold Commercial Property Assessed Clean Energy loans in the secondary market for similar purposes. Further, the Green Bank has worked in a secondary markets capacity with Eversource, one of the Investor Owned Utilities in the state, by buying small business energy efficiency loans originated by Eversource as the Green Bank and our financing partner can do so at a lower cost of capital than can Eversource.

- **Creation of Leverage** – As discussed above, leveraging public funding to crowd in private sector lenders will stretch the funds received from the GHGRF as far as possible. Recipients will need to balance the need to build their balance sheet with assets that help them achieve fiscal sustainability and the need to maximize impact as possible by leveraging the GHGRF funds.

  The Green Bank operates a variety of products and programs designed to support the transition to the green economy, each with a different leverage ratio. At a portfolio level, the Green Bank is currently investing at around a 1:7 public to private ratio.

C. Structure of Funding

i. Are there any potential program design requirements that would impact the ability of recipients to use the GHGRF program funds? How could EPA address these issues through program design? How could recipients comply with relevant federal requirements? How can EPA streamline the distribution of funds so that applicable federal and state review can be accomplished in a coordinated and efficient manner?

Response

The Green Bank's response applies to Sec. 134(a)(1) of the GHGRF.

Please see responses within Section 1 Aii (above) and Bii (above) regarding an equitable, competitive distribution of funds by leveraging a combined approach following processes

established under SRF and WIFIA allocations. An Intended Best Use Plan ("IUP") by a State, under a "best practice" SRF approach, could address these areas.

Section III: Execution, Reporting, and Accountability

a. Given the tight timeline for implementation of the funds, what are key steps that EPA could take in the short- (next 180 days), medium- (next two years before funds expire in 2024), and long-term (beyond 2024)?

Response
The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

Given the tight timeline for implementation of the GHGRF, the key next steps that EPA could take over time, include:

- **Short-Term** – within the 180 days of the signing of the IRA (i.e., August 16, 2022), EPA, in the least, should have sought public comment and issued competitive RFPs (preferably for Sec. 134(a)(1), and Sec. 134 (a)(2) and (a)(3)). Within 180 days of the issuance of expert review sought by EFAB at the meeting of October 18, 2022, in addition to public comment and issuance of competitive RFPs, EPA should have identified winners sought under the competitive RFPs (including at least those under Sec. 134(a)(1)) and initiated legal contract review and disbursement of funds.

- **Medium-Term** – before funds expire in 2024, EPA should have finalized contracts with all RFP winners and have disbursed all funding as noted in Sec. 134 GHGRF the IRA.

- **Long-Term** – as all funding would have been dispersed through an IUP modelled after the "best practice" SRF and WIFIA programs providing a competitive equitable distribution of funds, EPA staff would be monitoring GHGRF performance of various recipients.

b. What types of requirements could EPA establish to ensure the responsible implementation and oversight of the funding?

Response
The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

The GHGRF provides a significant amount of public funds with various uses and recipients to invest in qualified projects. Given the magnitude of the public funds, especially for those direct or indirect recipients (i.e., grantees, subrecipients) that receive a large amount of funds (e.g., $25 MM or more), the highest standards for reporting and audit requirements must be considered by EPA. The Green Bank would like to share information that it believes to be up to this standard of accountability given the use of public funds it invests on behalf of Connecticut ratepayers, except applied in this case to the American taxpayers for the GHGRF.

The Green Bank adheres to the highest standard of reporting and auditing, ensuring public transparency,[38] including, but not limited to:

- **Open Meetings** – Board of Directors and Committee meetings are noticed to the Secretary of State,[39] open to the public, recorded and made available following the meeting, and meeting materials are accessible online.[40] For recipients of large amounts of funds through the GHGRF, either directly or indirectly, such transparency with governance should be the baseline.

- **Annual Reports** – issued by the Green Bank to the DEEP, committees of cognizance of the CGA,[41] and local elected officials in cities and towns throughout Connecticut.[42]

- **Annual Comprehensive Financial Reports** ("ACFR") – compiled by the accounting staff of the Green Bank and audited by an external certified public accounting firm in accordance with Generally Accepted Accounting Principles ("GAAP"), the report is submitted to the Government Finance Officers Association ("GFOA") to seek awarding of a "Certificate in Achievement for Excellence in Financial Reporting" – the highest award in government financial reporting. Within the ACFR are both the financial report, as well as the non-financial public benefit report demonstrating the results achieved from the investment of public funds.[43]

