CONNECTICUT
GREEN BANK SM

Joint Committee of the CT EE Board & CGB Board of Directors

Meeting Date

December 21, 2022

JOINT CGB/EEB COMMITTEE MEMBERS

Brenda Watson
Chair
Executive Director
Operation Fuel
(Green Bank Designee)

John Harrity
Chair
CT Roundtable on Climate and Jobs
(Green Bank Designee)

Melissa Kops
Project Manager, Architect
City of New Haven
Department of Engineering

Victoria Hackett
Vice Chair
CT Department of Energy and Environmental Protection (DEEP)
(Ex Officio)

John Viglione
Office of Consumer Counsel
(EEB Designee)

AGENDA

Joint Committee of the CT Energy Efficiency Board and the Connecticut Green Bank Board of Directors

Online

December 21, 2022
1:30 pm – 3:00 pm

1. Call to Order
2. Public Comments (5 min)
3. Review and Approval of Minutes for September 21, 2022 (5 min)
4. Joint Committee – Regular Meeting Schedule for 2023 (5 min)
5. Clean Energy Jobs Report 2022 – Update (5 min)
6. Plan Coordination (10 min)
    a. Input to FY 2023 Connecticut Green Bank Comprehensive Plan (Revisions)
    b. 2022-2024 Conservation and Load Management Plan
7. Opportunities and Challenges (30 min)
    a. Healthy Housing
8. Plans for the 2023 Legislative Session (5 min)
9. Other Business (20 min)
    a. Brief Update: C&I – Government
    b. Brief Update: C&I – Small and Medium/Large Business
    c. Brief Update: Residential – Single Family and Multi-Family
    d. UPDATE: Shared Clean Energy Facilities – Potential Opportunity for Additional Energy Efficiency
    e. Other Business
10. Public Comments (5 min)
11. Adjourn

Join the meeting online at https://global.gotomeeting.com/join/867075341

Or dial in using your telephone:
Dial: 1 (571) 317-3112 / Access Code: 867-075-341

RESOLUTIONS

Joint Committee of the CT Energy Efficiency Board and the Connecticut Green Bank Board of Directors

Online

December 21, 2022
1:30 pm – 3:00 pm

1. Call to Order

2. Public Comments (5 min)

3. Review and Approval of Minutes for September 21, 2022 (5 min)

Resolution #1

Motion to approve the meeting minutes of the Joint Committee for September 21, 2022

4. Joint Committee – Regular Meeting Schedule for 2023 (5 min)

Resolution #2

Motion to approve the regular meeting schedule of the Joint Committee for 2023

5. Clean Energy Jobs Report 2022 – Update (5 min)

6. Plan Coordination (10 min)

    a. Input to FY 2023 Connecticut Green Bank Comprehensive Plan (Revisions)
    b. 2022-2024 Conservation and Load Management Plan

7. Opportunities and Challenges (30 min)

    a. Healthy Housing

8. Plans for the 2023 Legislative Session (5 min)

9. Other Business (20 min)

    a. Brief Update: C&I – Government
    b. Brief Update: C&I – Small and Medium/Large Business
    c. Brief Update: Residential – Single Family and Multi-Family
    d. UPDATE: Shared Clean Energy Facilities – Potential Opportunity for Additional Energy Efficiency

e. Other Business

10. Public Comments (5 min)

11. Adjourn

Join the meeting online at https://global.gotomeeting.com/join/867075341

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ANNOUNCEMENTS

- **Mute Microphone** – in order to prevent background noise that disturbs the meeting, if you aren't talking, please mute your microphone or phone.

- **Chat Box** – if you aren't being heard, please use the chat box to raise your hand and ask a question.

- **Recording Meeting** – we continue to record and post the board meetings.

- **State Your Name** – for those talking, please state your name for the record.

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Joint Committee

Connecticut Energy Efficiency Board and the Connecticut Green Bank Board of Directors

Online
December 21, 2022

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Agenda Item #1

Call to Order

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Agenda Item #2

Public Comments

Joint Committee
New Member from Energy Efficiency Board

Melissa Kops

Architect with City of New Haven

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Agenda Item #3

Approval of Meeting Minutes for September 21, 2022

Resolution #1

Resolution #1

Motion to approve the meeting minutes of the Joint Committee for September 21, 2022

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Agenda Item #4

Approval of Regular Meeting Schedule for 2023

Joint Committee
Regular Meeting Schedule for 2023

- **March 22, 2023** – initial input into FY24 Comprehensive Plan of CGB and input into CY24 for CL&M Plan
- **June 21, 2023** – final input into FY24 Comprehensive Plan of CGB and CY24 C&LM Plan
- **September 27, 2023** – debrief of 2023 legislative session
- **December 20, 2023** – plans for 2024 legislative session and input into FY23 Comprehensive Plan of CGB (revisions)

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Resolution #2

Resolution #2

Motion to approve the regular meeting schedule of the Joint Committee for 2023

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Agenda Item #5

Clean Energy Jobs Report 2022 – Update

Connecticut Clean Energy Industry Report Status

- **Contracts** – engaged in contract with bw Research Partnerships in an amount not to exceed $56,000 and reimbursements with EDCs for cost share
- **Scope of Work** – produce 2022 (for 2021 data), with option for 2023 (for 2022 data), industry reports similar to the past reports
- **Timeline** – deliverable for 2022 can be produced in 1-2 months, and additional option for 2023, would take 1-2 months once USEER data is released.

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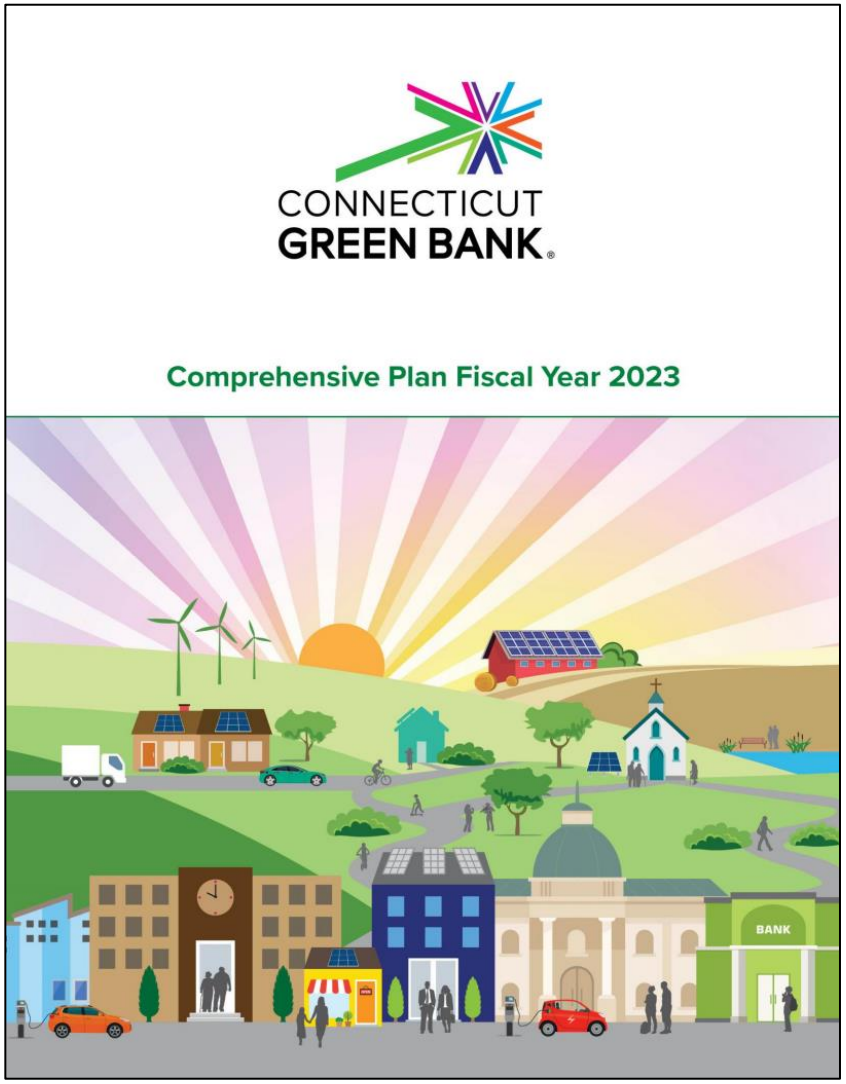
Agenda Item #6a

Plan Coordination

Connecticut Green Bank Comprehensive Plan

Connecticut Green Bank
Comprehensive Plan – Green Bonds US

- **Continue Transition**
  - Energy Storage Solutions
  - Residential Renewable Energy Solutions – “affordable housing”
  - Development and fundraising for “Environmental Infrastructure” scope expansion (i.e., per Public Act 21-115)
- **Environmental Infrastructure Fund**
  - Created EIF to (1) separate funds for “clean energy” (i.e., CEF, RGGI), and (2) create account to receive federal funds
  - Greenhouse Gas Reduction Fund within Inflation Reduction Act



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$27 Billion Greenhouse Gas Reduction Fund
Modelled after Connecticut Green Bank

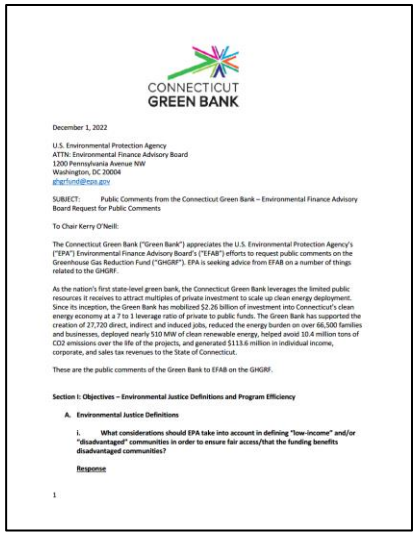
Congresswoman Dingell
Clean Energy and Sustainability Accelerator (a.k.a. NCB)

Senator Markey, Senator Van Hollen, and Senator Sanders
NCB – $20 B
ZET – LI/DACs – $7 B

President Biden and EPA Administrator Regan
GHG Reduction Fund

Connecticut Green Bank #1 Priority
EPA Public Comments and Engagement

Green Bank Session
November 1


CONNECTICUT GREEN BANK

December 1, 2022

U.S. Environmental Protection Agency
ATTN: Environmental Finance Advisory Board
1200 Pennsylvania Avenue NW
Washington, DC 20004
ghgrfund@epa.gov

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

1

EFAB Comments
December 1


CONNECTICUT GREEN BANK

December 5, 2022

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
ghgrfund@epa.gov

SUBJECT: Public Comments from the Connecticut Green Bank – Request for Information: Greenhouse Gas Reduction Fund – Docket ID No. EPA-HQ-OA-2022-0859

Dear Administrator Regan:

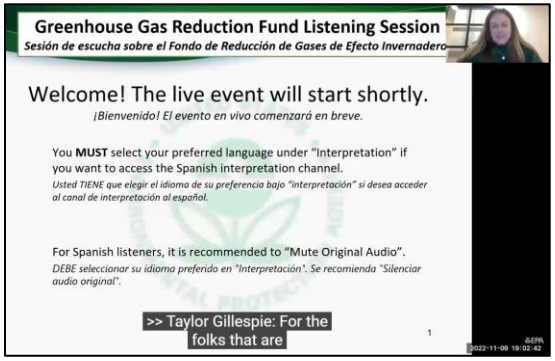
The Connecticut Green Bank ("Green Bank") values the U.S. Environmental Protection Agency's ("EPA") Request for Information regarding the Greenhouse Gas Reduction Fund ("RFI GHGRF"). The RFI GHGRF invites public comment on the design and implementation of the Greenhouse Gas Reduction Fund ("GHGRF"). The fund was created to deploy competitive grants that mobilize financing and leverage private capital for clean energy and climate projects that reduce or avoid greenhouse gas emissions, especially in low-income and disadvantaged communities. These are the public comments of the Green Bank, a quasi-public entity[1] of the State of Connecticut.

As the nation's first state-level green bank, the 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.

For a more complete overview of the Green Bank, and its solutions – see Attachment A.

