CONNECTICUT GREEN BANK

July 1, 2022

U.S. Department of Energy
Loan Programs Office
Title XVII Innovative Technologies Loan Guarantee Program
Federal Register / Vol. 87, No. 105 / Wednesday, June 1, 2022 / Notices (33141-33144)

SUBJECT: Comments from the Connecticut Green Bank – Loan Program Office's Innovative Technologies Loan Guarantee Program Request for Information

To Whom it May Concern:

The Connecticut Green Bank ("Green Bank") appreciates the U.S. Department of Energy's ("DOE") efforts through the Loan Programs Office ("LPO") issuing this Request for Information ("RFI"). The RFI is seeking information to understand how it could improve its Title XVII Loan Guarantee Program ("Title XVII"), including amending the Title XVII Rule ("the Rule"), by implementing provisions from the Energy Act of 2020 ("the Act") and the Infrastructure Investments and Jobs Act of 2021 ("IIJA"), that expand or modify the authorities applicable to Title XVII.

At the outset, the Green Bank would make the following points:

- **Include Prior Submission** – the DOE should include the Green Bank's prior comments under DE-FOA-0002716 filed on May 6, 2022, for "Designing Equitable, Sustainable, and Effective Revolving Loan Fund Programs" as part of this submission – see Attachment D.

- **Community Reinvestment Act** ("CRA") – with respect to this RFI, the Green Bank principally responds from the perspective of the Community Reinvestment Act of 1977,[1] which forms the basis for an existing public policy mechanism to increase private investment from the banking industry in clean energy, climate change, and Justice 40 (or vulnerable community)[2] objectives. Although CRA does not explicitly mention race, it was passed alongside complementary federal civil rights laws including the Equal Credit Opportunity Act.

[1] The Community Reinvestment Act (CRA), enacted in 1977, requires the Federal Reserve and other federal banking regulators to encourage financial institutions to help meet the credit needs of the communities in which they do business, including low- and moderate-income (LMI) neighborhoods.

[2] Per Connecticut's Public Act 20-05, 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.

- **Local and State Government** – with respect to this RFI, the Green Bank secondarily responds to Section 40401(c)(2) of the IIJA.[3]

- **Defense Production Act** ("DPA") – with the recent statement of the Biden Administration on the DPA to spur domestic clean energy manufacturing,[4] there is the potential for federal government procurement, zero interest loans, provision of capital (i.e., to state and local governments), and other mechanisms (e.g., an LPO nationwide guarantee to participating state energy financing institutions) to support the investment in and deployment of critical clean energy technologies (i.e., solar, insulation, heat pumps, fuel cells, and grid infrastructure) to reduce energy costs for all Americans, especially those in vulnerable communities, whose energy burden is increasingly being exacerbated as a result of the War in the Ukraine.

- **American Recovery and Reinvestment Act** ("ARRA") – it should be noted that through ARRA of 2009, the Green Bank invested $8.3 MM of federal funds, alongside $16.5 MM of Green Bank capital, to mobilize $158.1 MM of private investment for a total of $174.6 MM of investment to finance energy efficiency (e.g., heat pumps) and renewable energy (e.g., solar) projects for over 9,000 families. The investment of federal funds, as credit enhancements (i.e., loan loss reserves ("LLR"), interest rate buydowns ("IRB")), enabled 20 times more state and local private investment in clean energy deployment – reducing the burden of energy costs on families (especially those in vulnerable communities), increasing jobs in our communities, and reducing greenhouse gas emissions.

  ARRA provides a useful example for how local, state, and federal partnerships can unlock and mobilize private investment to increase the impact of taxpayer resources while maximizing the benefits to participants (e.g., reduce energy burden and increase energy security), ratepayers (e.g., reduce peak demand and increase grid reliability and resiliency), and society (e.g., create good-paying jobs, reduce GHG emissions). As the DOE looks ahead at implementing the Act and IIJA, including amendments to Title XVII, the Rule, and other provisions, it should build on the lessons learned from ARRA, while advancing the Biden Administration's objectives (e.g., DPA, 100% clean electricity by 2035, Justice 40).

The Green Bank offers the following comments with respect to the RFI:

A. Energy Act of 2020

With respect to Section 9010(a)(3)(A) of the Act, on applicant payment of fees and third-party costs incurred by the DOE to review applications,[5] the Green Bank would, in general, state that the payment of fees and cost recovery by the DOE from third-party advisors should be reasonable. It is difficult for RFI respondents and potential applicants to ascertain reasonableness without data from the DOE LPO on prior fees paid and third-party advisor costs incurred by former applicants. The Green Bank believes that the DOE LPO publicly provides such information (or will make it available upon request to potential applicants), however, if not, then the LPO should consider such public disclosures in order for potential

[3] LPO authority to work with local and state government was expanded under Sec. 40401(c)(2) of the IIJA amending the terms and conditions of Title XVII loans to include projects receiving financial support or credit enhancements from state energy financing institutions as eligible projects, and that such projects are not required to meet Section 1703(a)(2)'s requirement for new or significantly improved technologies, but instead meet emissions requirements.

[4] https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/06/fact-sheet-president-biden-takes-bold-executive-action-to-spur-domestic-clean-energy-manufacturing/

[5] (A-1)(i-iv)

applicants to ascertain reasonableness and establish expectations for the fees and costs incurred by the DOE during the various stages of the application process to cover its administrative costs.

<u>RECOMMENDATIONS</u>
The following should be considered with respect to fees and costs:

- **<u>Prioritization to Justice 40</u>** – allowances should be given to the Secretary of Energy for applicants whose projects or technologies benefit vulnerable communities, to forgive (or reduce) fees and costs to applicants given the public policy objectives of the Biden Administration; and

- **<u>Financing Costs</u>** – allowance for the fees and costs (i.e., LPO administrative expenses) to be financeable within the terms of the financing agreement to be paid overtime as principal and interest for successful applicants.

With respect to Section 9010(b) of the Act, in general, the DOE should recognize that a technology may be commercial in one region versus another as a matter of (1) environmental conditions (e.g., open space in the Southwest versus tree cover and alternative land uses such as agriculture and forestry in the Northeast), (2) statutory and regulatory policies of local and state government (e.g., renewable portfolio standards, greenhouse gas reduction targets, net metering, procurement), or (3) other relevant factors. The commercialization success of the LPO Title XVII solar projects in the Southwest (i.e., various 100 MW sized projects) are different than what is required for such commercial success of solar projects in the Northeast, Southeast, Midwest, etc. Commercialization should not be viewed in a technology silo, but instead recognize other factors that enable such commercialization as noted above (e.g., environmental conditions, statutory and regulatory policies of local and state governments), including others such as income (i.e., area medium income census tracks), race and ethnicity, and other socio-economic factors.

And lastly, in terms of Section 1703 of the Energy Policy Act of 2005, not only should "…innovative software, innovative technology applications, or control system technology under Title XVII…" be visited, but the definition of "commercial technology" per the Rule should be revisited as well.

- **<u>Definition of "Commercial Technology"</u>** – Title XVII provides loan guarantees for projects that "avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases" <u>and</u> [emphasis added] "employ new or significantly improved technologies as compared to commercial technologies in service in the United States." The Title XVII Rule states that "<u>commercial technology</u> means a technology <u>in general use in the commercial marketplace</u> [emphasis added] in the United States at the time the term sheet is offered by DOE..."

    - The current definition for "commercial technology" under the Title XVII Rule has flaws because it is not inclusive of vulnerable communities. In other words, just as environmental conditions and statutory and regulatory policies of local and state government have an impact on "commercial technology," so too does the income of people within an economy. If the DOE asked the question with an equity lens "…in general use in the commercial marketplace <u>for who</u>…" it would see that its current definition of "commercial technology" is too exclusive, and not inclusive of the socio-economic marketplace for commercial clean energy technologies in the United States. As such, such clean energy technologies aren't commercial and therefore should be supported by Title XVII to provide easy and affordable access to applicants seeking to serve those vulnerable communities with appropriate clean energy technologies.