- **Auditors of Public Account** ("APA") – the office of the APA, is a legislative agency of the State of Connecticut whose primary mission is to conduct audits of all state agencies, including quasi-public agencies. The office is under the direction of two state auditors appointed by the state legislature. The APA audits certain operations to ensure that the Connecticut Green Bank is meeting its duties under CGS 1-122 and 2-90.[44]

- **Open Connecticut – Payroll** – centralizes state financial information on payroll to make it easier to follow state dollars expended on operations and compensation.[45]

- **Open Connecticut – Checkbook** – centralizes state financial information on transactions or expenditures to make it easier to follow state dollars for goods or services.[46]

And lastly, the Green Bank, as a quasi-public entity of Connecticut, adheres to the Connecticut Freedom of Information Act.[47]

For those entities that directly or indirectly receive substantial funding through the GHGRF, ensuring accountability and transparency with the administration and investment of such funds should be of paramount importance to EPA.

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[38] https://www.ctgreenbank.com/strategy-impact/reporting-transparency/
[39] https://portal.ct.gov/SOTS/Legislative-Services/Public-Meeting-Notice-Calendar
[40] https://www.ctgreenbank.com/about-us/governance/
[41] Energy and Technology, Commerce, Environment, Banking Committees
[42] For example, FY21 Annual Report – click here
[43] For example, FY22 Annual Comprehensive Financial Report – click here
[44] For example, FY18 and FY19 Auditors' Report – click here
[45] https://openquasi.ct.gov/payroll
[46] https://openquasi.ct.gov/checkbook
[47] https://portal.ct.gov/FOI/Quick-Links/The-FOI-Act

c. What mechanisms could eligible recipients adopt, including governance as well as other mechanisms, to ensure that their applications and subsequent implementation efforts ensure: (1) accountability to low-income and disadvantaged communities; (2) greenhouse gas emission reductions; and (3) the leveraging and recycling of the grants?

Response

The Green Bank's response applies to Sec. 134(a)(1), Sec. 134(a)(2), and Sec. 134(a)(3) of the GHGRF.

Accountability to Low-Income and Disadvantaged Communities

The Green Bank has several perspectives with regards to this response, including guidance provided by the Community Reinvestment Act ("CRA"), and existence of jurisdictional public policies or corporate structure, as considerations for program design to ensure community accountability for projects funded directly or indirectly by the GHGRF.

From the perspective of financing, in support of the dual goals "to leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut" and "strengthen Connecticut's communities, especially vulnerable communities, by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses," the Green Bank tracks CRA eligible investments by location.

To ensure community accountability, EPA should consider within its design for projects funded directly or indirectly by the GHGRF, as they apply to the financing of such projects within low-income and/or disadvantaged communities, guidance from CRA.

It should be noted that not all jurisdictions (e.g., municipal, county, or state governments), nor financial institutions, have public policies or corporate structures, respectively, that can support ensuring community accountability to the GHGRF.

As noted above, Connecticut has numerous public policies in place that guide such community accountability (e.g., from statewide targets to reduce greenhouse gas emissions and statutory creation of the Green Bank to public disclosure of compensation and expense information from the Green Bank). Where jurisdictional public policies don't exist for government, consideration by EPA should include the following:

- **Sub-State Public Policies** – there may be instances where a lack of state public policy, can be augmented by the existence of local public policy (e.g., city or county established renewable energy targets like LA100, or statutorily created green bank like the Montgomery County Green Bank) consistent with the intentions of the GHGRF.

- **Public Facing Initiatives** – there may be Governors of states or Mayors of cities involved in public facing initiatives (e.g., United States Climate Alliance[48] or United States Conference of Mayors Climate Protection Center[49]) consistent with the intentions of the GHGRF.

With respect to financial institutions who receive funds from the GHGRF either directly or indirectly, the Green Bank has experience partnering with mission-aligned investors that may be

[48] http://www.usclimatealliance.org/

[49] https://www.usmayors.org/programs/mayors-climate-protection-center/

insightful to ensuring community accountability.[50] Where corporate structure is not as apparent, consideration by EPA should include the following:

- **Corporate Governance** – Board of Directors of the financial institution adopting environmental, social, and governance ("ESG") principles consistent with the intentions of the GHGRF.

- **Transparency** – timely and thorough accounting and reporting consistent with the intentions of the GHGRF.

Ensuring community accountability for projects funded directly or indirectly by the GHGRF can be improved through those parties required to adhere to CRA, as well as jurisdictions with strong public policies or corporate governance with demonstrated principles and transparency consistent with the intentions of the GHGRF.