[1] The Connecticut Green Bank is hereby established and created as a body politic and corporate, constituting a public instrumentality and political subdivision of the state of Connecticut established and created for the performance of an essential public and governmental function. The Connecticut Green Bank shall not be construed to be a department, institution or agency of the state.

1



Listening Sessions
November 1 and 9





"Show Me the Money" Team
"Fired Up and Ready to Go!!!"

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Agenda Item #6b

Plan Coordination
2022-2024 Conservation and Load Management Plan

2022-2024 Plan Updates

- Filed 2023 Plan Update and 2023 Program Savings Document manual on November 1, 2022
- Filed responses to DEEP's 25 Conditions of Approval to the 2022-2024 Plan, including:
  - No. 8: Developed alternative verification pathway for C&I customers who can provide reliable savings calculations
  - No. 11: Modified heat pump incentives to address DEEP fuel switching guidelines and new CT Efficiency Test (CTET)
  - No. 13: Developed plan to transition Residential New Construction (RNC) program to all-electric offering

2023 Decarbonization Efforts

- Capital 4 Change implemented new savings calculator for Energize CT Heating Loan to promote heat pump technologies
- Transitioning Residential New Construction program to all-electric offering by July 1, 2023
- Simplifying midstream offering for heat pumps
- Expanding eligibility to displace natural gas equipment
- Introducing fuel optimization incentives for businesses
- Offering residential insulation bonus

2023 Approved Prescriptive Retrofit Incentives

Equipment	Equipment Discount	Fuel Optimization Rebates	
		Residential	Commercial
Air Source Heat Pumps (including Air to Water)	$250 per ton	$1,000 per ton	$2,000 per ton
Variable Refrigerant Flow (VRF)	$250 per ton	$1,500 per ton	$3,000 per ton
Ground Source Heat Pumps	-	$2,000 per ton	$4,000 per ton
Heat Pump Water Heater (HPWH)	$750/$1,400	-	-

2023 Approved New Construction Incentives

Equipment	Residential		Commercial
	Single Family	Single Family Attached Multifamily 5+ Units	
Air Source Heat Pumps (including Air to Water)	$250 per ton*	$125 per ton*	$640 per ton
Variable Refrigerant Flow (VRF)	$250 per ton*	$125 per ton*	$1,000 per ton
Ground Source Heat Pumps	$250 per ton*	$125 per ton*	$4,000 per ton

* Dwelling must meet all-electric home Tier 1 standards. Air-source heat pumps must be CEE Tier 2, and ground-source heat pumps must be ENERGY STAR® certified. Total incentive capped at 4 tons per dwelling unit.

2022 Reports

- Drafting 2022 Annual Legislative Report for the Energy Efficiency Board (filing March 1, 2023)
  - *Focus on 2022-2024 Plan priorities: decarbonization, equity, and energy affordability*
- Working with CT Green Bank on 2022 CT Clean Industry Energy Report

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Agenda Item #7a

Opportunities and Challenges

Healthy Housing

“Healthy Housing”
Overview of September 21, 2022

- **State Incentive Overview** – reviewed incentive programs through C&LM Programs (i.e., HES-IE including Services and Rebates and Incentives, Residential Heat Pump Incentives), EDCs (i.e., Residential Renewable Energy Solutions, Shared Clean Energy Facilities), and Green Bank (i.e., Energy Storage Solutions)

- **Federal Incentive Overview** – reviewed Inflation Reduction Act incentives (i.e., EE (e.g., 25C) and RE (e.g., 25D) tax credits, and rebates (i.e., HOMES, High EE Home Rebate Program)) and adders (i.e., domestic content, energy communities, low-income, labor)

Navigate the Incentive Maze
Realize the Opportunity for Connecticut

“Affordable Housing” Use Case
Navigate the Incentive Maze

- **State and Federal Properties** – through Docket No. 22-08-02 (i.e., RRES – Year 2), 1300 properties (i.e., HUD, DOH, CHFA, DECD) with over 80,000 units were approved by PURA as “affordable housing” per Section 2 of Public Act 21-48
- **Energy Efficiency**
  - **Connecticut** – C&LM program incentives
  - **Federal** – 179D up to $5.00 per square foot tax deduction; 45L up to $5,000 per unit for new construction or substantial rehabilitation; additional rebates through HOMES (i.e., formula allocation to DEEP); $1 billion in grants and loans through HUD
- **Renewable Incentives**
  - **Connecticut** – treated as residential customer (i.e., no competition, no cap) with “buy all sell all” tariff (i.e., Distressed Municipality at $0.3118/kWh for 20 years) in RRES with direct payment
  - **Federal** – Section 48 (i.e., ITC) can receive up to 70% tax credit depending upon adders (i.e., energy communities – 10%, low income – 10-20%, domestic content – 10%)

"Affordable Housing" Use Case (cont'd)
Navigate the Incentive Maze

- **Storage**
  - **Connecticut** – treated as residential customer (i.e., Distressed Municipality at $300/kWh upfront incentive up to $7,500 per unit; performance-based incentive in $/kW per summer and winter seasons) with direct payment
  - **Federal** – 48 (i.e., ITC) can receive up to 50% tax credit depending upon adders
- **EV Recharging**
  - **Connecticut** – up to $40,000 for Level 2 and up to $250,000 for DCFC
  - **Federal** – 30C can receive 30% tax credit
- **Financing Products**
  - **C-PACE** – energy efficiency, solar PV, fuel cells, energy storage, EV chargers
  - **Solar PPA** – solar

Goal is to harness all the tax credits, rebates and incentive programs, and financing products to design a holistic approach with our state agency (e.g., DEEP, DOH, CHFA) and utility partners to navigate the maze.

“Healthy Housing”
Discussion

1. **Housing Priority** – how much does the Joint Committee want to focus on housing (i.e., residential market segment) as a priority?

2. **Healthy Housing** – how should we think about a definition for healthy housing (i.e., energy and beyond energy)?

3. **Community Resilience** – when housing is lost as a result of a climate change related event, how should we think about community resilience (e.g., resilience hubs)?

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Agenda Item #8

Plans for 2023 Legislative Session

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Agenda Item #9a

Other Business

C&I Government – Update

Municipal and State Government

- State of CT working on legislative resolution to legal concerns re: Small Business Energy Advantage (SBEA) financing agreements for State of CT entities
- Increased Municipal Loan terms from 4 to 7 years
- Companies now have ability to qualify Municipal Loans up to $5M

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Agenda Item #9b

Other Business

Small and Medium/Large Business – Update

Integration of Electric Vehicles with EE

- DEEP approved Companies' request to integrate electric vehicle chargers financing into SBEA Loan offering
- Companies coordinating with SBEA vendors to train them on financing terms and opportunities to create holistic, comprehensive energy projects
- Streamlines financing process for C&I customers

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Agenda Item #9c

Other Business

Residential Single Family and Multifamily – Update

Smart-E Loan - Summer Special Offer

Special Offer Dates: July 1, 2022 - October 31, 2022

Rate:

- 2.99%
- 1.99% for borrowers at/below 100% SMI

Term: 5, 7, 10 years

Eligible Measures:

- Heat pumps + HES
  - Air source heat pumps
  - Ductless + ducted mini splits
  - Ground source heat pumps
  - Heat pump water heaters
- Solar thermal
- Battery storage (up to $25,000)
  - Requires ESS
- EV charging equipment

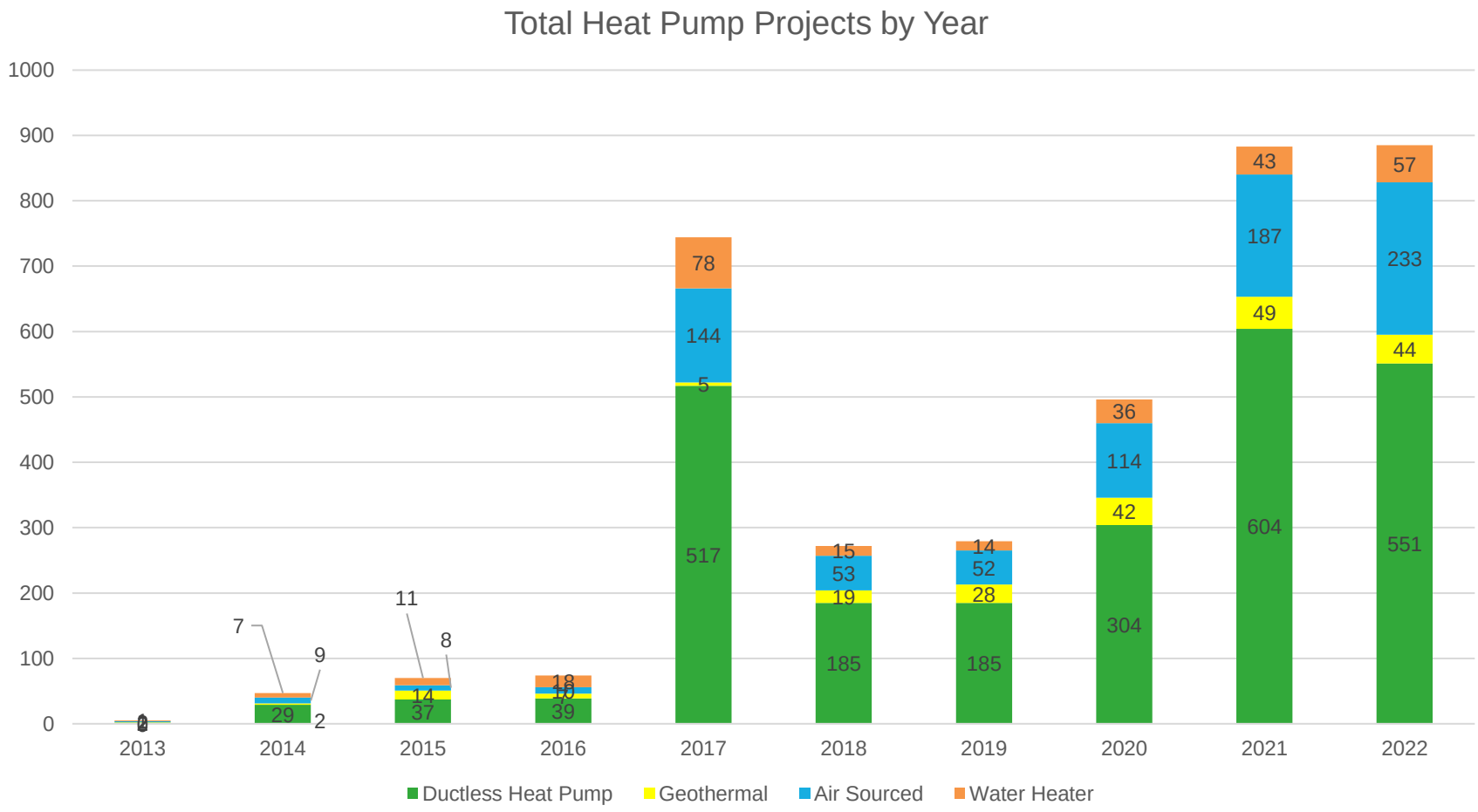
Other measures can be financed at a blended rate