As a result, states are left to "fill the void" to enable "commercial technologies" to be accessible and affordable to vulnerable communities. Allowing private entities, the opportunity to use Title XVII for commercial technologies (e.g., distributed energy resources as noted within the DPA) that benefit vulnerable communities should be pursued (e.g., loan guarantee for a third-party financier of a portfolio of residential solar PV and battery storage projects within less than 80 percent of area median income census tracts).[6]

RECOMMENDATIONS

Within §609.2 Definitions and Interpretation of the Rules, the LPO should consider adding the following in order to increase access to commercial technologies for vulnerable communities:

- **Redefining Commercial Technology** – *Commercial Technology* means a technology in general use in the commercial marketplace in the United States, including communities eligible for the Community Reinvestment Act of 1977, at the time the Term Sheet is offered by DOE. A technology is in general use if it is being used in three or more facilities that are in commercial operation in the United States for the same general purpose as the proposed project, and has been used in each such facility for a period of at least five years. The five-year period for each facility shall start on the in-service date of the facility employing that particular technology or, in the case of a retrofit of a facility to employ a particular technology, the date the facility resumes commercial operation following completion and testing of the retrofit. For purposes of this section, facilities that are in commercial operation include projects that have been the recipients of a loan guarantee from DOE under this part.

- **Include Community Reinvestment Act as a Definition** – just as the Rules include the Davis Bacon Act of 1931 to acknowledge the importance of paying the local prevailing wage on public works projects, the Rules should also include the Community Reinvestment Act of 1977 to acknowledge the importance of enabling private investment projects in vulnerable communities (e.g., environmental justice communities).

- **Include CRA within Eligible Project Definition** – to acknowledge the importance of enabling private investment in projects in vulnerable communities, the following should be added within the Eligible Project definition "(iv) is located in 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."

These inclusions within Title XVII, will enable private developers an opportunity to develop projects that would benefit vulnerable communities across the United States. Vulnerable communities are not only being adversely impacted by climate change, but they are also being impacted by rising inflation resulting from energy costs from the War in the Ukraine. Enabling Title XVII to support eligible projects in vulnerable communities, is a means to support the DPA as well as confront climate change.

In terms of "…innovative software, information technology applications, or control system technology…"[7] the Green Bank would say that such technology should be eligible under Title XVII, however, only after definitions within the Rules are modified to be more inclusive of vulnerable

[6] It should be noted that the Community Reinvestment Act of 1977, 12 USC 2901 et seq. acknowledges the need for FDIC-insured commercial banks to provide access to capital to families and businesses in less than 80 percent AMI census tracts.

[7] (A-3)

communities as noted above within the context of CRA, and not exclusive to those with economic means.

B. <u>Infrastructure Investments and Jobs Act</u>
This is the principal section the Green Bank would like to respond to.

In terms of what types of entities should be considered "state energy financing institutions" for implementing Title XVII,[8] the Green Bank would recommend:

- **<u>Government</u>** – public and quasi-public entities of local (e.g., DC Green Bank) and state (e.g., Connecticut Green Bank, New York Green Bank) government (i.e., green banks).

- **<u>Non-Profit Organizations</u>** – registered as a 501(c)3 of the Internal Revenue Code or community development financing agencies (e.g., community development financial institutions, credit unions), working with public and quasi-public entities, established for the purposes consistent with Title XVII.

A private entity could be formed for the purposes consistent with Title XVII and be considered a "state energy financing institution" as long as it is not primarily a profit seeking entity, but instead an entity focused primarily on social and environmental profit, and subject to public disclosures of financial information. For example, a Certified B Corporation could be considered. The general point is that to be considered as such an institution, that business must serve more than shareholders and be primarily focused on society (i.e., the state).

In terms of the types of financial support or credit enhancements from "state energy financing institutions" the DOE should consider in evaluating projects under this authority,[9] the Green Bank would recommend the financing tools established through ARRA:

- Revolving loan funds
- Loan loss reserves
- Interest rate buydowns
- Third party insurance

These financing tools are tried and tested,[10] and demonstrate how to mobilize private capital investment, alongside public resources, to provide easier and more affordable access to clean energy technologies for vulnerable communities, including small businesses within those communities. As interest rates rise, it will be increasingly important to keep the cost of capital down in order to ensure the realization of benefits that clean energy provides to vulnerable communities.

Other financing should also be included:

- Transaction warehousing through standardized documentation

[8] (B-1)(i-iii)
[9] (B-2)
[10] State and Local Energy Efficiency Action Network (SEE Action). (2021). *Long-Term Performance of Energy Efficiency Loan Portfolios*. Prepared by Jeff Deason, Greg Leventis, and Sean Murphy of Lawrence Berkeley National Laboratory.

- Securitization credit enhancements to reduce the costs of capital (e.g., Special Capital Reserve Fund or "SCRF")[11]

Resources provided through Title XVII to "state energy financing institutions" could make capital easier to access and more affordable in order to maximize the benefits clean energy technologies provide (e.g., reduce energy burden, increase energy security), especially for vulnerable communities.

In terms of how the DOE can facilitate a nationwide program for partnering with "state energy financing institutions,"[12] as noted in the Green Bank's comments under DE-FOA-0002716, through an "across government" strategy, the LPO working with the U.S. Department of Treasury's CRA division, could mobilize billions of dollars of public and private investment in vulnerable communities across the country.

RECOMMENDATION
The LPO should work with leading green banks at the local and state level (e.g., DC Green Bank, Montgomery County Green Bank, Connecticut Green Bank, Hawaii Green Infrastructure Authority, Illinois Finance Authority) focused on credit enhancement strategies (e.g., loan guarantees), including non-profit organizations (e.g., Inclusive Prosperity Capital, Inclusiv, Michigan Saves, Solar and Energy Loan Fund), to develop a standardized single "opt-in" loan guarantee program with uniform terms and requirements to enable easy and affordable access to capital to finance clean energy improvements for families and businesses with a priority towards communities eligible for CRA.

With inflation on the rise, and energy a key component as a result of the War in the Ukraine, the DOE's use of the DPA, to enable more investment in clean energy in CRA eligible communities through the LPO, will help confront climate change, while reducing the increasing burden of energy costs borne by vulnerable communities.

C. Title XVII Financing Structures[13]
Any amendments to the Rule, should enable Title XVII to offer program(s) (e.g., national loan loss guarantee) to "state energy financing institutions" to support clean energy deployment in vulnerable communities. As noted above, ensuring that CRA-eligible projects are deemed eligible projects per Title XVII Rules would be a critical factor. Rather than a competitive RFP, the LPO should be able to design programmatic offering(s) (e.g., through RFIs) that make accessing Title XVII easier for "state energy financing institutions" (e.g., opt-in) to mobilize private investment in clean energy deployment in their vulnerable communities.

RECOMMENDATION
The LPO should issue an RFI to establish a national loan guarantee for CRA-eligible projects. There could be no better place-based initiative that the LPO could provide for Justice 40 than a national loan guarantee that supports the development of projects in CRA-eligible communities in collaboration with "state energy financing institutions".

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[11] In Connecticut, the Green Bank has access to $250 MM of SCRF, which is the ability to issue bonds supported by the State of Connecticut – thereby improving the bond rating and therefore reducing borrowing costs and costs of capital for financing clean energy projects.
[12] (B-3)
[13] (C-1) through (C-2) only

For example, "Under the amendments to Title XVII through the Energy Act of 2020,[14] the LPO is seeking requests for information on how a standardized $500 MM loan guarantee facility to state energy financing institutions would unlock private investment in clean energy technologies in CRA-eligible communities." By soliciting feedback for a standardized programmatic approach that allows "state energy financing institutions" to "opt-in" and access Title XVII resources through the LPO, additional public and private investment that is more accessible (i.e., CRA-eligible communities) and affordable (e.g., lower interest rates, longer terms) can be mobilized to provide vulnerable communities with the capital they need to realize the benefits that clean energy technologies provide.