Greenhouse Gas Emission Reductions

With the mission to "confront climate change by increasing and accelerating investment in Connecticut's green economy to create more resilient, healthier, and equitable communities," the Green Bank has three (3) goals, including:

1) To leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.

2) To strengthen Connecticut's communities, especially vulnerable communities, by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses.

3) To pursue investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability.

Progress towards the achievement of these goals, are tracked through an Evaluation Framework[51] to guide the assessment, monitoring, and reporting of program impacts and processes arising from clean energy investment and deployment. This framework provides the foundation for determining the e^4 impact (i.e., economy, equity, energy, and environment) the Green Bank is enabling from its investment. Increasing and accelerating investment in the green economy leads to greater e^4 benefits to society.

For a summary of the Green Bank's social impacts – see Attachment B.

At a minimum, EPA should require tracking on the following metrics:

- Reductions in GHG emissions or air pollution
- Benefits allocated to low-income and underserved communities (e.g. reduction of energy burden)
- Private sector leverage and additionality

[50] Amalgamated Bank is such an example, as a B Corporation, they are committed to environmental and social responsibility – net-zero and powered by 100% renewable energy, history of providing affordable access to the banking system, supporting immigrants and affordable housing, and being a champion of workers' rights.

[51] Evaluation Framework – click here

- Increased jobs
- Public health benefits
- Geographic distribution of projects

Data should be collected at the project level for all recipients of funds through the GHGRF and made publicly available, which will reduce the perception of risk by private lenders and encourage more competition in the marketplace.

Leveraging and Recycling Grants

As discussed above, the Green Bank views the leveraging and recycling of grants as of paramount importance. EPA should use leverage as a criteria for GHGRF awards. A variety of green financing organizations, such as green banks, identify the financing activities supported through their capital investments, establish outcomes and metrics to measure progress and leverage additional capital for clean energy, climate, and sustainability investing. (For an example, see the Connecticut Green Bank's Annual Comprehensive Financial Report for FY2022 – "Measures of Success" P.127[52].) How leverage for investing is calculated and the range of outcomes will differ depending upon the types of institutions and activities financed.

For some institutions, leverage will be relatively straightforward to assess. For those that opt to use GHGRF grants to leverage private capital by crowding in these funds to the overall capital stack in a large project financing or establish sizeable financing facilities to fund hundreds or even thousands of individual projects (such as for households or small businesses), the leverage ratio should be easily identifiable, such as by comparing the amount of public funds in a project or a group of projects to non-public funds attracted.[53] In Connecticut, the Green Bank has also leveraged our funding through green bond issuances in the public markets by securitizing future revenue streams associated with clean energy projects, where leverage can also be clearly defined as the ratio of the issuance value of the bonds to the amount of the excess of the issuance value over the value of the collateral offered by the public entity as security.[54]

Other institutions (particularly intermediaries serving depository institutions) calculate leverage by the amount of capital that can be leveraged by the direct lender on the ground through deposits. In these cases, measuring leverage (dollars mobilized per dollar of federal funding) is more straightforward. Metrics that measure the value of projects deployed vs. the dollars used by the grantee in that activity can be determined and tracked.

The Green Bank appreciates EFAB's efforts to solicit public comment on the GHGRF. The Green Bank expects to also file public comment to EPA on December 5, 2022.

Sincerely,

Bryan Garcia
Bryan Garcia
President and CEO

Bert Hunter
Bert Hunter
EVP and CIO

[52] https://www.ctgreenbank.com/wp-content/uploads/2022/10/Connecticut-Green-Bank-FY22-ACFR-FINAL-2022.10.21.pdf
[53] https://www.prnewswire.com/news-releases/posigen-and-forbright-bank-partner-to-expand-clean-energy-options-in-underserved-communities-301395331.html?tc=eml_cleartime
[54] https://www.ctgreenbank.com/cgb-sells-38m-in-shrecs/

Attachments

Attachment A – American Recovery and Reinvestment Act
Attachment B – Social Impact

ATTACHMENT A

American Recovery and Reinvestment Act

The Impact of Federal Funds in Connecticut

Through our partnership with the Department of Energy & Environmental Protection, Connecticut Green Bank deployed $8.25 million of American Recovery and Reinvestment Act of 2009 (ARRA) funds to create more than $176.4 million of investments into residential clean energy projects. (All data as of 12-31-2021)