Smart-E Loan - Summer Special Offer

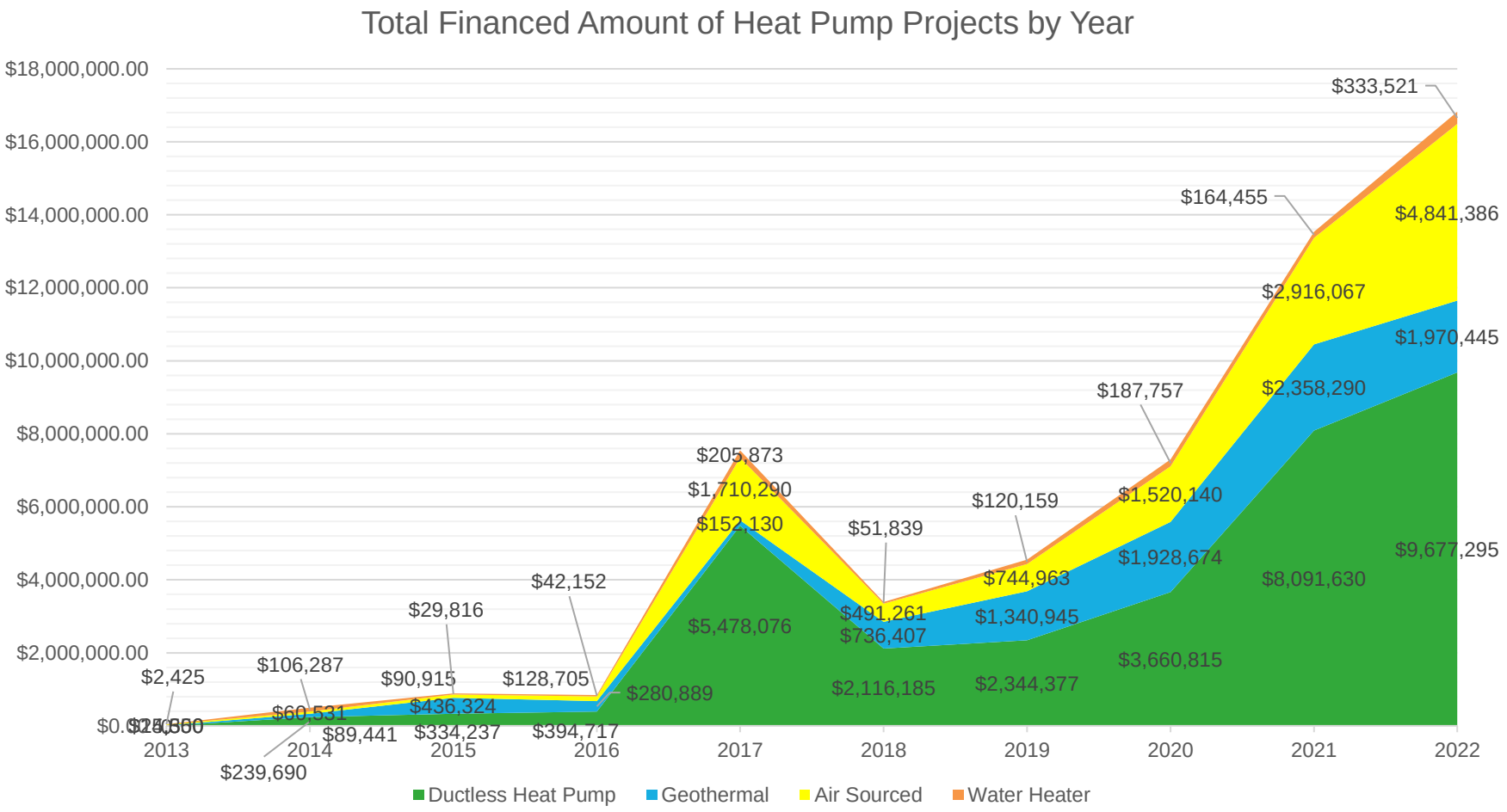
Results:

- Total Projects: 225
  - Heat Pumps: 218
  - Battery Storage: 7
  - Multiple Measures: 17
- Total Dollars Financed: $5,120,425
- Total IRB Spent: $586,572

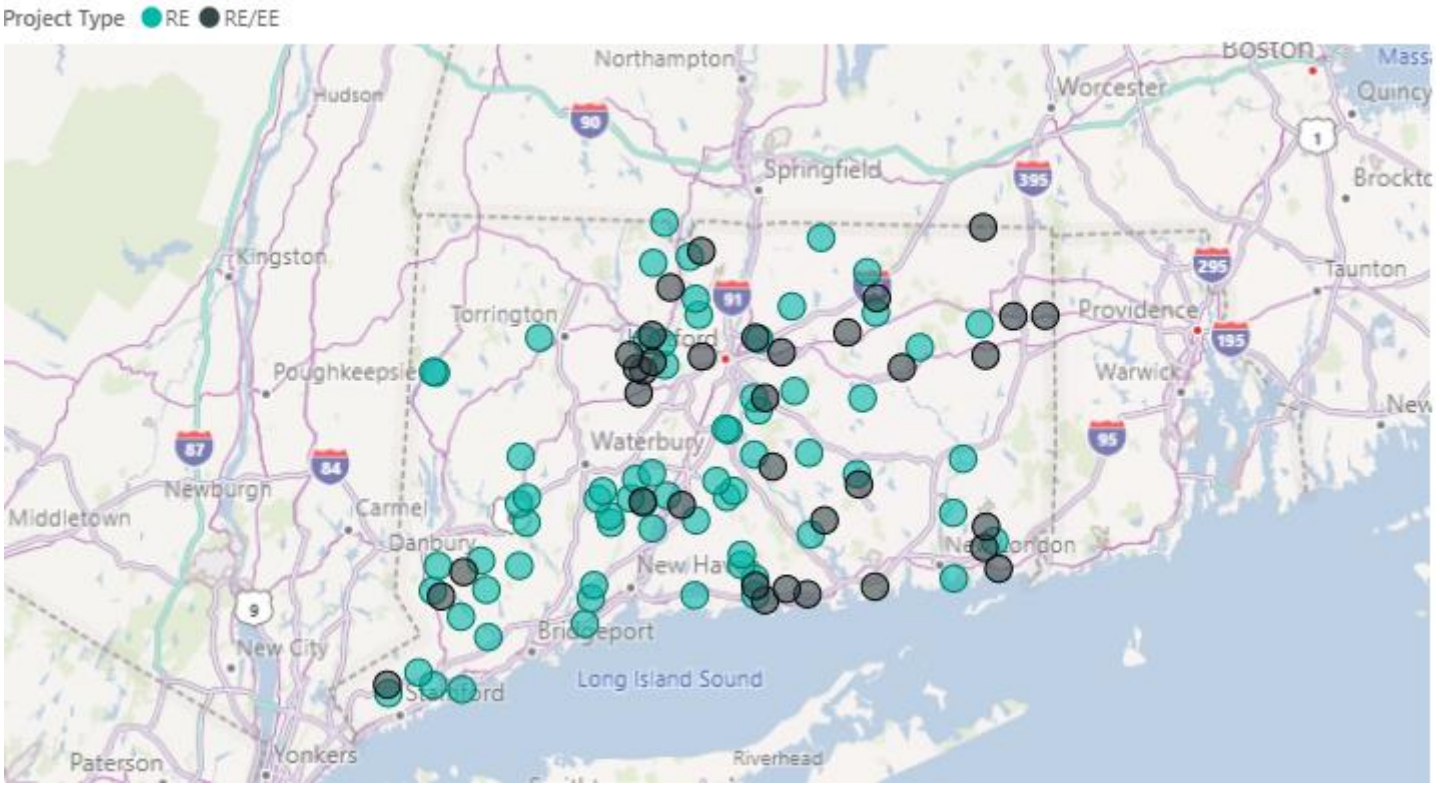
Review of Heat Pump Projects (Since Program Inception)