The LPO has an opportunity now as a result of the Act, IIJA, and this RFI to mobilize public and private investment in place-based Justice 40 initiatives, if it works in collaboration with "state energy financing institutions".

D. <u>Title XVII Loan Guarantee Program Improvements</u>

It is great to see the LPO receiving a significantly higher volume of applications to its Title XVII program in the past twelve months than in recent years. The challenge for the LPO will be its ability to manage within its resources (i.e., human and financial), while at the same time encouraging maximum participation within its programs – from applications submitted to innovative transactions approved, especially transactions focused on vulnerable communities (e.g., including Tribal Nations).

In terms of how the LPO navigates through this challenge,[15] the Green Bank provides the following observations. The Operating Procedures of the Green Bank allow us to invest in projects through competitive solicitations, designed programs, or strategic opportunities.[16] If posed with budget and time constraints, it is likely that the Green Bank would focus its resources on areas that delivered the most impact (i.e., "bang for the buck") with respect to our primary inputs, outputs, and outcomes (i.e., maximize societal benefit per public dollar invested) – which includes investment (i.e., both public and private), clean energy produced (e.g., kWh, MMBtu), emissions avoided (e.g., CO_2, particulate matter), jobs created, and ensuring that no less than forty percent of investment and benefits is directed to vulnerable communities. For the LPO, this might translate into explicit requests for proposals with detailed funding currently available over a specified period of time. For example, the LPO has [$X] billion of existing loan guarantee authority for innovative [Type of Technology] projects that it seeks to invest in the next [X] years by mobilizing [X] times more private investment. For the Green Bank, mobilizing investment, specifically multiples of private investment using limited public resources, is the key metric for achieving the ambitious social and environmental public policy goals of the State of Connecticut.

The Rule should further clarify what the DOE considers a "project" because the track record of the LPO doesn't represent distributed energy resources ("DER"). The Rules should allow for DER projects to be supported by Title XVII as is being suggested above by the Green Bank within the lens of CRA, vulnerable communities, and a standardized national loan guarantee program for "state energy financing institutions".

Within the "project costs" definition of the Rules, includes:

- "…and shakedown of an Eligible Project, as specified in § 609.10(a)."

[14] Sec. 40401(c)(2) of the IIJA
[15] (D-1) through (D-4)
[16] https://www.ctgreenbank.com/wp-content/uploads/2022/05/5ai_Green-Bank-Operating-Procedures.pdf

- “Project costs do not include costs for the items set forth in § 609.10(b).”

For DER projects to be considered as “eligible projects” (i.e., they should be included within the “eligible projects” definition), the Green Bank would suggest including the following from § 609.10(a):

- (12) Other necessary and reasonable costs, including, without limitation, previously acquired real estate, equipment, or other materials, marketing costs for customer acquisition, and any engineering, construction, make-ready, design, permitting, or other work completed on an existing facility or project.

And removing the following from § 609.10(b):

- (9) Operating costs

In terms of applicants being prejudiced or disadvantaged if the application process were to not include the negotiation of a preliminary term sheet with the DOE, the Green Bank feels that it is standard practice for transactions to include the negotiation of a preliminary term sheet.

And lastly, although the Green Bank doesn’t have direct experience applying within Title XVII, the DOE can modify its application process or requirements in a manner that improves its implementation of Title XVII by integrating the purposes of the Act, by creating an opportunity for “state energy financing institutions” to “opt-into” a standardized loan guarantee program offered by the LPO through a simple application to provide local and state governments and nonprofit organizations with easy and affordable access to capital to support clean energy deployment in vulnerable communities.

The Green Bank appreciates the DOE's efforts to solicit public comment on the LPO’s Title XVII program amendments given the Act and IIJA. If appropriate, we look forward to speaking with members of the LPO team, including alongside our local and state, and nonprofit partners, to enable Title XVII to mobilize private investment in clean energy for vulnerable communities through CRA to confront climate change and support the DPA.

Sincerely,

Bryan Garcia *Bert Hunter*

Bryan Garcia
President and CEO

Bert Hunter
EVP and CIO

About the Connecticut Green Bank

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 $2.14 billion of investment into Connecticut's clean energy economy at a 7.4 to 1 leverage ratio of private to public funds, supported the creation of 25,612 direct, indirect and induced jobs, reduced the energy burden on over 63,000 families and businesses, deployed over 494 MW of clean renewable energy, helped avoid 9.9 million tons of CO_2 emissions over the life of the projects, and generated $107.4 million in individual income, corporate, and sales tax revenues to the State of Connecticut.

Attachments

A. Connecticut Green Bank Decennial Societal Impact Report – Fact Sheet
B. The Impact of Federal Funds in Connecticut – Fact Sheet
C. Green Bank’s comments filed under DE-FOA-0002716

ATTACHMENT A

CONNECTICUT GREEN BANK

Decennial Societal Impact Report

FY12
FY21

Since the Connecticut Green Bank's inception through the bipartisan legislation in July 2011, we have mobilized more than **$2.14 billion of investment** into the State's green economy. To do this, we used **$288.4 million** in Green Bank dollars to attract $1.85 billion in private investment, a leverage ratio of **$7.40 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 2021).

ECONOMIC DEVELOPMENT

JOBS The Green Bank has supported the creation of more than **25,612** direct, indirect, and induced job-years.

TAX REVENUES The Green Bank's activities have helped generate an estimated **$107.4** million in state tax revenues.

$52.8 million individual income tax

$27.5 million corporate taxes

$27.1 million sales taxes

ENERGY

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

57,000+ families

6,000+ businesses

DEPLOYMENT The Green Bank has accelerated the growth of renewable energy to more than **494 MW** and lifetime savings of over **64.1 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 **9.3** million pounds of SOx and **10.7** million pounds of NOx.

9.9 MILLION tons of CO_2 : EQUALS

163 MILLION tree seedlings grown for 10 years

OR

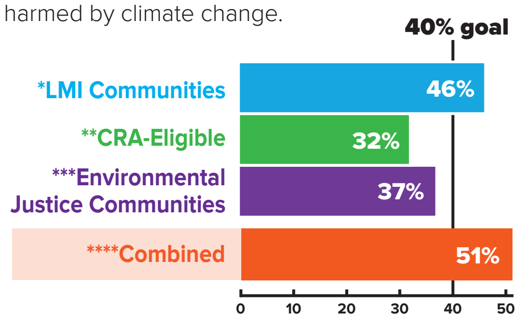
2.1 MILLION passenger vehicles driven for one year

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

$298.1 – $674.1 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

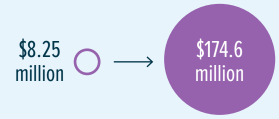
The Impact of Federal Funds in Connecticut

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)

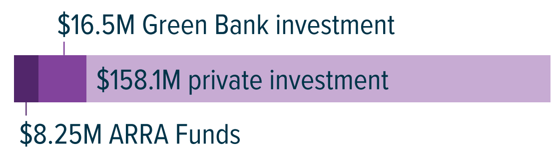
CONNECTICUT GREEN BANK

Economic Development

The Green Bank turned $8.25 million of federal funds



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.

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

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

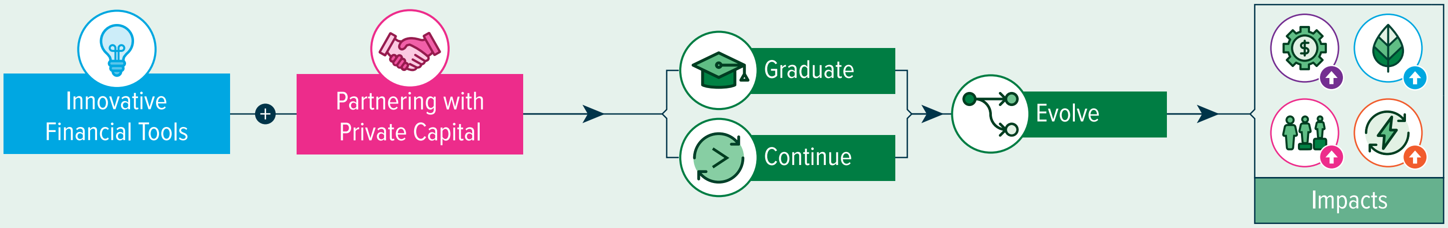
- Deployment of over **24 megawatts** of **clean energy**
- **Lifetime savings of over 3.4 million MMBTUs** through energy efficiency projects, including:
  - Solar panel installation
  - Insulation upgrades
  - Heating and cooling system upgrades

$138M in lifetime energy savings generated

Financing Programs with Federal Funds

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.