CONNECTICUT GREEN BANK

Environment

ARRA funds helped to avoid **596,382 tons of CO_2,** which is equal to:

8.9 million tree seedlings grown for 10 years

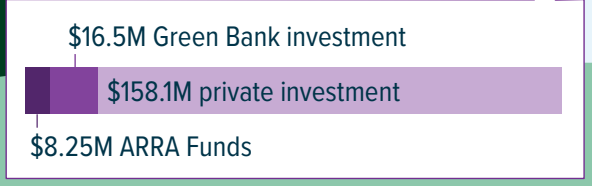
removing 117,663 passenger cars from the road for one year

Economic Development

The Green Bank turned $8.25 million of federal funds

$8.25 million → $174.6 million

into **$174.6 million in investments**



The Green Bank supported the creation of **2,176 job-years of employment** through the use of ARRA funds.

Equity

38% of **investments**

53% of **projects**

were made in **vulnerable communities**

$38.8–87.8M of lifetime public health value created

9,434 families supported

The Green Bank targets 40% of investment and benefits into vulnerable communities

Energy

The use of ARRA funds supported

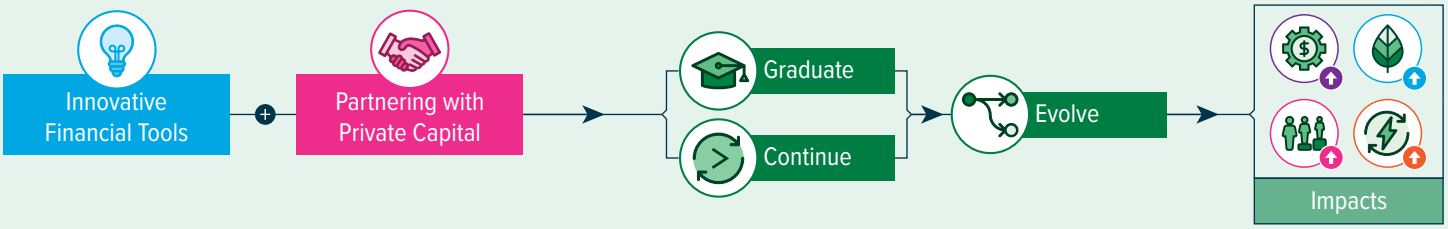
- Deployment of over **24 megawatts** of **clean energy**
- **Lifetime savings of over 3.4 million MMBTUs** through energy efficiency projects, including:
  - Solar panel installation
  - Insulation upgrades
  - Heating and cooling system upgrades

$138M in lifetime energy savings generated

Financing Programs with Federal Funds

CONNECTICUT GREEN BANK

The Green Bank's ARRA funded programs combined innovative financial tools and partnering with private capital to create programs that **promote clean energy, economic growth, a healthier environment, and greater equity** in Connecticut.



Program models, proved successful through the deployment of ARRA funds, evolved to focus on additional markets and larger investment beyond the Green Bank.

CT SOLAR LEASE

Allowed homeowners to access the benefits of solar through a lease option.

- Leveraged $3.5M in ARRA funds as a **lease loss reserve** and $7.1M in Green Bank Subordinated Debt and Sponsor Equity.
- Raised $15.0M of **tax equity investment** and $16.9 million of senior debt through a **syndicate of local lenders**.

The success of this model led to the creation of **"Solar For All"**: a program based on the model that focused on providing residential solar to low-to-moderate income (LMI) families and communities of color — helping Connecticut achieve 41% deployment in LMI communities

CT SOLAR LOAN

Enabled homeowners of varying financial means to own their systems at affordable rates without a lien.

- Used $517,000 in ARRA funds for a **loan loss reserve (LLR)** to allow for the creation of the **first-ever crowd- sourced portfolio of solar loans**.
- Partnered with Sungage Financial and The Reinvestment Fund to generate $8.3M in lifetime savings.

ⓘ A **loan loss reserve** is a pool of money set aside to cover a prespecified amount of loan losses, providing partial risk coverage to lenders.

After this model proved successful, the program expanded to include new partners and a $100 million pool of capital, without any resources from the Green Bank.

SMART-E LOAN

Offers flexible financing for upgrades to home energy performance.

- ARRA funds used as **LLR and interest rate buydowns (IRB)** to offer homeowners low-interest financing to improve their home's energy performance.
- Provided in partnership with 13 local community banks and credit unions, 500+ contractors, and 5,923 families for $108.7 million in total investment.