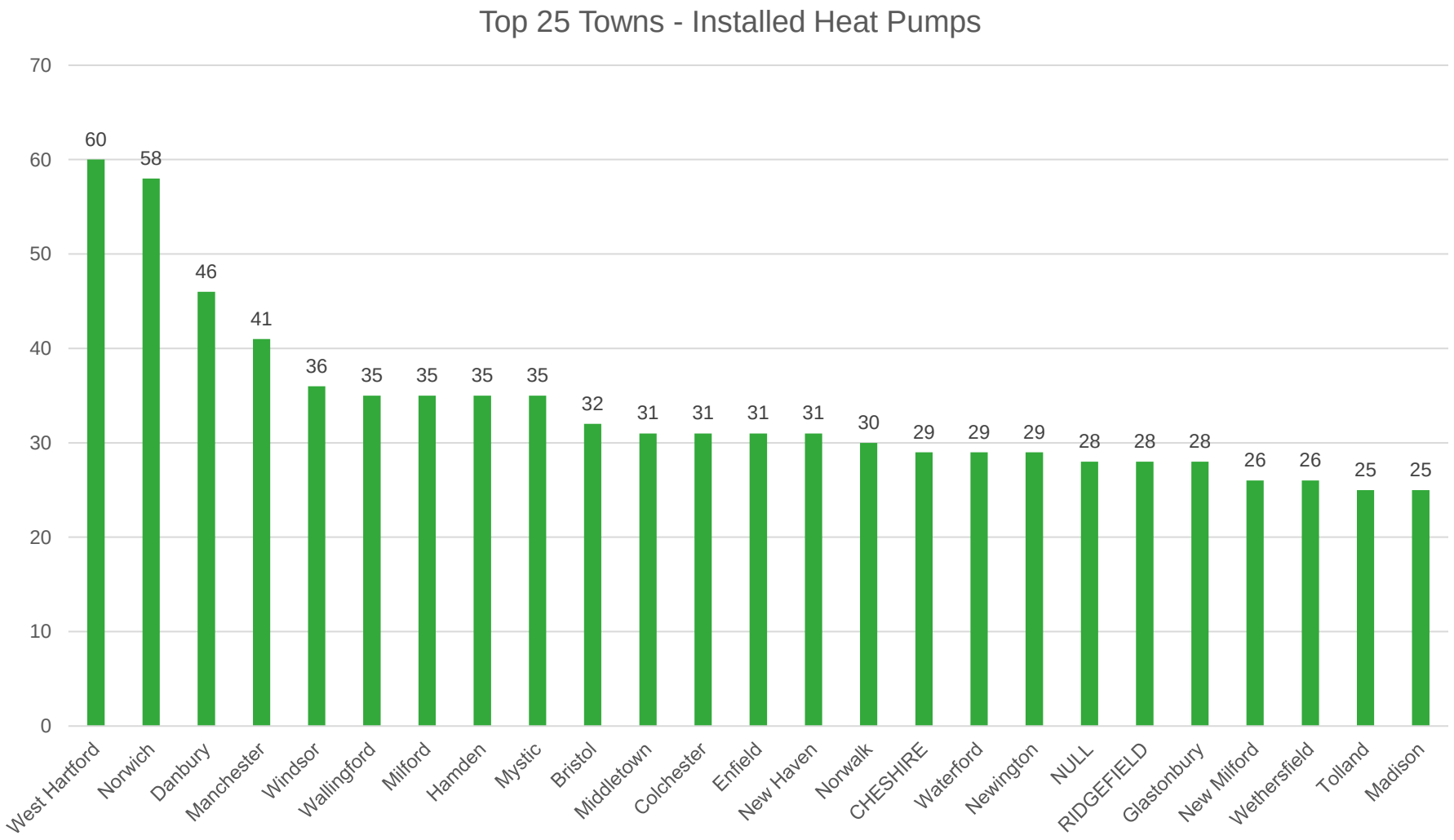
Total Financed Heat Pump Amounts



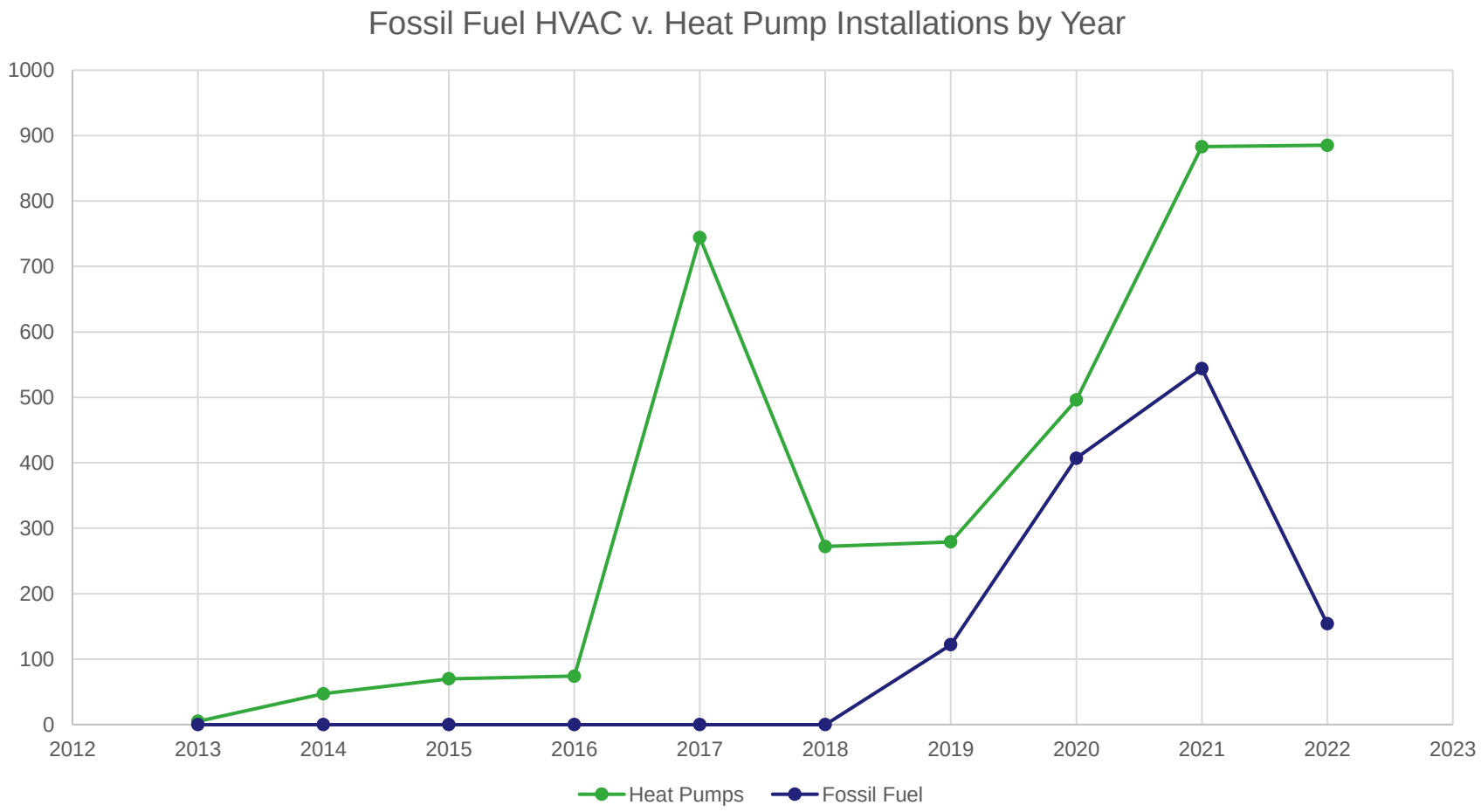
Geothermal Installations by Location



Top 25 Towns - Installed Heat Pumps



Fossil Fuel HVAC v. Heat Pump



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Agenda Item #9d

Other Business

Shared Clean Energy Facility – Update

Shared Clean Energy Facilities
Green Bank Proposal Update

- **Joint Committee Discussion** – discussed on June 29, 2022 proposal to assign future Subscriber Savings to use proceeds to do more energy efficiency today…submit to PURA
- **PURA Filing** – Green Bank filed comments into Docket No. 22-08-04, including proposed modifications to program requirements to enable proposal, and Joint Committee summary memo (including recommendation for public comment)
- **PURA Time Schedule** – written comments due on September 30, 2022 and Technical Meeting on October 12, 2022

SCEF Update

- **75MW of Projects Procured (Years 1-3)**
  - Program capacity doubles from 25MW to 50MW for years 4-6
  - First SCEFs expected to enter service in 2023

- **PURA Final Decision in Docket 22-08-04 (12/7/22)**
  - Approved all SCEF customer enrollment processes
    - 20% of credits will go to low-income customers
    - Prioritizes customers in EJCs
  - Affordable housing facilities are now eligible to participate in SCEF
    - 40% of credits will go to LMI customers, affordable housing and low-income service organizations
    - Prioritizes master-metered affordable housing and affordable housing in EJCs
  - Provided additional guidance on Green Bank Proposal

SCEF Update

- **CGB Proposal**
  - Use SCEF credits to finance deeper EE for SCEF subscribers, advancing state carbon reduction goals
  - CGB would issue Green Liberty Bonds to finance EE projects, Subscriber would assign SCEF credits to Green Bank to pay back bonds over time

- **CGB Submitted redline edits to enable concept in August 2022**
  - Redline edits were accompanied by a memo summarizing EEB's feedback

  - PURA did not approve all of the redline edits but stated:
  - *"The Authority encourages CGB to continue to work with other stakeholders, including the Joint Committee, on this proposal and to present a plan during the next SCEF Program annual review, submitting a proposal that specifically shows how public policy and SCEF Program Objectives will furthered."*

  - Next SCEF annual review will commence ~ August 2023

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Agenda Item #9e

Other Business

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Agenda Item #10

Public Comments

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Agenda Item #11

Adjourn

Draft MINUTES

Joint Committee of the CT Energy Efficiency Board and the Connecticut Green Bank Board of Directors

Wednesday, September 21, 2022
1:30 - 3:00 p.m.

Due to COVID-19, all participants joined via the conference call.

In Attendance

Voting Members: Lonnie Reed, John Viglione, Brenda Watson, Shubhada Kambli on behalf of Victoria Hackett

Non-Voting Members: Stephen Bruno, Bryan Garcia, Bert Hunter

Members Absent: Victoria Hackett (DEEP), John Harrity

Others: Ron Araujo, Giulia Bambara, Sergio Carrillo, Hank Cullinane, John DiModica, Kate Donatelli, Mackey Dykes, Richard Faesy, Cheryl Lumpkin, Donald Mauritz, Ralph Mesite, Douglas Presley Madeline Priest, Larry Rush, Ariel Schneider, Stacy Sherwood, Mike Uhl,

Unnamed Callers: 01

1. Call to Order
    - Brenda Watson called the meeting to order at 1:32 pm.
2. Public Comments
    - None
3. Review and approval of Meeting Minutes from the June 29, 2022 meeting.

Resolution #1

Motion to approve the meeting minutes of the Joint Committee for June 29, 2022.

Upon a motion made by John Viglione and seconded by Lonnie Reed, the Joint Committee voted to approve Resolution 1. None opposed and Shubhada Kambli abstained. Motion approved.

4. Opportunities and Challenges
    a. Healthy Housing

- Ron Araujo summarized the C&LM programs that encompass healthy housing including HES-income eligible which covers weathering measures as well as a safety check that covers several energy-related areas. He reviewed some proposed incentives for 2023 that apply to different types of heat pumps.
    - Brenda Watson asked for clarification about equipment discount of $250/ton for the average consumer. Ron Araujo answered that the average household use 2-3 tons of heating, though some may use more. Brenda Watson then asked what the cost of the install would be with that rebate in mind. Ron Araujo answered that the costs vary, though with a pilot test the cost typically ranged from $1800-$2400 per home. However, ductless heat pump systems can cost more depending on the configuration and heat load of the home.
    - Bryan Garcia asked if both the equipment discount and fuel optimization savings could be gained and Ron Araujo answered that yes. The equipment discount is instant and applied at the point of purchase by the contractor, and then the fuel optimization rebate is still earned by the customer via mail or online form. The goal is to motivate the customer as well as distributors. He noted that since CT has been using this methodology, MA has begun to use it as well.
    - Bryan Garcia commented that Inflation Reduction Act and provisions within it would also help provide more support. Bert Hunter added that the Electric Home Rebate Act is also within the Inflation Reduction Act, and it appears that it would be supplementary to the incentives proposed. Ron Araujo agreed and noted that work is also being done in tandem with MA and NH to have a regional approach. Bert Hunter also pointed out there are some low-income household boosters also within the Inflation Reduction Act.
    - Richard Faesy commented that the EEP consultants and DEEP will be working through to find the best strategies to make it easy for customers to take advantage of existing and new opportunities. He said they are also planning to look at heat recovery systems and their potential role in these types of systems. The goal would be to tighten up buildings even more while maintaining healthy indoor air.
    - Brenda Watson posed the question of what it would look like to come up with a definition for Healthy Housing. She also asked who is willing to take the lead to make an IRA workshop in collaboration with the energy companies.
- Mackey Dykes summarized the introduction of the RRES (Residential Renewable Energy Solutions) program, which is the successor to the RSIP program. He noted that Affordable Multifamily Housing is now covered by RRES due to new legislation (i.e., PA 21-48), so to go back to Healthy Housing, it should make the units more affordable for tenants by reducing energy costs and giving the building greener power. There is a group working to make a recommendation to PURA about what the sharing of benefits should be, which should be ready by the end of September. Bryan Garcia reviewed some other program options via SCEF and ESS. He noted that currently low-income houses aren't being targeted by installers, but work is being done to change that by ramping up an installer that was focused on low-income houses through an open RFP the Green Bank has.
- Bryan Garcia summarized energy efficiency opportunities that have become available due to the newly passed Inflation Reduction Act, including the investment tax credit for clean energy properties, the Home Owner Managing Energy Savings (HOMES) program, and the High Efficiency Electric Home Rebate program. Richard Faesy noted in relation to the heat pump standards, the IRA specifically calls out CEE standards which aligns with Energy Star, which in turn aligns with the qualifying heat pumps in the program currently, so while they aren't exactly the same they are all converging and lining up. He also commented that while some programs will be available soon, others

still have to be determined and have the rules written, so there is a timeline that should be kept in mind when developing the messaging and marketing, especially in terms of receiving benefits from multiple programs.
    - Bryan Garcia asked if the Requests for Information would come through DEEP or a different agency. Richard Faesy answered that DEEP would be leading it, and Kate Donatelli added that there is still a lot that needs to be figured out, but DEEP is paying close attention to the opportunities and preparing to respond to the RFIs. As well, there is plenty to consider with the bill as it is now.
- Mike Uhl asked in chat "Are the new standards utilizing the AHRI 2017 or 2023 ratings?" Richard Faesy answered that the IRA specifically references the CEE standard, and his understanding is that the CEE has been working with EPA to move the heat pump standards to the HSPF 2 and CR 2 standards, though he is unsure of the exact timing. Ron Araujo confirmed the change to the new standards starting January 1.
- Bryan Garcia reviewed the renewable energy opportunities through the IRA including the investment tax credit for solar and/or storage and green house gas reduction fund. Kate Donatelli noted that there is also funding being added to HUD. Richard Faesy added that the EPA is administering the green house gas reduction fund while the DOE is administering the others, and the EPA has a shorter legislative timeframe to develop it. He suggested that CGB lend a hand to the EPA, as they could benefit from CGB's experience. Bryan Garcia agreed noting that the Fund was the result of the green bank model Connecticut Green Bank pioneered. Bert Hunter commented that there are a lot of good incentives in the bill and with respect to the tax credit, it gives solid support and visibility to the market in the 10 year period. Previously, the credits would be falling off and without support the market decelerates, so it is appreciated.
- Bert Hunter reviewed some elements of the structure of the ITCs and other mechanisms within the new law.

Mike Uhl asked in chat "Is there any more clarity on products like PowerWalls (Tesla) being included in the ConnectedSolutions program today for Pay4Performance and upfront incentives? Is CGB or other groups going to manage communication to the market to know which products will not be eligible for these state programs but still might receive 30% ITC? How much does EnergyHub integration limit the ability for residents to execute these projects?"

Mike Uhl asked in chat "How can/will the tax credits of low-income residents for home improvements related to HVAC/Insulation/Windows/DHW/etc be shared? In various programs across the state, non-profits or other agencies may facilitate funding these projects, but neither the low-income residents or the non-profit can monetize these tax credits. Is there another solution?"

5. 2022 Conservation & Load Management Plan Update

- Richard Faesy summarized the changes to the Energy Efficiency Board, as there are two vacancies available and a new Vice Chair will be voted on in October. As well, the Technical Consultant and Evaluation Administrators RFP were awarded; the Energy Futures Group team was selected for Technical Consultants and that SERA was selected to continue their role as the Evaluation Administrators.
- Richard Faesy reviewed the 2022-2024 Plan Priorities, including energy affordability, decarbonization, and equity. He briefly reviewed the 2023 C&LM Plan update activities and progress timeline. He also brought up some areas for coordination with the Green Bank such as joint evaluation of financing activities, electrification funding levels, and coordination with IRA funding opportunities.