CONNECTICUT GREEN BANK



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

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.

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.

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 C

May 6, 2022

U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Revolving Loan Fund Programs
EERevolvingLoanFund@ee.doe.gov

SUBJECT: **Comments from the Connecticut Green Bank – Designing Equitable, Sustainable, and Effective Revolving Loan Fund Programs – DE-FOA-0002716**

To Whom it May Concern:

The Connecticut Green Bank ("Green Bank") appreciates the U.S. Department of Energy's ("DOE") efforts through the Office of Energy Efficiency and Renewable Energy ("EERE") issuing this request for Information ("RFI") – Designing Equitable, Sustainable, and Effective Revolving Loan Fund Programs. The RFI is intended to inform the DOE on promising, innovative, and best practices for designing revolving loan funds ("RLF") – specifically for 42 U.S.C. 18792 – that effectively serve a wide array of borrowers with beneficial energy efficiency products and services and enable private sector capital to scale access to energy efficiency financing.

Through the American Recovery and Reinvestment Act ("ARRA") of 2009, the Green Bank invested $8.3 MM of federal funds, alongside $16.5 MM of Green Bank capital, to mobilize $158.1 MM of private investment for a total of $174.6 MM of investment to finance energy efficiency and renewable energy ("clean energy") projects for over 9,000 families – see attached fact sheet. The investment of federal funds, albethey credit enhancements (i.e., loan loss reserves ("LLR"), interest rate buydowns ("IRB")) and not RLF's, enabled 20 times more state and local private investment in clean energy deployment – reducing the burden of energy costs on families (especially those in vulnerable communities),[1] increasing jobs in our communities, and reducing greenhouse gas emissions.

ARRA provides a useful example for how local, state, and federal partnerships can unlock and mobilize multiples of private investment to increase the impact of taxpayer resources while maximizing the benefits to participants (e.g., reduce energy burden), ratepayers (e.g., reduce peak demand, increase energy security), and society (e.g., create jobs, reduce GHG emissions). As the DOE looks ahead at

[1] Per Public Act 20-05, 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.

implementing the Bipartisan Infrastructure Law ("BIL"), including the RLF and other provisions, it should build on the lessons learned from ARRA, while advancing the Biden Administration's objectives (e.g., 100% clean electricity by 2035, Justice 40).

The Green Bank offers the following comments.

Category 1— Equitable Access to Financing

- **Question 1** —the Lawrence Berkeley National Laboratory ("LBNL") report[2] highlights two (2) program models for RLFs for residential energy efficiency financing – New York's "Green Jobs – Green New York" and Pennsylvania's "Keystone HELPS" – capitalized from bond proceeds from municipal bonds[3] and asset backed securities, respectively. The research report emphasizes that these carefully designed and administered energy efficiency loan programs – including Connecticut's "Smart-E Loan" and Michigan's "Michigan Saves" supported by federal funds as credit enhancements (i.e., not RLF's) – exhibit stronger performance than other similar loans and therefore capital providers and lenders should offer better terms (i.e., lower interest rates, longer tenors, or both), and that such lending can help support policy goals related to equitable access to capital such as Justice 40 and the Community Reinvestment Act[4] compliance requirements. The DOE should look to this report, and the four residential energy efficiency financing programs highlighted, for design elements that result in equitable access and greater energy and environmental justice for residential end-use customers.

  Although not an RLF, the Green Bank's Smart-E Loan[5] was developed in collaboration with local contractors and capital providers (i.e., community banks, credit unions ("CU"), community development financial institutions ("CDFI")) through the use of ARRA funds. With the Green Bank goal by 2025 of no less than 40 percent of investment and benefits from financing and incentive programs being directed to vulnerable communities, the Smart-E Loan is making steady progress – see Table 1.

Table 1. Smart-E Loan Data for Investment and Projects for Vulnerable Communities

Investment ($MM's)			**# of Projects**		
Not Vulnerable Communities	Vulnerable Communities	% Vulnerable Communities	Not Vulnerable Communities	Vulnerable Communities	% Vulnerable Communities
$65.6	$34.4	34%	3,204	2,216	41%

- **Question 2 —** with respect to residential clean energy financing, there are several other programs the Green Bank administers(ed) that use public capital as debt in a capital structure (e.g., subordinated debt) that act(ed) like RLF's – see Table 2.

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[2] State and Local Energy Efficiency Action Network (SEE Action). (2021). *Long-Term Performance of Energy Efficiency Loan portfolios.* Prepared by: Jeff Deason, Greg Leventis, and Sean Murphy of Lawrence Berkeley National Laboratory.

[3] Secured by the Clean Water State Revolving Fund

[4] The Community Reinvestment Act (CRA), enacted in 1977, requires the Federal Reserve and other federal banking regulators to encourage financial institutions to help meet the credit needs of the communities in which they do business, including low- and moderate-income (LMI) neighborhoods (i.e., less than 80% area median income).

[5] https://www.ctgreenbank.com/wp-content/uploads/2021/11/FY21-CGB-ACFR-Final-11.08.21.pdf (p. 243)

Table 2. 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
CT Solar Loan[6]	$6.7	$2.4	26%	197	82	29%
CT Solar Lease[7]	$30.2	$16.1	35%	746	443	37%
Solar for All[8]	$27.9	$90.5	76%	929	3,363	78%

It should be noted, that not all clean energy financing programs are (were) focused on driving equitable access to energy efficiency financing. However, Solar for All, a partnership between the Connecticut Green Bank and PosiGen, is a lease product for solar PV and energy efficiency targeted at vulnerable communities.

The DOE should look to reports from LBNL for other financing tools that are driving equitable access to clean energy financing that can be extrapolated to answer this important question, including solar PV financing and the role of incentives.[9][10] As the DOE looks to enable RLF to mobilize greater private investment in energy efficiency, it should also look to non-financing tools such as the Weatherization Assistance Program ("WAP")[11] for funding that provides incentives (i.e., grants) that can also play a role in increasing equitable access to energy efficiency. Given the market for weatherization is approximately 39.5 million households requiring between $300-$400 billion of investment, the DOE needs to see RLFs in a manner that mobilizes private investment and not simply grant out such resources if we are to achieve such high targets.

- **<u>Question 3</u> —** RLF program administrators should include partnerships with local, state, and nonprofit green banks, climate banks, or other public or nonprofit CDFI's to ensure that prospective borrowers leverage all appropriate incentives before taking on debt. As noted above, carefully designed and administered energy efficiency loan programs exhibit strong performance (e.g., loan repayment). Potential borrowers should always take advantage of local, state, and federal incentives, including tax credits, before taking on debt in order to reduce debt service payments and reduce energy burden.

  It should be noted that eligible recipients under 42 U.S.C. 18792 are small to medium sized manufacturers. To maximize support for such manufacturers, innovative public-private partnership approaches that mobilize private investment should be allowed, including partnerships with local, state, and nonprofit green banks, climate banks, or other CDFI's as intermediaries to directly or indirectly channel DOE RLF program to support financing.