Originally focused on clean energy, this program is **expanding to support environmental infrastructure.**

The program is transitioning from ARRA supported LLR to LLR on the Green Bank's balance sheet using IRBs from ARRA funds.

ⓘ An **interest rate buydown** is when capital is deployed to pay a portion of the interest on borrowers' loans to decrease their costs.

LOW INCOME MULTI-FAMILY ENERGY (LIME) LOAN

Unsecured low interest loans serving properties where at least 60% of units serve renters at 80% or lower of Area Median Income.

- ARRA funds used as LLR and **projected energy savings are used to cover the debt service of the loan.**
- Offered through a partnership with Capital For Change (C4C), a community development financial institution (CDFI) that provides financial **products and services that support an inclusive and sustainable economy**.

Using $300,000 in ARRA funds as LLR, LIME projects have a combined lifetime energy cost savings of over $117.6M.

ATTACHMENT B
Social Impact

CONNECTICUT GREEN BANK

Societal Impact Report

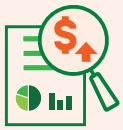
FY12 FY22

Since the Connecticut Green Bank's inception through the bipartisan legislation in July 2011, we have mobilized more than **$2.26 billion of investment** into the State's green economy. To do this, we used **$322.4 million** in Green Bank dollars to attract $1.95 billion in private investment, a leverage ratio of **$7.00 for every $1**. The impact of our deployment of renewable energy and energy efficiency to families, businesses, and our communities is shown in terms of economic development, environmental protection, equity, and energy (data from FY 2012 through FY 2022).

ECONOMIC DEVELOPMENT

JOBS The Green Bank has supported the creation of more than **26,720** direct, indirect, and induced job-years.

TAX REVENUES
The Green Bank's activities have helped generate an estimated **$113.6** million in state tax revenues.



$55.3 million individual income tax

$29.2 million corporate taxes

$29.1 million sales taxes

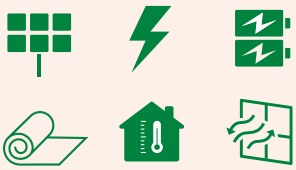
ENERGY

ENERGY BURDEN
The Green Bank has reduced the energy costs on families, businesses, and our communities.

60,000+
families

6,500+
businesses

DEPLOYMENT
The Green Bank has accelerated the growth of renewable energy to more than **509 MW** and lifetime savings of over **65.6 million MMBTUs** through energy efficiency projects.



ENVIRONMENTAL PROTECTION

POLLUTION The Green Bank has helped reduce air emissions that cause climate change and worsen public health, including **9.6** million pounds of SOx and **11.1** million pounds of NOx lifetime.

10.4 MILLION tons of CO_2 : EQUALS

156 MILLION tree seedlings grown for 10 years

OR

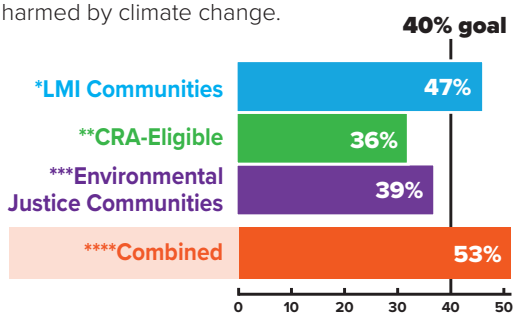
2.1 MILLION passenger vehicles driven for one year

PUBLIC HEALTH The Green Bank has improved the lives of families, helping them avoid sick days, hospital visits, and even death.

$317.1 – $717.2 million of lifetime public health value created

EQUITY

INVESTING in vulnerable communities, The Green Bank has set **goals** to reach **40% investment** in communities that may be disproportionately harmed by climate change.



*LMI Communities – census tracts where households are at or below 100% Area Median Income.

** Community Reinvestment Act (CRA) Eligible – households at or below 80% of Area Median Income and all projects in programs designed to assist LMI customers.

*** Environmental Justice Community means a municipality that has been designated as distressed by Connecticut Department of Economic and Community Development (DECD) or a census block group for which 30% or more of the population have an income below 200% of the federal poverty level.

**** Combined Vulnerable Communities include LMI, CRA and EJC.

Learn more by visiting ctgreenbank.com/strategy-impact/impact

Winner of the 2017 Harvard Kennedy School Ash Center Award for Innovation in American Government, the Connecticut Green Bank is the nation's first green bank.

Sources: Connecticut Green Bank Comprehensive Annual Financial Reports