6. Other Business
    a. C&I – Government

- Stephen Bruno summarized that for the SBEA and Muni program for 2022, for the first 6 months of the year, $7.2 million in loans has been generated and since its inception in 2018, $79 million in loans have been generated, so it's going really well. He noted that the interest rate and inflation has changed the rate but hopefully it will lower again. Mackey Dykes added that in terms of loan eligibility, the principal amounts has expanded. As well, the terms have expanded to allow for longer payback periods.
    - Bryan Garcia noted that in relation to the impact perspective of rising interest rates, the impact of the buydown may be an area for coordination with the C&LM Plan.

    b. C&I – Small & Medium/Large Businesses

- Stephen Bruno stated that for the medium and large C&I customers not part of the SBEA program, Eversource and Avantgrid went through an RFP to get a third-party lender process, though the uptake is still in development. The third-party lender has a portal to train contractors to put projects through, but it's not as active as the SBEA program.
- Mackey Dykes commented that SBEA serves project up to a certain amount, but C-PACE can pickup projects without a size limit and provides very long term attractive financing, so it is an area to perhaps look at the impact and options for customers in the medium and large business size. Stephen Bruno added the idea to investigate whether or not a niche needs to be filled via a survey report.
    - Bert Hunter added that in relation to interest rates, the Green Bank is working with various partners in the market to explore options for residential programs. As for the C&I side, the cost of energy has been going up and to counteract that, the Green Bank is trying to focus on smaller projects of $500,000 and below to offer them lower rates, with no plans to increase rates for the foreseeable future to continue to incentivize those smaller businesses to install measures that will save on energy expenses.

    c. Residential – Single & Multi-Family Homes

- Ralph Mesite gave an update to Smart-E in that the special offer is still going, and as of Monday, September 19, 2022, approximately 155 jobs have been financed for $3.293 million which cost approximately $375,000 in interest rate buydown funds. With the remaining funds, there is an expected 50-100 projects to close before it ends. Most have been some form of heat pump with a small amount of geothermal projects.
    - Brenda Watson asked how the amount of projects compares to years past. Ralph Mesite said it is on pace with years past, though it's a bit hard to say until it's fully closed. With supply chain issues and increased cost there may be fewer projects for the same amount of money, however.
    - Bryan Garcia asked in terms of data collection if heat pumps are included in HVAC definition. Ralph Mesite answered yes. Bryan Garcia asked if the heat pump versus not-heat pump data can be calculated for all Smart-E projects and Ralph Mesite answered yes it can be done. Madeline Priest added that to keep in

mind that Capital For Change does see a lot of volume for heat pumps, so their data will need to be added in.

- Ralph Mesite continued that in addition to the Summer Special Offer, regular check-ins will be scheduled with Eversource and UI on their heat pump efforts and outreach to better align moving forward. As well, work is being done with UI to define advanced duct ceiling to potentially get it added in under the Smart-E umbrella.
- Bryan Garcia noted that the team can also look at the Heat Pumps to Solar PV to see if Solar PV customers are taking heat pumps too to determine any correlation. He also commented that with respect to interest rate buydowns was offer it to geothermal systems to subsidize metering to see the energy consumption and other MMBTU energy savings benefits from those systems. There are about 20 installed systems that have about a year's worth of data to be shared with the DEEP team.
    - Richard Faesy asked for ground source heat pumps, does the maximum loan amount of $40,000 feel sufficient to cover those projects? Ralph Mesite answered it should cover the majority of the projects for the average consumers, especially when coupled with the rebates. Bryan Garcia suggested developing an average ground source heat pump installation cost per ton. The group discussed various data points to examine.
    - Richard Faesy asked if for 2 to 4 unit houses, is there something available to serve that multifamily class, primarily for income properties. Madeline Priest answered that Capital for Change offers a Landlord Loan where the measures are similar to the Smart-E loans to serve that audience, which must be rental property only and not occupied by the owner.

d. Shared Clean Energy Facilities – Potential Opportunity for Additional Energy Efficiency

- Bryan Garcia summarized the updates to the proposal for the SCEF program. There was a PURA filing as Docket 22-08-04 and the next scheduled event is that written comments are due by September 30, 2022 and a technical meeting is scheduled for October 12, 2022.

e. Other Business

Mike Uhl commented in chat "No, $40K does not cover a GSHP installation."

Mike Uhl commented in chat "Please include size (sqft) of home with the tonnage and total costs. These evaluations could be easily aligned with the comparisons that Abode does for all the ASHP comparisons for customers."

7. Adjourn

Brenda Watson adjourned the Joint Committee Meeting at 3:01 pm.

Respectfully submitted,

_____

Brenda Watson, Chairperson

Joint Committee of the CT Energy Efficiency Board and the Connecticut Green Bank Board of Directors

REGULAR QUARTERLY MEETING SCHEDULE FOR 2023

The following is a list of dates and times for **regular meetings** of the Connecticut Green Bank and the Connecticut Energy Efficiency Board through 2023

- **March 22, 2023** – Wednesday from 1:30-3:00 p.m.
  Location: TBD
- **June 21, 2023** – Wednesday from 1:30-3:00 p.m.
  Location: TBD
- **September 27, 2023** – Wednesday from 1:30-3:00 p.m.
  Location: TBD
- **December 20, 2023** – Wednesday from 1:30-3:00 p.m.
  Location: TBD

Should a **special meeting** be needed to address other issues that arise, a meeting will be scheduled accordingly.

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1. Executive Summary

The past two years have been some of the most challenging in living memory.

The COVID-19 pandemic upended the world. In Connecticut alone, there have been over 833,000 confirmed COVID-19 cases and more than eleven thousand COVID-19 associated deaths.[1] We were forced to quickly adapt to new safety precautions, changing how we work with our partners and interact with our customers. Global supply chains have faced massive disruptions, including international shipping delays that delayed the arrival of clean energy technology required to support our programs. In the past six months, global armed conflict in Ukraine instigated by Russia has sent further shockwaves through the supply chain and energy markets. These and other emergencies have drawn political attention away from the climate crisis while increasingly violent storms, drought, wildfires, flooding and other climate-related catastrophes sweep the planet.

The most recent update from the United Nations on progress towards the Sustainable Development Goals[2] paints a bleak picture: to avoid the worst effects of climate change, global GHG emissions will "need to peak before 2025 and then decline by 43% by 2030, falling to net zero by 2050. Instead under current voluntary national commitments to climate action, greenhouse gas emissions will ***rise*** [emphasis added] by nearly 14 percent by 2030."

Here in the United States, we have only seen marginal progress made at the federal level towards changing our emissions trajectory. In November 2021, the US Congress enacted the Infrastructure Investment and Jobs Act ("IIJA"), also called the Bipartisan Infrastructure Law ("BIL"). The $1.2 trillion act established and refunded programs to support new infrastructure over a 10-year period. The Act contains research and development funds for low-carbon energy technology and support for deployment of clean energy technology such as electric vehicles. In fact, the largest portion of this investment will be overseen by the Department of Transportation.[3]

However, the fate of IIJA's sister bill, the Build Back Better bill, remains uncertain. Without the additional funding of clean energy and transportation (including new tax credits) included in the Build Back Better bill, it is unlikely that the United States will be able to achieve President Biden's goal of cutting national greenhouse gas emissions to 50 percent below 2005 levels by 2030.

Here in Connecticut, the Connecticut Green Bank ("Green Bank") continues to seek solutions that can accelerate progress towards the state decarbonization goals established in the 2008 Global Warming Solutions Act ("GWSA") and our investments are making a measurable difference, but greater public and private investment in and deployment of clean energy is needed. In the 10 years of its existence, the Green Bank has helped avoid nearly 10 million tons of carbon dioxide emissions (the equivalent of 2.1 million passenger vehicles driven for one year).[4] Avoiding 1 million tons of carbon dioxide emissions a year, for a state that emits over

[1] COVID-19 data resources | Connecticut Data
[2] The-Sustainable-Development-Goals-Report-2022.pdf (un.org)
[3] The US Bipartisan Infrastructure Law: Breaking it down | McKinsey
[4] https://www.ctgreenbank.com/wp-content/uploads/2021/12/FY12-FY21-CGB-ImpactReport-web.pdf

40 million tons per year, is just over 2 percent of all emissions avoided, or over 10 percent of emissions avoided from electricity generation (and consumption).

Connecticut is not on track to achieve 2030 and 2050 targets established in the GWSA.[5] The 2018 Connecticut Greenhouse Gas Emissions Inventory, released in 2021 by the Connecticut Department of Energy and Environmental Protection ("DEEP"),[6] revealed that while emissions have fallen 7.3% from a 1990 baseline, there was in fact a slight increase in emissions in 2018 over 2017 emissions.

In response to this, and to growing threats from severe storms, rain bombs, heat domes, polar vortexes, and rising sea levels, on July 6, 2021, Governor Ned Lamont, with the support of the Governor's Council on Climate Change, signed into law Public Act 21-115.[7] This act expanded the Green Bank mandate to include environmental infrastructure – a recognition that the same financing tools we have successfully leveraged to increase investment in and deployment of clean energy in Connecticut can support other environmental sectors in need of rapid transformation as well.

Liu Zhenmin, the Under-Secretary-General for Economic and Social Affairs, concludes his comments on the annual SDG report with the following guidance: "Nothing short of a comprehensive transformation of the international finance and debt architecture will be required to accomplish these aims…"

Although the Green Bank is geographically limited in our ability to invest in resilience and mitigation to confront climate change, we can continue to be a leader in the space and demonstrate how new financing models through public-private partnerships can drive innovative investment in our global future. Since the Green Bank's launch in 2011 as the first green bank in the nation, dozens of state and local green banks have popped up both nationally and abroad. Perhaps the old adage of "think globally – act locally" is appropriate – "let's go!"

2. Organizational Overview

The Green Bank[8] was established on a bipartisan basis by Governor Malloy and the Connecticut General Assembly ("CGA") on July 1, 2011 through Public Act ("PA") 11-80[9] as a quasi-public agency that supersedes the former Connecticut Clean Energy Fund ("CCEF"). On July 1, 2021, the 10th anniversary of the Green Bank, again, on a bipartisan basis, Governor Lamont and the CGA enacted PA 21-115 expanding the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure". As the nation's first state green bank, the Green Bank leverages public funds to mobilize multiples of private investment to increase and accelerate investment in clean energy deployment and environmental infrastructure improvement in Connecticut.

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[5] Reduce GHG emissions by 45% from 2001 levels by 2030 and 80% from 2001 levels by 2050

[6] https://portal.ct.gov/-/media/DEEP/climatechange/GHG_Emissions_Inventory_2018.pdf

[7] An Act Concerning Climate Change Adaptation – https://www.cga.ct.gov/2021/ACT/PA/PDF/2021PA-00115-R00HB-06441-PA.PDF

[8] PA 11-80 repurposed the Connecticut Clean Energy Fund (CCEF) administered by Connecticut Innovations, into a separate quasi-public organization called the Clean Energy Finance and Investment Authority (CEFIA). Per Public Act 14-94, CEFIA was renamed to the Connecticut Green Bank.

[9] An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future – https://www.cga.ct.gov/2011/act/pa/pdf/2011PA-00080-R00SB-01243-PA.pdf

The Green Bank's statutory purposes are:

- To develop programs to finance and otherwise support clean energy and environmental infrastructure investment in residential, municipal, small business and larger commercial projects and such other programs as the Green Bank may determine;

- To support financing or other expenditures that promote investment in clean energy sources and environmental infrastructure to foster the growth, development and commercialization of clean energy sources, environmental infrastructure, and related enterprises; and

- To stimulate demand for clean energy and the deployment of clean energy sources and investment in environmental infrastructure within the state that serves end-use customers in the state.