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[6] Ibid (p. 316)
[7] Ibid (p. 332)
[8] Ibid (p.266)
[9] (May 2021). *Performance of Solar Leasing for Low- and Middle-Income Customers in Connecticut*. Prepared by Jeff Deason, Greg Leventis, and Sean Murphy of Lawrence Berkeley National Laboratory.
[10] (April 2022). *Rooftop Solar Incentives Remain Effective for Low- and Moderate-Income Adoption.* Prepared by Eric O'Shaughnessy of Lawrence Berkeley National Laboratory.
[11] "Biden Administration Announces New Funding to Make Homes Energy-Efficient" by Anna Phillips of The Washington Post (March 30, 2022)

In Connecticut, there are two (2) energy efficiency financing programs for small and medium sized manufacturers, including:

a. **Small Business Energy Advantage** ("SBEA")[12] – through a partnership with Eversource Energy[13] and Amalgamated Bank,[14] the Green Bank supports the SBEA program – an on-bill, zero-percent interest rate, an "RLF-like" program for small businesses (i.e., commercial and industrial, non-profits, municipalities and state agency customers that use less than 1,000,000 kWh a year across all their properties). SBEA provides financing for up to 7 years for up to $1.0 MM per business customer. The Connecticut Energy Efficiency Fund (a statutorily established fund replenished by a small recurring charge on electric and gas utility ratepayer bills) provides funds for an interest rate buydown (to 0%) and to absorb any loan losses (historically ~1% of outstanding loan balances per annum). Over the past three years, SBEA, through utility managed installation contractors, has provided nearly 5,400 on-bill financings totaling $67.4 MM (of which 90% is financed by Amalgamated Bank) with an estimated 1.8 GWh of energy savings over the life of the measures. Due to its success, this partnership was recently renewed for an additional 3 years to 12/31/2024.

b. **Commercial Property Assessed Clean Energy** ("C-PACE")[15] – through a partnership with over twenty (20) qualified capital providers and 137 (of 169) of Connecticut's municipalities, the Green Bank administers the C-PACE program – a benefit assessment lien to finance clean energy improvements on commercial, industrial, and multifamily properties. C-PACE, an RLF-like program, provides financing up to 25 years. Since its inception in 2013, C-PACE has provided nearly 350 financings totaling $220.1 MM (of which 75% is from private capital) and an estimated 4.1 million MMBtu of clean energy production or energy savings over the life of the measures delivering a savings to investment ratio greater than 1. Green Bank capital for the program is provided primarily from funds provided by the Regional Greenhouse Gas Initiative (RGGI) as well as through securitization of the loan receivables with private capital sources.

RLF offered through the program should support utility on-bill financing programs, C-PACE, and bridge, construction, term, off-taker, and secondary capital loans – and consideration should be given to allowing such RLF to be used as credit enhancements (i.e., interest rate buydowns, loan loss reserves) to lower the cost of and increase access to private capital.

- **Question 4 —** To be successful, any RLF program should enable borrowers to access funding in a straightforward manner. Contractor-installers should be trained periodically on how to educate their customers about available financing options and be able to assist their customers in the loan application process. This application process should be "cloud-based" to not only simplify the submission of borrower information, but also to enable proper tracking of the underwriting process. While interest rates needn't be "0%" – programs that have a uniform and simplified underwriting process with credit loss reserves will ensure the program has access to the lowest cost capital for maturities that best match the expected useful lives of the projects being financed. Applications for smaller commercial loan sizes (such as up to $100,000 as with the SBEA program mentioned

[12] https://www.ctgreenbank.com/wp-content/uploads/2021/11/FY21-CGB-ACFR-Final-11.08.21.pdf (p. 303)
[13] www.eversource.com
[14] www.amalgamatedbank.com
[15] https://www.ctgreenbank.com/wp-content/uploads/2021/11/FY21-CGB-ACFR-Final-11.08.21.pdf (p. 180)

above) will benefit greatly from a simplified underwriting process (for example, needing to be current on one's utility bill with no more than 2 late payments within the past 18 months). Consumer (homeowner) loan processes (typically not exceeding $50,000) are well-established with standard FICO (and potentially income verified) underwriting criteria. Larger commercial transactions (such as with C-PACE) require underwriting that is commonplace for small business administration ("SBA") loans, which would include disclosure of the most recent 2 years of audited financial information (or the submission of federal tax returns along with financial statements that have not been audited), an appraisal and a high-level environmental assessment for the property being improved (assuming the property is being used to provide security for the loan). Whatever the process, processing the application expeditiously will promote better program deployment success.

- **<u>Question 5</u> —** Private capital is available to residential, commercial, and industrial borrowers anywhere in the United States from a variety of capital providers, including community and national banks, credit unions, "fin-tech" lending companies, leasing companies, and state or utility-sponsored loan programs, to name a few. However, the terms and conditions of lenders, given the actual (or perceived) risks of potential borrowers, the type of improvements (e.g., energy efficiency and heat pumps vs solar PV for instance) can be relatively loose and inexpensive for highly creditworthy borrowers for short-term loans, or more stringent (and at a considerably higher interest rate) for less creditworthy borrowers for longer-term loans. Structures that are not construed as debt (such as solar PV power purchase agreements or "pay as you save" (PAYS) programs) are likely to result in better deployment in vulnerable communities where residents may already be at their credit limit. Easy and affordable access to borrowing will determine the likelihood of underserved markets in realizing the benefits from clean energy deployment.

  There is an important role that public or community-based financial institutions such as green banks, credit unions, and CDFI's can play – to leverage federal RLF into financing programs that provide access to private capital for eligible recipients.

- **<u>Question 6</u> —** carefully designed and administered energy efficiency loan programs by electric and natural gas distribution companies,[16] local, state, and nonprofit green banks,[17][18] climate banks, or other public or nonprofit CDFI's, establish contractor pre-qualification conditions or labor standards, as well as technical review, to ensure that high-quality workmanship delivers the intended energy savings to consumers. Typically guided by state policy or energy regulation to deliver all cost-effective energy efficiency, program administrators ensure high-quality workmanship and delivery of energy savings to participating consumers.

<u>IMPORTANT NOTE</u>
The Green Bank is willing and able to speak with the DOE staff in detail about any of these residential and commercial clean energy financing programs as appropriate and would invite the

[16] Small Business Energy Advantage – https://energizect.com/find-a-contractor
[17] Smart-E Loan – https://www.ctgreenbank.com/programs/find-a-contractor/
[18] Commercial Property Assessed Clean Energy – https://www.cpace.com/capital-provider/resource-center/approved-technical-reviewers/

DOE staff to review the "Use Cases" describing these financing programs in detail within its Annual Comprehensive Financial Report for FY21.[19]

Category 2 – Program Success & Sustainability

- **Question 7** – the following is a breakdown of Green Bank program models and design factors in response to the RFI questions:

    a. **Small Business Energy Advantage** – beginning with a no-cost energy assessment[20] to receiving combination of upfront incentives and access to on-bill financing for the remainder of the installed costs.[21]

    b. **Commercial Property Assessed Clean Energy** – easy and affordable access to private capital (and public capital from Green Bank), including, in collaboration with the Connecticut Department of Economic and Community Development, additional incentives provided to manufacturers through Energy On the Line.[22]

    c. **Decarbonization** – the Green Bank has established impact methodologies to measure decarbonization[23] and the public health benefits[24] resulting from reduced air pollution as a result of clean energy deployment through its financing programs – see Table 3.

Table 3. Decarbonization and Public Health Benefits from Reduced Air Pollution

Program	**Sector**	**Decarbonization** (LT Avoided MMTCO2e)	**Air Pollution** (LT Avoided Pounds)[25]	**Public Health Savings** ($MM)
Smart-E Loan	Residential	281,623	521,373	$8.7-$19.6
CT Solar Loan	Residential	35,018	103,089	$1.2-$2.7
CT Solar Lease	Residential	154,900	381,464	$5.3-$11.9
Solar for All	Residential	700,785	1,287,120	$20.5-$46.5
SBEA	C&I	-	-	-
C-PACE	C&I	851,192	1,704,781	$24.9-$56.4

The DOE, working with the Environmental Protection Agency ("EPA"), can develop similar impact methodologies to measure decarbonization and public health as a result of federal funds increasing private investment in clean energy deployment. It will be imperative for the DOE to collect data (e.g., estimate annual and lifetime energy savings, including kW, kWh, and MMBtu) from RLF partners to measure progress towards decarbonization, air quality, and public health goals.

[19] https://www.ctgreenbank.com/wp-content/uploads/2021/11/FY21-CGB-ACFR-Final-11.08.21.pdf
[20] https://www.eversource-ct.com/small-business/
[21] https://energizect.com/your-business/solutions-list/Small-Business-Energy-Advantage
[22] https://www.energyontheline.com/
[23] https://www.ctgreenbank.com/wp-content/uploads/2018/01/CGB-Eval-IMPACT-091917-Bv2.pdf
[24] https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB-Eval-PUBLICHEALTH-1-25-18-new.pdf
[25] Includes NOx, SOx, and $PM_{2.5}$

d. **<u>Job Creation</u>** – the Green Bank has established impact methodologies to measure job creation,[26][27] including tax revenue generation,[28] as a result of increased investment in clean energy deployment – see Table 4.

Table 4. Job Creation Benefits

Program	Sector	Direct (Job-Years)	Indirect and Induced (Job-Years)	Total (Job-Years)	Tax Revenue Generation ($MM)
Smart-E Loan	Residential	522	716	1,239	$6.0
CT Solar Loan	Residential	51	82	132	$0.5
CT Solar Lease	Residential	221	356	577	$2.4
Solar for All	Residential	482	644	1,126	$2.9
SBEA	C&I	73	115	188	$7.2
C-PACE	C&I	936	1,354	2,290	$16.2

Again, it will be important for the DOE to collect data (e.g., public and private investment by measure) from and for RLF partners to report data in order to measure progress towards job creation goals.

With the assistance of [bw] Research Partnership, the Green Bank, and our electric and gas distribution partners (i.e., Eversource Energy and United Illuminating), tracks the clean energy workforce in Connecticut by diversity and union.[29] In 2021, Public Act 21-43 "An Act Concerning a Just Transition to Climate-Protective Energy Production and Community Investment" was passed in Connecticut requiring clean energy developers of certain projects (i.e., Class I renewable energy resources that exceed 2 MW in capacity), to establish a workforce development program, enter into community benefit agreements, and ensure that contractors and subcontractors on projects meet certain criteria. It is important to note that this is for large-scale clean energy projects and not energy efficiency.

e. **<u>Upskilling Opportunities</u>** – no comment

f. **<u>Self-Sustaining</u>** – as noted above, the Green Bank invested ARRA funds as credit enhancements (i.e., LLR, IRB) and not RLF's. And although those ARRA resources weren't used as RLF's, their impact in mobilizing private investment was extraordinary. For a detailed description of the self-sustaining impact beyond capitalization/federal funding, see the attached fact sheet entitled "The Impact of Federal Funds in Connecticut," and note on the second side entitled "Financing Programs with Federal Funds" how the use of ARRA funds as credit enhancements, led to self-sustainable private investment through the Green Bank.

- **<u>Question 8</u>** — as a Co-Chair of the Financing Solutions Working Group of the State Energy Efficiency Action Network ("SEE Action Network"),[30] there are a number of resources that

[26] https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf
[27] https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGReenBank-Clean-Energy-Jobs-CT-August102016.pdf
[28] https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf
[29] https://www.ctgreenbank.com/wp-content/uploads/2020/11/2020-Connecticut-Clean-Energy-Industry-Report.pdf (p. 33)
[30] Bryan Garcia, President and CEO of the Connecticut Green Bank

can be reviewed to identify the lessons learned from successful and unsuccessful RLF programs, including, but not limited to:

- Energy Efficiency Financing for Low- and Moderate-Income (LMI) Households: Current State of the Market, Issues, and Opportunities (August 2017)[31]

- Making it Count: Understanding the Calue of Energy Efficiency Financing Programs Funded by Utility Customers (December 2015)[32]

- Accessing Secondary Markets as a Capital Source for Energy Efficiency Finance Programs: Program Design Considerations for Policymakers and Administrators (February 2015)[33]

- Energy Efficiency Finance Programs: Use Case Analysis to Define Data Needs and Guidelines (July 2014)[34]

- Financing Energy Improvements on Utility Bills: Market Updates and Key program Design Considerations for Policymakers and Administrators (May 2014)[35]

- Energy Efficiency Financing Program Implementation Primer (January 2014)[36]

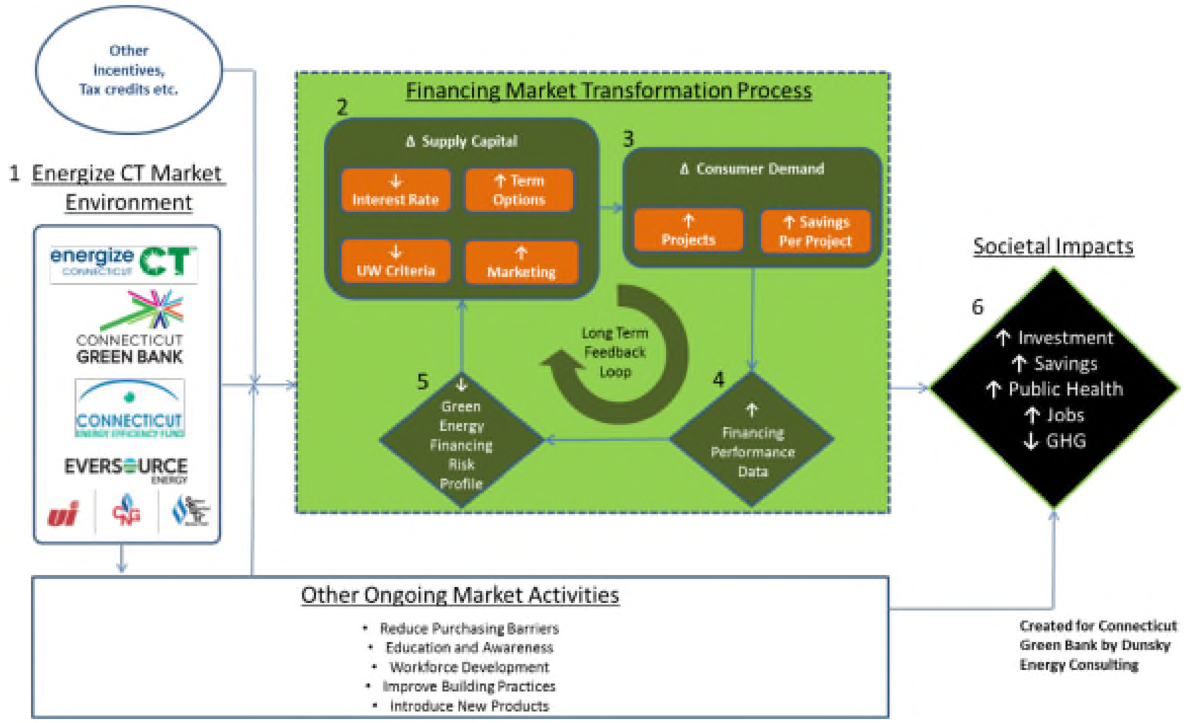
- Credit Enhance Overview Guide (January 2014)[37]

The DOE should review these reports to identify relevant lessons learned that can inform RLF program design.

- **Question 9** —reducing asymmetric information by requiring that all data from federally-funded RLF programs be collected, made available, and publicly disclosed will reduce the perception of risk by private lenders and encourage more competition in the marketplace. Increased competition is good for borrowers as this should result in increased access to capital, lower interest rates, more term options, better underwriting criteria, greater marketing by financial institutions, and other benefits, including an increase in demand for clean energy projects and measures by consumers – see Figure 1.[38]

[31] https://www.energy.gov/sites/default/files/2021-07/ee-financing-lmi.pdf
[32] https://www.energy.gov/sites/default/files/2021-07/making-it-count-final-v2.pdf
[33] https://www.energy.gov/sites/default/files/2021-07/accessing-secondary-markets-ee-finance.pdf
[34] https://www.energy.gov/sites/default/files/2021-07/energy-efficiency-finance-programs.pdf
[35] https://www.energy.gov/sites/default/files/2021-07/financing-energy-improvements-utility-bills-market.pdf
[36] https://www.energy.gov/sites/default/files/2021-07/ee-financing-program-implementation-primer.pdf
[37] https://www.energy.gov/sites/default/files/2021-07/credit_enhancement_guide.pdf
[38] https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Evaluation-Framework-July-2016.pdf

Figure 1. Program Logic Model of the Connecticut Green Bank – Financing Market Transformation Process



Instilling greater confidence to private lenders that investment in the program provides acceptable levels of risk and benefits requires engagement from local and state entities and the utilities. For example, the Smart-E Loan in Connecticut, is supported by the Green Bank providing technical assistance in terms of eligible clean energy and energy efficiency measures consistent with the public policy of the state, and qualifying eligible contractors who are trained and don't have poor records with respect to consumer protection violations.