The Green Bank's purposes are codified in Section 16-245n(d)(1) of the Connecticut General Statutes ("CGS") and restated in the Green Bank's Board approved Resolution of Purposes. The Green Bank is a public policy innovation that exemplifies Connecticut's more than two-decade history of bipartisan executive and legislative branch leadership on the issue of climate change. Leadership highlights include:

- **Governor Rowland** – co-chaired the New England Governors and Eastern Canadian Premiers Conference, which established a regional commitment to reduce greenhouse gas ("GHG") emissions (i.e., 1990 levels by 2010, 10% below 1990 levels by 2020, and 80% below 2001 levels by 2050);[10]

- **Governor Rell** – supported PA 08-98[11] codifying the regional commitment into state law, appointing Gina McCarthy to be the Commissioner of the Department of Environmental Protection who would help lead the development of the Regional Greenhouse Gas Initiative ("RGGI"), later become the Administrator of the United States Environmental Protection Agency ("USEPA") under President Obama, and becoming the White House National Climate Advisor for President Biden;

- **Governor Malloy** – led the passage of PA 11-80 establishing DEEP, creating the Green Bank, and other policies catalyzing the market for clean energy, as well as PA 18-50[12] and PA 18-82[13] increasing the state's renewable portfolio standard ("RPS") to 40% by 2030 and establishing a midterm GHG emissions reduction target of 45% below 2001 levels by 2030, respectively; and

[10] NEG-ECP Resolution 26-4 adopting the "Climate Change Action Plan 2001" (August 2001 in Westbrook, CT) – Westbrook Resolution

[11] An Act Concerning Connecticut Global Warming Solutions – https://www.cga.ct.gov/2008/ACT/Pa/pdf/2008PA-00098-R00HB-05600-PA.pdf

[12] An Act Concerning Connecticut's Energy Future – https://www.cga.ct.gov/2018/act/pa/pdf/2018PA-00050-R00SB-00009-PA.pdf

[13] An Act Concerning Climate Change Planning and Resiliency – https://www.cga.ct.gov/2018/act/pa/pdf/2018PA-00082-R00SB-00007-PA.pdf

- **Governor Lamont** – issued his first[14] and third[15] executive orders on state "Greener Gov" for sustainability, clean energy, and climate change leadership, passing PA 21-115 expanding the scope of the Green Bank to include "environmental infrastructure," PA 22-5[16] including a 100% zero emission electricity target by 2040, and PA 22-25[17] confronting greenhouse gas emissions from the transportation sector, including 100% targets for school buses in environmental justice communities by 2030 and all communities by 2040.

The CGA has worked hand-in-hand with these Governors and the citizens of the state over the years to devise and support public policies that promote clean energy, environmental infrastructure, and lead the movement to confront climate change.[18]

2.1 Vision Statement

…a planet protected by the love of humanity.[19]

2.2 Mission Statement

Confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities.

2.3 Goals

To achieve its vision and mission, the Green Bank has established the following three goals:

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,[20] 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.

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[14] https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-1.pdf

[15] https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-3.pdf

[16] An Act Concerning Climate Change Mitigation – https://www.cga.ct.gov/2022/act/Pa/pdf/2022PA-00005-R00SB-00010-PA.PDF

[17] An Act Concerning the Connecticut Clean Air Act – https://www.cga.ct.gov/2022/ACT/PA/PDF/2022PA-00025-R00SB-00004-PA.PDF

[18] Reducing greenhouse gas emissions and confronting climate change is supported by a number of public policies, including, but not limited to PA 17-3, PA 18-82, PA 19-71, Governor Lamont's Executive Orders 1 and 3, Comprehensive Energy Strategy, Governor's Council on Climate Change, and many other past acts, plans, or policies.

[19] Vision Statement inspired by the Innovations in American Government Awards at the Ash Center of Harvard University's Kennedy School of Government, Maya Angelou's "On the Pulse of Morning," the powerful words of Mary Evelyn Tucker on "inclusive capitalism," and Mother Jennifer of the Daughters of Mary of the Immaculate Conception

[20] Per PA 20-05, "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," "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 DEEP in consultation with community representatives.

The vision statement, mission statement, and goals support the implementation of Connecticut's climate change, clean energy, and environmental infrastructure policies be they statutorily required (e.g., PA 21-53),[21] planning (e.g., Comprehensive Energy Strategy), or regulatory (e.g., Docket No. 17-12-03RE03)[22] in nature.

Framework for an Equitable Modern Grid[23]

The Public Utilities Regulatory Authority's ("PURA") Framework for an Equitable Modern Grid, seeks to (1) support, or remove barriers to, the growth of Connecticut's green economy; (2) enable a cost-effective, economy-wide transition to a decarbonized future; (3) enhance customer access to a more resilient, reliable and secure electricity commodity; and (4) advance the ongoing energy affordability dialogue in the state, particularly in underserved communities.

The Green Bank supports PURA in their efforts through participation in many of the re-openers in the equitable modern grid as a commentor, a participant and a program administrator.

2.4 Definitions – Clean Energy and Environmental Infrastructure

The Green Bank's investment focus is on "clean energy" and "environmental infrastructure" as defined by CGS Section 16-245n:

- **Clean Energy** – 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 GHG 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 CGS 16-1(a)(2).

- **Environmental Infrastructure** – structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate

[21] An Act Concerning Energy Storage – https://www.cga.ct.gov/2021/act/Pa/pdf/2021PA-00053-R00SB-00952-PA.PDF
[22] Equitable Modern Grid Initiative – Electric Storage
[23] https://portal.ct.gov/PURA/Electric/Grid-Modernization/Grid-Modernization

adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to carbon offsets[24] and ecosystem services.[25]

2.5 Governance

Pursuant to Section 16-245n of the CGS, the powers of the Green Bank are vested in and exercised by a Board of Directors ("BOD")[26] that is comprised of twelve voting and one non-voting members each with knowledge and expertise in matters related to the purpose of the organization – see Table 1.[27]

Table 1. Board of Directors of the Connecticut Green Bank

Position	Status	Appointer	Voting
State Treasurer (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DEEP (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DECD (or designee)	Ex Officio	Ex Officio	Yes
Secretary of OPM (or designee)	Ex Officio	Ex Officio	Yes
Residential or Low-Income Group	Appointed	Speaker of the House	Yes
Investment Fund Management	Appointed	Minority Leader of the House	Yes
Environmental Organization	Appointed	President Pro Tempore of the Senate	Yes
Finance or Deployment of Renewable Energy	Appointed	Minority Leader of the Senate	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Labor	Appointed	Governor	Yes
R&D or Manufacturing	Appointed	Governor	Yes
President of the Green Bank	Ex Officio	Ex Officio	No

There are four (4) committees of the BOD of the Green Bank, including Audit, Compliance, and Governance Committee ("ACG Committee"), Budget, Operations, and Compensation Committee ("BOC Committee"), Deployment Committee, and the Joint Committee of the Energy Efficiency Board ("EEB") and the Green Bank.[28]

Principal Statement of the Joint Committee

To support the Joint Committee of the EEB and the Green Bank, the following is a principal statement to guide its activities:

[24] Carbon offsets means an activity that compensates for the emission of carbon dioxide or other greenhouse gases by providing for an emission reduction elsewhere.

[25] Ecosystem services means benefits obtained from ecosystems, including, but not limited to, (A) provisioning services such as food and water, (B) regulating services such as floods, drought, land degradation and disease, and (C) supporting services such as soil formation and nutrient cycling.

[26] https://www.ctgreenbank.com/about-us/governance/board-of-directors/

[27] https://www.ctgreenbank.com/about-us/governance/

[28] Pursuant to CGS 16-245m(d)(2) – There shall be a joint committee of the Energy Conservation Management Board and the board of directors of the Connecticut Green Bank. The boards shall each appoint members to such joint committee. The joint committee shall examine opportunities to coordinate the programs and activities funded by the Clean Energy Fund pursuant to section 16-245n with the programs and activities contained in the plan developed under this subsection and to provide financing to increase the benefits of programs funded by the plan so as to reduce the long-term cost, environmental impacts and security risks of energy in the state. Such joint committee shall hold its first meeting on or before August 1, 2005.

The EEB and the Green Bank have a shared goal to implement state energy policy throughout all sectors and populations of Connecticut with continuous innovation towards greater leveraging of ratepayer funds and a uniformly positive customer experience.

The BOD of the Green Bank is governed through enabling legislation, as well as by an Ethics Statement and Ethical Conduct Policy, Resolutions of Purposes, Bylaws, Joint Committee Bylaws, and a Comprehensive Plan. All meetings, agendas, and materials of the Green Bank's BOD and its Committees are publicly available on the organization's website.[29,30]

2.6 Organizational Structure

The Green Bank is administered by a professional staff overseeing three (3) business units, including:

- **Incentive Programs** – the Governor and the CGA from time-to-time may decide that there are certain incentive programs that they seek to have the Green Bank administer (e.g., PA 21-53). The Green Bank administers such programs with the goal of delivering on the public policy objectives, while at the same time ensuring that funds invested by the Green Bank are cost recoverable.[31] For example, the Green Bank co-administers the Energy Storage Solutions ("ESS") program with the Electric Distribution Companies ("EDC") (i.e., Avangrid and Eversource Energy) to deploy 580 MW of behind the meter residential and non-residential battery storage systems through an upfront declining incentive block structure and ongoing performance-based incentive.

- **Financing Programs** – the Green Bank's core business is financing clean energy projects. The use of public revenues by the Green Bank (i.e., Clean Energy Fund ("CEF") and RGGI allowance proceeds) are to be invested with the expectation of principal and interest being paid back over time (i.e., earned revenues). For example, per CGS 16a-40g, the Green Bank administers the Commercial Property Assessed Clean Energy ("C-PACE") program. Through C-PACE, the Green Bank provides capital to building owners to make clean energy and resilience improvements on their properties that is paid back over time from a benefit assessment on the building owner's property tax bill. The interest earned from these types of investments, over time, is expected to cover the operational expenses and a return for the Green Bank.

- **Environmental Infrastructure Programs** – as a result of the passage of PA 21-115 expanding the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure," the financing tools of the green bank model will be used to mobilize private investment in Connecticut's green economy. Raising capital for the Environmental Infrastructure Fund ("EIF") through the issuance of Green Liberty Bonds, accessing federal resources (e.g., IIJA), and/or other means, will provide resources to invest in the modernization, decarbonization, and resilience of the state's environmental infrastructure.

[29] https://www.ctgreenbank.com/about-us/governance/connecticut-grboard-meetings/

[30] https://www.ctgreenbank.com/about-us/governance/connecticut-grittee-meetings/

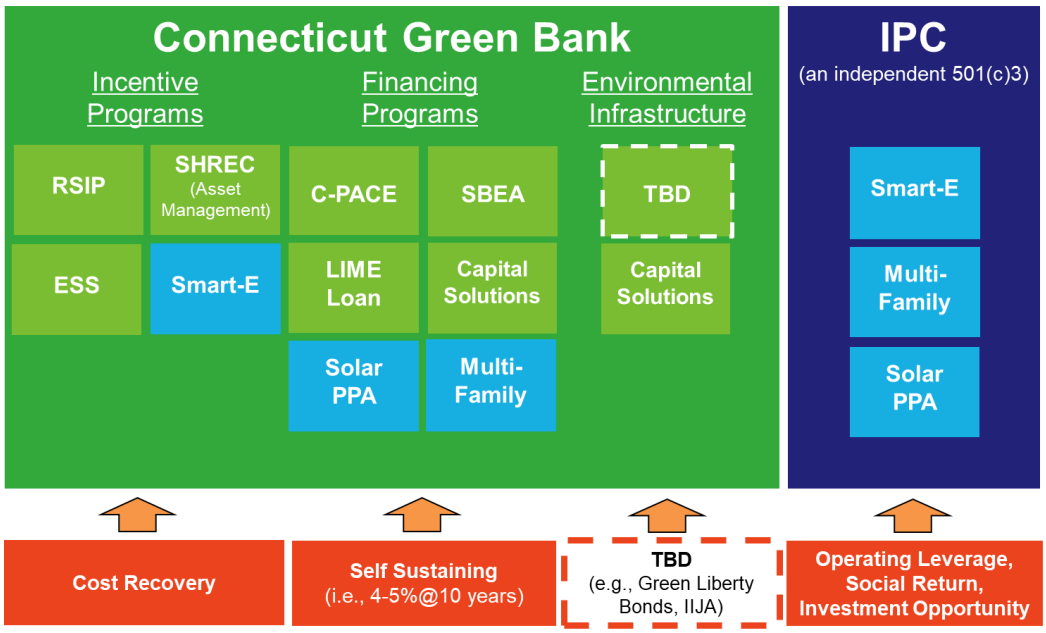
[31] In the past, per CGS 16-245ff, the Green Bank administered the Residential Solar Investment Program ("RSIP") which resulted in 350 MW of residential solar photovoltaic system deployment between 2012 through 2021.