- **Question 10** – see response to Question 6.

IMPORTANT NOTE
Over the years, the Green Bank has been asked by local and state governments about how they could develop and/or use the social and environmental impact methodologies developed by the Green Bank to communicate the benefits of clean energy deployment. The Green Bank staff is willing and able to meet with the DOE staff as appropriate, with respect to its impact methodologies, including its program logic model for financing market transformation that guides data collection and reporting.

Category 3 – Supporting Tools & Resources

- **Question 11** — long-term success of RLFs in reaching more low- and moderate-income, underserved, or disadvantaged communities, occurs when the investment of such funds develop local funding ecosystems, including, but not limited to incentives (i.e., electric and gas distribution companies), tax credits (e.g., sales, property, investment), and credit enhancements for financing (e.g., loan loss reserves, interest rate buydowns). Easy and affordable access to capital, in its various forms from funding (i.e., grants) to financing (i.e., loans), provides end-use customers and their contractors with the financial resources they need to develop, construct, commission, and operate such systems.

- **Question 12** —see response to Question 21.

- **Question 13** – this is not an area of expertise of the Green Bank, however, we would offer the following observations:

    - **Financial Institutions** – encouraging partnerships between local and state governments with financial institutions that share these objectives given their corporate structure (e.g., Amalgamated Bank[39]) and/or their commitment to CRA (e.g., Liberty Bank, Webster Bank, KeyBank) may improve pay, unionization, and increased access to disadvantaged workers.

    - **US Energy and Employment Jobs Report** ("USEER") – the DOE, working in collaboration with the National Association of State Energy Offices ("NASEO"), Energy Futures Initiative, and [bw] Research Partnership produce information on state-level and national jobs in the clean energy industry. The DOE should increase its support of this research to track key information over time (e.g., unionized workers, compensation) to monitor progress. The Green Bank would like to thank the DOE for its continued support of such research efforts as it helps states track jobs in the clean energy industry.[40]

- **Questions 14** – this is not an area of expertise of the Green Bank, however, we would offer the following observation:

    There are several federal auditing tools that are useful for residential (i.e., Home Energy Score) and non-residential (i.e., Energy Star Benchmarking) end-use customers. The DOE should not limit data collection, auditing, modelling and sales tools to government platforms, but should encourage innovation in such tools.

    What is important to note is that any data collected as a result of RLF support for residential, commercial, and industrial projects should be made publicly available to the DOE. For example, the data collected by the Green Bank from the Smart-E Loan, supported by credit enhancements from ARRA, were made available to LBNL for scientific research purposes. Reducing asymmetric information should be an important outcome for the DOE in terms of loan and energy savings performance through the RLF because it increases competition in the market for easy and affordable access to capital to consumers and contractors.

- **Question 15** – see various responses above.

    As local and state, nonprofit and utility administrators of clean energy programs know, the qualification and eligibility of contractors to access and operate within incentive programs is important and essential.

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[39] Founded in 1923 by the Amalgamated Clothing Workers of America, Amalgamated Bank is the largest union-owned bank and one of the only unionized banks in the United States. It is currently majority owned by Workers United and SEIU Affiliate.

[40] https://www.ctgreenbank.com/wp-content/uploads/2022/01/2021-CT-Clean-Energy-Industry-Report.pdf

Beyond demonstrating local certifications (e.g., journeyman licenses, including E-2, PV-2, and STC-2 Licenses in Connecticut) and standards, frequent and random project inspections are important to ensure proper installation and operation of projects. By inspecting new contractors and randomly inspecting old contractors in the program, program administrators are able to improve consumer protections and increase energy savings from such projects.

- **Questions 16** – as the DOE knows, there are various ways to track program success and impacts while relieving burden on contractors and programs. The following are the key pieces of data that are essential to collect to estimate E^4 impact – see Table 5.

Table 5. Data Collection to Compute Success and Impact

	Economy	Energy	Environment	Equity
Installed Cost	x			
Project Type	x			
Installed Capacity		x	x	x
Location	x			x

  - **Economy** – per every $1.0 MM invested in funding (i.e., grants) and financing (i.e., loans) from public and private sources of capital in various clean energy projects (e.g., renewable energy, energy efficiency) direct, indirect and induced jobs years and sales, property, corporate, and individual tax revenues can be estimated.

  - **Energy** – based on the installed capacity of a project, including its estimated production (i.e., kWh) and/or savings (i.e., MMBtu), and the energy consumption of participating residential, commercial, and industrial end-use electric and gas customers, the energy burden and security can be calculated depending upon the rate structure.

  - **Environment** – based on the estimated production and/or savings of such systems, using tools developed by the EPA, an estimate of GHG and criteria pollutant emissions avoided and the associated public health benefits from cleaner air (e.g., reduced sick days, hospitalizations, deaths) can be estimated.

  - **Equity** – if data on income and race is not being collected, then the location of a project with respect to census tract can enable an estimate of what families and businesses are benefitting from such investment in and deployment of clean energy.

For further details, see "Decennial Societal Impact Report" fact sheet.

IMPORTANT NOTE

DOE should consider providing technical assistance to local and state governments and/or developing standardized methodologies for impact tracking and reporting based on the data it collects from investment through the BIL and other programs. Given its experience, the Green Bank is willing to assist the DOE as appropriate.

Category 4 – Job Quality, Buy America, and Climate Impact

- **Question 17** — the RLF, might impact a region's workforce by:

  a. **Job Growth and Quality** – if the RLF is able to unlock and leverage multiples of private investment, then it is able to increase the capacity to lend to projects and increase job growth and quality. For example, if $10.0 MM were available for an RLF that has no ability to mobilize additional private investment and revolves every 4 years, then in Connecticut, such a facility could support 62 direct jobs from commercial energy efficiency projects every 4 years.[41] However, if the $10.0 MM RLF were able to be invested through a green bank as subordinated debt within a capital structure (e.g., 10-20 percent) in partnership with a private lender (e.g., 80-90 percent) as senior debt, then 4-9 times more capital would be available for projects thereby supporting a $50.0-$100.0 MM RLF facility that could support 248-558 additional direct jobs. This is the capital structure of the SBEA program noted above (i.e. response to 3a). More capital available and deployed in projects leads to job growth – and an increase in the supply of projects in a market, results in an increase in job quality (e.g., compensation) as the competition for labor increases.

  b. **Construction Jobs** – as noted above, a $10.0 MM RLF without mobilizing private investment versus a $50.0-$100.0 MM RLF whose $10.0 MM of investment is subordinated to $40.0-$90.0 MM of private investment as senior debt, would produce an additional 248-558 more direct (i.e., construction) and 320-720 indirect and induced jobs. Greater and easier access to affordable capital fosters the sustained orderly development of a local construction industry.

  c. **Prevailing Wage Requirement** – a considerable amount of deployment for projects for SMEs and residential homeowners are accomplished by less substantial local contractors that generally lack the wherewithal to comply with Davis Bacon prevailing wage requirements. We would recommend that, like ARRA, that there be categorical exclusions for such requirements related to the size of such projects. Where Davis Bacon prevailing wage requirements will apply, compliance protocols for such requirements should be made as straightforward as possible with readily-available technical assistance for contractors (particularly those contractors with annual revenues below a certain threshold (for instance).

     The Green Bank, working with [bw] Research Partnership, EDCs, DEEP, and Connecticut Department of Labor, broadly collect wage and benefit (i.e., health care and retirement) data to discern how the clean energy economy is supporting families.[42]

- **Question 18** —in general, residential and commercial energy efficiency projects tend to use Energy Star products. Beyond the procurement of these Energy Star products from domestic or foreign sources (e.g., LG appliance manufacturing plant in the U.S.), project developers typically don't track the domestic or foreign procurement of iron, steel, cement or other construction materials for a project outside of the model and serial information collected on an invoice.

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[41] https://www.ctgreenbank.com/wp-content/uploads/2017/02/CTGReenBank-Clean-Energy-Jobs-CT-August102016.pdf
[42] https://www1.ctdol.state.ct.us/lmi/green/CTGreenBank.asp

- **Question 19** – this is beyond the expertise of the Green Bank, however there are a number of ways an RLF could encourage procurement of domestic products and materials, including, but not limited to:

  - **Additional Pool of Resources** – the DOE could allow RLF program administrators to access a pool of additional resources to lower interest rates (e.g., first-come, first-serve);

  - **Federal Procurement** – given the procurement power of the federal government, long-term contracts could create competitive domestic markets that can help local and state governments, utilities, developers, and others procure lower cost products and materials that are domestically manufactured (e.g., buyers pool); and/or

  - **Innovative Customer Acquisition Strategies** – as demonstrated through the SunShot Program, and its support of community-based Solarize campaigns, customers could be given a pricing choice by contractors to offer two bid prices – including a conventional lowest bid price versus a bid price that includes American made products and materials allowing the customer to decide.

  It should be noted that although well intended, adding additional domestic manufactured requirements may have unintended consequences (e.g., reduce customer participation) that would reduce economic activity across the market (e.g., installation of projects).

- **Questions 20** – the RLF could encourage the use of funds for beneficial electrification by lowering interest rates. For example, the Smart-E Loan used ARRA funds as interest rate buydowns to catalyze the market for weatherization in combination with air source heat pumps and Energy Star windows. If RLF are to be used to finance projects that are reliant on fossil fuels, then equipment installed should be more efficient than what it is displacing.

  It should be noted that the transition to beneficial electrification will not only put additional stress on the electric grid (i.e., increase demand, specifically peak demand), but it will also adversely impact small businesses, typically family-owned businesses, that are being displaced as a result of this shift in technology. The DOE should provide additional technical assistance (e.g., workforce development) to enable a just transition for those small businesses currently focused on installing fossil-fuel powered equipment.

Category 5 – Open Response on Revolving Loan Fund Program Design

- **Question 21 —** with the objective to maximize the impact that BIL provides to help as many families and businesses as possible, within future formula grant or competitive RFPs in support of Sections 40209, 40502, and similar programs, we would recommend language along the following be included within the program documentation:

  In its effort to maximize support to the most families and SME's as possible, the DOE seeks innovative public-private partnership approaches that mobilize private investment, including, but not limited to the following:

    - *technical assistance (i.e., focus on Justice 40 and Just Transition)*
    - *predevelopment capital*

- *credit enhancements (i.e., interest rate buydowns, loan loss reserve funds)*
- *revolving loan funds*
- *participation agreements to lower cost of and increase access to private capital*
- *utility on-bill financing programs*
- *commercial property assessed clean energy*
- *bridge, construction, term, off-taker, and secondary capital loans*
- *partnerships with local, state, and nonprofit green banks, climate banks, or other public or nonprofit community development financial institutions, as intermediaries to directly or indirectly channel financing to SME's, including meaningful involvement of veteran, minority, women, and disabled-owned businesses*

Also, separate from this RFI, the Green Bank would recommend DOE consider the following aspects of supporting local and state efforts to unlock private investment to support the deployment of clean energy for families and businesses:

- **National Loan Loss Reserve Fund** – through an "across government" strategy, the DOE's Loan Program Office ("LPO")[43] working with the U.S. Department of Treasury's Community Reinvestment Act ("CRA") division, has the potential to mobilize billions of dollars of public and private investment that will be needed in order to achieve the Biden Administration's ambitious objectives. Work with leading green banks at the local and state-level focused on credit enhancement strategies (e.g., CT, HI, IL, Montgomery County) and non-profit organizations (e.g., Inclusive Prosperity Capital, Inclusiv, Michigan Saves, SELF) to develop a standardized "opt-in" program to enable easy and affordable access to capital to finance clean energy improvements for families and businesses with a priority focus on Justice 40 (e.g., vulnerable communities).

- **Credit Enhancements** – the importance of loan loss reserves ("LLR") in attracting private capital investment and interest rate buydowns ("IRB") in catalyzing contractor deployment of clean energy, are two key lessons from ARRA that should be advanced through RLF mechanisms. Although not an RLF per se, credit enhancements have the potential to engage local lenders to invest their private capital in clean energy markets. As those investments yield returns, local lenders will continue to invest private capital in clean energy market development revolving their own capital sources by continuously investing in the clean energy economy above and beyond local, state, and national government resources.

- **Cost-Effectiveness Testing** – conventional utility or third-party administered energy conservation and load management incentive programs are designed using cost-effectiveness testing (e.g., National Standard Practice Manual).[44] This approach allows for various benefit-cost analyses ("BCA") including, but not limited to Participant Cost Test ("PCT"), Program Administrator Cost Test ("PACT"), Total Resource Cost Test ("TRC"), Societal Cost Test ("SCT"), and Ratepayer Impact Measure ("RIM"). Prioritizing

[43] LPO authority to work with local and state government was expanded under Sec. 40401(c)(2) of the BIL amending the terms and conditions of Title 17 loans to include projects receiving financial support or credit enhancements from state energy financing institutions as eligible projects, and that such projects are not required to meet Section 1703(a)(2)'s requirement for new or significantly improved technologies, but instead meet emissions requirements.

[44] https://www.nationalenergyscreeningproject.org/national-standard-practice-manual/

vulnerable communities to achieve Justice 40 objectives, could be justified by providing additional incentives to such communities using the cost-effectiveness framework. For example, Energy Storage Solutions in Connecticut, prioritizes low-income households, households located in distressed communities, and affordable housing by receiving additional incentives justified by the BCA framework which should result in an increase in deployment in vulnerable communities.[45] DOE could provide technical assistance to states to support the analytical framework for higher incentives for vulnerable communities for such distributed energy resources such as solar PV + battery storage that both reduce energy burden and increase energy security for vulnerable communities.

IMPORTANT NOTE
The Green Bank would request to meet with the DOE staff for 30-minutes to discuss how a National Loan Loss Reserve and/or Credit Enhancements (e.g., LLR, IRB) strategy could unlock private capital investment at the scale necessary to achieve the ambitious Biden Administration policies.

The Green Bank appreciates the DOE's efforts to solicit public comment on the pending RLF request for proposals. We look forward to working with our public and private capital partners to submit an application, where appropriate, for consideration into the Revolving Loan Fund Program formula or competitive grant solicitation(s).

Sincerely,

Bryan Garcia
Bryan Garcia
President and CEO

Bert Hunter
Bert Hunter
EVP and CIO

About the Connecticut Green Bank

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 $2.14 billion of investment into Connecticut's clean energy economy at a 7.4 to 1 leverage ratio of private to public funds, supported the creation of 25,612 direct, indirect and induced jobs, reduced the energy burden on over 63,000 families and businesses, deployed over 494 MW of clean renewable energy, helped avoid 9.9 million tons of CO_2 emissions over the life of the projects, and generated $107.4 million in individual income, corporate, and sales tax revenues to the State of Connecticut.

Attachments

A. Green Bank – Fact Sheet
B. Decennial Societal Impact Report – Fact Sheet
C. The Impact of Federal Funds in Connecticut – Fact Sheet

[45] https://www.cleanegroup.org/webinar/connecticuts-new-energy-storage-solutions-program/