These three business units – Incentive Programs and Financing Programs (i.e., for "clean energy") and Environmental Infrastructure Programs – serve the purposes of the Green Bank. To support the business units and their investments, the Green Bank has administrative support from finance, legal, marketing and operations.

In FY19, the Green Bank, in partnership with DEEP and the Kresge Foundation, formed a nonprofit organization called Inclusive Prosperity Capital ("IPC"). The mission of IPC is to attract mission-oriented investors in underserved clean energy market segments (e.g., low-to moderate-income ("LMI") single and multifamily properties) of the green economy. Although not an affiliate, nor a component unit of the Green Bank, IPC serves an important role supporting Green Bank programs (e.g., Smart-E, Solar PPA, and Multifamily Affordable) through FY26.

For an overview of the organizational structure of the Green Bank, and its partnership with IPC – see Figure 1.

Figure 1. Organizational Structure of the Green Bank with Support from Inclusive Prosperity Capital



An Employee Handbook and Operating Procedures have been approved by the BOD and serve to guide the staff to ensure that it is following proper contracting, financial assistance, and other requirements.

3. Incentive Programs

The Green Bank administers incentive programs, including credit enhancements (e.g., interest rate buydowns, loan loss reserves), used to deploy clean energy and environmental infrastructure, while at the same time cost recovering the expenses associated with several of these programs (i.e., CGS 16-245ff, PA 21-53) within the business unit – including, but not limited to, incentives, administrative expenses, and financing costs.

3.1 Residential Solar Investment Program and Residential Renewable Energy Solutions

Residential Solar Investment Program

Per CGS 16-245ff, the Green Bank administered the Residential Solar Investment Program ("RSIP") to deploy no more than 350 megawatts of new residential solar PV systems on or before December 31, 2022, while promoting the sustained, orderly development of a local state-based solar PV industry and ensuring that solar PV systems are accessible and affordable to vulnerable communities.[32] As of December 31, 2021, the RSIP achieved 350 MW of deployment, providing over 43,000 households with access to solar PV systems, including 50% within vulnerable communities. With the end of the RSIP policy on December 31, 2022, the focus of the Green Bank will be to manage the Solar Home Renewable Energy Credits ("SHREC") generated from the systems supported through the RSIP to recover incentives, administrative expenses, and financing costs, by selling SHRECs to the EDCs through a 15-year Master Purchase Agreement ("MPA") to pay for bonds sold to support the program.

Residential Renewable Energy Solutions

Starting January 1, 2022, the residential solar PV market transitioned from the RSIP and net metering to a tariff-based compensation structure.[33] In order to ensure the continued sustained, orderly development of the local solar industry beyond the conclusion of the RSIP, and access to such clean energy technologies by vulnerable communities, the Green Bank actively engaged in the regulatory process (i.e., Docket No. 20-07-01) overseen by PURA to establish Residential Renewable Energy Solutions ("RRES") – an EDC-administered residential renewable energy tariff program.

As a result of the Green Bank's engagement in the PURA process for the RRES, the following key program design principles were included:

- **Rate of Return** – a just, reasonable, and adequate rate of return of between 9 to 11 percent was determined (i.e., equivalent to $0.294/kWh in 2021) for the 20-year tariff through the Green Bank's inclusion of an objective rate of return analysis of the RSIP;

- **HES or HES-IE Requirement** – to continue the linkage between energy efficiency and solar PV as demonstrated by the RSIP, an important objective of the Joint Committee, the Green Bank advocated for a Home Energy Solutions ("HES") or Home Energy Solutions – Income Eligible ("HES-IE") requirement as part of every project supported through RRES;

- **Additional Incentives for Vulnerable Communities** – given the success of the RSIP in reaching vulnerable communities, the Green Bank wanted to ensure that solar PV was affordable and accessible to LMI households, and thus adders for low income (i.e.,

[32] Each year, from 2019 through 2021, and cumulatively from 2014 through 2021, Connecticut had the largest per capita deployment of residential solar PV in the entire northeast (i.e., New England, New Jersey, and New York) as a result of administering the RSIP (SEIA – Solar Market Insights 2022).

[33] See CGS 16-244z and Docket No. 20-07-01

$0.0250/kWh) or households located in distressed municipalities[34] (i.e., $0.0125/kWh) over the 20-year tariff were determined;

- **Direct Payment** – due to the perceived risks of underwriting financing (i.e., loans, leases, or power purchase agreements ("PPAs")) for vulnerable communities, the Green Back advocated for direct payments of the tariff rates from the EDCs to a third-party in-part or in-whole as a way to reduce borrower risk (including perceived risk) and therefore make renewable energy more affordable and accessible to vulnerable communities. This provides a financing mechanism that would allow the Green Bank to provide investment in developers serving vulnerable communities; and

- **Affordable Housing** – as part of the Green Bank-led amendments to PA 21-48,[35] which includes "affordable housing" as part of RRES (i.e., versus Non-Residential Renewable Energy Solutions or "NRES"), and a subsequent decision by PURA in Docket No. 21-08-02, it will be easier for property owners to participate in RRES, enabling energy savings to both the property owner and its low-income tenants.

These key program design principles within the EDC-administered tariff program will improve the program's likelihood of success in deploying no less than fifty (50) megawatts of new residential solar PV a year, while ensuring that vulnerable communities have continued opportunities to reduce the burden of energy costs that they experienced through the RSIP. To support PURA in overseeing the EDC-administered RRES, the Green Bank is a consultant to the Office of Education, Outreach, and Enforcement.

3.2 Energy Storage Solutions

With the passage of PA 21-53 establishing a 1000 MW energy storage target by 2030, and the final decision in Docket No. 17-12-03RE03 on electric storage, the Green Bank was selected by PURA to co-administer a 580 MW behind the meter residential and non-residential battery storage incentive program with the EDCs called ESS. The Green Bank is responsible for administering the upfront incentive, marketing the program, overseeing evaluation, measurement, and verification ("EM&V"), and fostering the sustained, orderly development of a state-based electric energy storage industry. ESS seeks to deploy battery storage systems to help families and businesses become more resilient against power outages, while reducing peak demand during summer and winter periods reducing electric rates for all ratepayers.

3.3 EnergizeCT Smart-E Loan

The EnergizeCT Smart-E Loan ("Smart-E Loan") is a partnership between the Green Bank and local community banks and credit unions that provide easy and affordable access to capital for homeowners to finance clean energy and environmental infrastructure improvements on their properties through local contractors. The Green Bank provides credit enhancements to the participating financing institutions in the form of interest rate buydowns (i.e., from the use of federal resources) and loan loss reserves (i.e., from the Green Bank balance sheet). This allows financial institutions to provide low-interest and longer-term loans to families.

[34] https://portal.ct.gov/DECD/Content/About_DECD/Research-and-Publications/02_Review_Publications/Distressed-Municipalities

[35] An Act Establishing and Energy Efficiency Retrofit Grant Program for Affordable Housing – https://www.cga.ct.gov/2021/act/Pa/pdf/2021PA-00048-R00SB-00356-PA.PDF

In FY 2023, the Green Bank, working with DEEP and other stakeholders, will be expanding the Smart-E Loan offering beyond clean energy to include environmental infrastructure measures.

3.4 Incentive Program Targets

The Green Bank has set targets for its Incentive Programs business unit for FY 2023 in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Table 2.

Table 2. FY 2023 Targets for the Incentive Programs Business Unit

Program / Product	Projects	Total Investment ($MM's)	Installed Capacity (kW)
Energy Storage Solutions – Residential	500	$20.0	7,600
Energy Storage Solutions – Non-Residential[36]	0	0	0
EnergizeCT Smart-E Loan	960	$15.0	200
Total	**1,460**	**$35.0**	**7.8**

In terms of the Green Bank's vulnerable community's prioritization, the following is a goal for Incentive Programs:

- By 2025, no less than 40 percent of investment and benefits (e.g., jobs) from Incentive Programs is directed to vulnerable communities.

As a result of successfully achieving these targets, the Green Bank will reduce energy burden and increase energy security for Connecticut families and businesses, especially those in vulnerable communities, create jobs in our communities, raise tax revenues for the State of Connecticut, and reduce air pollution causing local public health problems and contributing to global climate change.

4. Financing Programs

The Green Bank manages financing programs. That is to say that it oversees financing programs that invest capital upfront (i.e., public revenues including CEF and RGGI) to deploy clean energy, while at the same time returning principal and interest (i.e., earned revenues) over time from the financing of projects, products, or programs to ensure the financial sustainability of the Green Bank.

4.1 Commercial Property Assessed Clean Energy

Per CGS 16a-40g, C-PACE enables building owners to pay for clean energy improvements over time through a voluntary benefit assessment placed by participating municipalities on their property tax bills. As of June 30, 2022, there have been 139 cities and towns that have opted into C-PACE. This process makes it easier for building owners to secure low-interest capital for up to 25 years to fund clean energy improvements and is structured so that energy savings

[36] It should be noted that as of June 30, 2022, that 39 non-residential battery storage projects were submitted for approval totaling 64.3 MW and an estimated $90.4 MM of investment. Of those projects, 4 have been approved totaling 3.8 MW and received a Reservation of Funds letter. All of these projects must work through the interconnection process of the EDCs, which could take months, if not years to review and approve.

more than offset the benefit assessment. With the passage of PA 22-6,[37] resilience and electric vehicle recharging stations were added to the list of eligible measures for C-PACE.

In FY 2023, the Green Bank, working with DEEP, Connecticut Institute for Resilience and Climate Adaptation ("CIRCA"), and other stakeholders, will be expanding C-PACE beyond clean energy to include resilience[38] measures.

4.2 Green Bank Solar Power Purchase Agreement & Solar Roof Lease

The Green Bank Solar PPA and the Green Bank Solar Roof Lease are third-party ownership structures to deploy solar PV systems for commercial scale end-use customers (e.g., businesses, nonprofits, municipal and state governments, affordable multifamily properties, etc.) that uses a multi-year PPAs or site lease to finance projects while either reducing energy costs for the host customer or providing a fixed annual lease payment.

4.3 Small Business Energy Advantage & Business Energy Advantage

Small Business Energy Advantage ("SBEA") and Business Energy Advantage ("BEA") are Eversource Energy administered on-bill commercial energy efficiency financing programs for small and medium-sized businesses, municipalities and Connecticut state agencies. Low-cost capital is provided by Amalgamated Bank with a credit enhancement from the Green Bank (i.e., subordinated debt) and the Connecticut Energy Efficiency Fund (i.e., loan loss guaranty and interest rate buydown). SBEA and BEA enables qualifying customers to access 0% on bill financing for up to $100,000 per site for businesses (up to a maximum of $1,000,000), up to $5,000,000 for municipalities, and up to $5,000,000 per project for state facilities with no overall outstanding loan cap.

4.4 Multifamily Products

Defined as buildings with 5 or more units, the Green Bank provides a suite of financing options in collaboration with our partners IPC and Capital for Change (a Community Development Financial Institution or "CDFI") that support property owners to assess, design, fund, and monitor high impact clean energy and health & safety improvements for their properties.

4.5 Green Bank Capital Solutions

As opportunities present themselves, the Green Bank from time-to-time invests as part of a capital structure in various projects (e.g., fuel cell, hydropower, food and farm waste to energy). These projects are selected based on the opportunity to expand the organization's experience with specific technologies, advance economic development in a specific locale, or to drive adoption of clean energy that would otherwise not occur, while also earning a rate of return.

[37] An Act Concerning the Commercial Property Assessed Clean Energy Program – https://www.cga.ct.gov/2022/act/Pa/pdf/2022PA-00006-R00SB-00093-PA.PDF

[38] Per CGS 16-244aa, "resilience" means the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from deliberate attacks, accidents or naturally occurring threats or incidents, including, but not limited to, threats or incidents associated with the impacts of climate change.

4.6 Financing Program Targets

The Green Bank has set targets for its Financing Programs business unit for FY 2023 in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Table 3.

Table 3. FY 2023 Targets for the Financing Programs Business Unit

Program / Product	Projects	Total Investment ($MM's)	Installed Capacity (kW)
Commercial PACE	23	$31.0	-
Green Bank Solar PPA	19	$13.7	7,600
Small Business Energy Advantage	839	$18.6	-
Multifamily Term Loan	6	$1.4	600
Multifamily Health and Safety	1	$0.9	-
Strategic Investments	2	$7.5	-
Total	**882**	**$64.2**	**7,600**

In terms of the Green Bank's vulnerable communities prioritization, the following is a goal for Financing Programs:

- By 2025, no less than 40 percent of investment and benefits (e.g., jobs) from Financing Programs is directed to vulnerable communities.

The capital provided by the Green Bank, which is a portion of the total investment, is expected to yield a return commensurate with the financial sustainability objectives of the organization and business unit.

As a result of successfully achieving these targets, the Green Bank will contribute to its financial sustainability, while also reducing the energy burden on and improve the resiliency from climate change for Connecticut families and businesses, especially those in vulnerable communities, create jobs in our communities, raise tax revenues for the State of Connecticut, and reduce air pollution that cause local public health problems and global climate change.

5. Environmental Infrastructure Programs

Following the passage of PA 21-115 in June of 2021, the Green Bank began the process of policy assessment and development for environmental infrastructure in FY 2022, including:

- **Governance Amendments** – revising various governance documents including the Resolution of Purpose, Bylaws, and Operating Procedures;

- **Assessing Bond Potential** – investigating the potential for Green Liberty Bonds to be issued to raise proceeds for environmental infrastructure investment, including fifty (50) year maturity terms;

- **Developing Products** – expanding the ability for the Smart-E Loan to support environmental infrastructure projects for single family property owners and C-PACE to support resilience projects for multifamily and commercial property owners;

- **Stakeholder Engagement** – initiating outreach to public, private, nonprofit, and academic stakeholder organizations to introduce the Green Bank, understand public policies and targets, identify funding opportunities, market potential, investment requirements, and financing models, and metrics for environmental infrastructure; and

- **Strategic Retreat** – engaging members of the BOD, staff, and key stakeholders in an offsite strategic retreat to expand the scope of the Green Bank to mobilize private investment in environmental infrastructure.

As a result of these efforts in FY 2022, the Green Bank makes the following observations with respect to environmental infrastructure:

1. **Market Intermediary Role** – as is the case with respect to "clean energy," the Green Bank has a role to play as a market intermediary for "environmental infrastructure" – see Figure 2. Given the ambitious nature of public policies with respect to environmental infrastructure (e.g., 21% open space by 2023), and the need to mobilize and attract private investment to achieve the policy objectives (e.g., $1.5 billion of additional public and/or private investment needed to achieve the open space target), there is a need for an intermediary role for the Green Bank between capital markets and public policy.

Figure 2. Market Intermediary Role - Capital Markets and Public Policy

2. **Better Market Signals** – again, as is the case with respect to "clean energy" (e.g., zero emission renewable energy credits), there is a need for public policy to send better market signals to unlock and mobilize private capital investment in "environmental infrastructure". For example, beyond "sticks" (e.g., regulation and enforcement requiring producers of food waste to transport their waste to an anaerobic digester per PA 11-127), there need to also be associated "carrots" (e.g., virtual net metering, low emission renewable energy credits, renewable natural gas) in order to enable private investment in "environmental infrastructure". A strong market signal public policy for

green and blue infrastructure is Maryland's Conservation Finance Act of 2022 and the pay-for-success contracts for certain environmental outcomes.[39]

3. **Appropriately Priced Capital** – if public policy in Connecticut is designed to reduce risks (including perceived risks), then attracting and mobilizing appropriately priced private capital (e.g., lower interest rates, longer terms) must ensue. The Green Bank can access affordable private capital through the issuance of Green Liberty Bonds, which can be paid back over 50 years (or the useful life of the asset) and whose proceeds can be invested in environmental infrastructure.

4. **Community Engagement** – there is a continuous need to not only engage public, private, nonprofit and academic stakeholders, but also municipal, councils of government, and other community-level officials. Empowering impacted communities, especially vulnerable communities, through near-term engagement (i.e., informing, consulting, and involving) to long-term engagement (i.e., collaborating and empowering) is vital to identifying needs to support the development of programs and the success of investments in projects to achieve their intended impacts.

5. **Vulnerable Communities** – with a key goal 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," as is the goal for "clean energy," the Green Bank will ensure that by the end of 2025 no less than 40 percent of investment and benefits (e.g., jobs) in "environmental infrastructure" are directed to vulnerable communities.

In FY 2023, the Green Bank will continue its progress on developing its environmental infrastructure business unit and programs including, but not limited to:

- **Building the Team** – hiring several critical positions including the Manager of Community Engagement and Director of Environmental Infrastructure, as well as qualifying a suite of contractors to support the work of the business unit;

- **Continuing Engagement** – wrapping up stakeholder outreach for the water, waste and recycling sectors, and initiating engagement of municipal and regional governments, especially those in vulnerable communities;

- **Raising Resources** – identifying opportunities for federal and foundation funding, and developing the Green Liberty Bonds to raise proceeds from the issuance of bonds to provide capital for investment;

- **Launching New Products** – developing existing financing products for clean energy (i.e., Smart-E Loan, C-PACE) to support environmental infrastructure measures; and

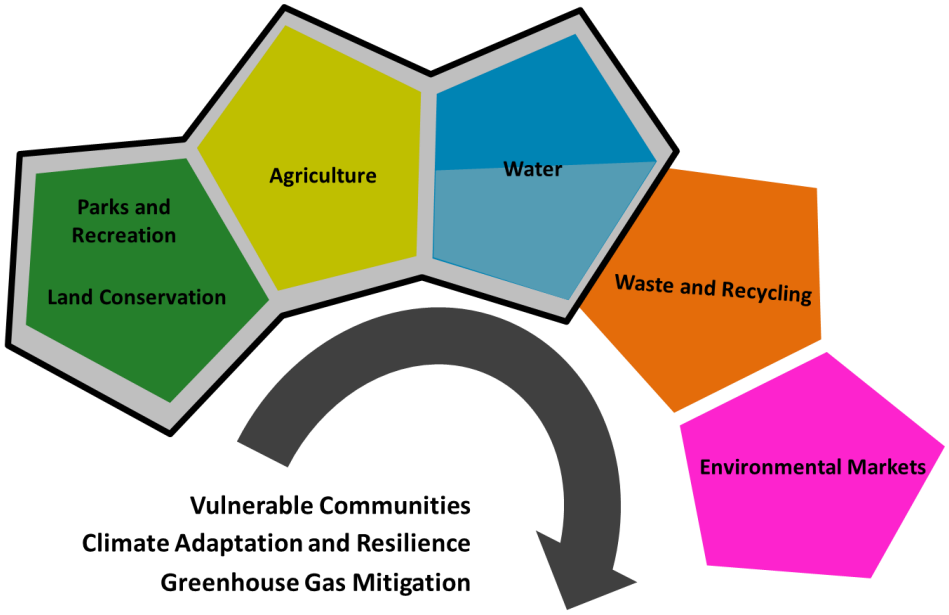
- **Conducting Research** – continuing to identify research opportunities to develop markets for carbon offsets and ecosystem services for the purposes of generating revenues from projects as a result of Green Bank investments.

[39] https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/SB0348

5.1 Confronting Climate Change and Vulnerable Communities

Given the mission of the Green Bank, investments in environmental infrastructure must seek to confront climate change (i.e., mitigate GHG emissions and increase resilience against its impacts) and increase investment in vulnerable communities – see Figure 3. The combination of land conservation, parks and recreation, agriculture, and water – together "green infrastructure" or "nature-based solutions" – provide an opportunity for the Green Bank, in partnership with public, private, nonprofit, municipal and other stakeholders, to mobilize investment.

Figure 3. Confronting Climate Change and Enabling Investment in Vulnerable Communities through Environmental Infrastructure



Through stakeholder engagement, the Green Bank recognizes the opportunity for investment in nature-based solutions that protect land and water from loss, improve management of natural resources for productive use in the economy, and restore native cover – all of which help Connecticut confront climate change – see Figure 4.

Figure 4. Nature-Based Solutions and Green Infrastructure

In terms of the Green Bank's vulnerable communities prioritization, the following is a goal for Environmental Infrastructure Programs:

- By 2025, no less than 40 percent of investment and benefits (e.g., jobs) from Environmental Infrastructure Programs is directed to vulnerable communities.

The following is a succinct breakdown of each area of environmental infrastructure, including links to more detailed primers based on stakeholder outreach.

5.2 Environmental Markets – Carbon Offsets and Ecosystem Services

Carbon offsets are measurable outcomes from carbon sequestration activities, traded in voluntary (e.g., requiring verification and certification) and compliance (e.g., RGGI) markets, whereby regulations, sustainability priorities, and public relations are motivators for buyers and sellers. Ecosystem services are the benefits people obtain from ecosystems.[40] Fundamentally, ecosystem services markets are designed to embed the positive benefits (e.g., public health, resilience) and negative impacts (e.g., GHG emissions) of individuals on natural resources into market-based systems which financially incentivize environmental stewardship, conservation, and rehabilitation of natural ecosystems.

Environmental infrastructure projects that involve carbon offsets and ecosystem services can be quantified and sold in markets to generate additional revenues from the projects.

For further details on the market opportunity, see Primer – Environmental Markets.

5.3 Land Conservation

Nature-based solutions such as protecting intact lands from loss (e.g., forestlands, wetlands), improving the management of working lands (e.g., sustainably certified timberlands), and restoring native land cover, including coastlines, can both mitigate GHG emissions that cause climate change (e.g., forest carbon sequestration) and increase resilience against the impacts of climate change (e.g., flood protection).

The following is the market potential for land conservation from the perspective of forestland – see Table 4.

Table 4. Market Potential for Land Conservation in Connecticut based on Forest Land

3,205,762 Acres Land in Connecticut				
1,869,761 Acres Forest Land			**1,336,001 Acres** Non-Forest Land	
298,994 Acres Protected Core Forests	**568,857 Acres** Unprotected Core Forest	**1,001,910 Acres** Non-Core Forest	**1,130,000 Acres** Urban Area	**206,001 Acres** Other Non-Urban and Non-Forest

[40] Provisioning services (e.g., food, water, fuel, wood), supporting services (e.g., nutrient cycling, soil formation, habitat provision, primary production), regulating services (e.g., climate regulation, flood regulation, water purification), and cultural (e.g., spiritual, aesthetic, educational, and recreational).

To retain the multiple benefits that forests provide, there is a "no net loss of forest" policy goal.

The following is a breakdown of the land conservation target outlined in the CGS 23-8[41] – see Table 5.

Table 5. Progress Towards the Open Space Land Target in Connecticut (as of December 31, 2019)

3,205,762 Acres Land in Connecticut								
320,576 Acres State Goal (@10%)				**352,634 Acres** Partner Goal (@≥11%)				**2,532,552 Acres** No Land Conservation (@79%)
175,000 Acres State Forests[42]	**36,000 Acres** State Parks[43]	**46,000 Acres** Wildlife Area and Other[44]	**63,500 Acres** left to achieve target	**84,000 Acres** Cities and Towns	**99,000 Acres** Water Companies	**66,000 Acres** Non-Profit Land Trusts	**104,000 Acres** left to achieve target	

Of the open space goal of 21% by 2023 (i.e., 673,210 acres), approximately 510,249 acres are conserved (as of December 31, 2019), or 76% of the open space goal comprising 261,806 acres of state (i.e., 82% of the 10% state target) and 248,953 acres of partner (i.e., 71% of the partner target) – leaving an estimated 162,451 acres of open space left to achieve. If the average land acquisition cost is $9,000 per acre, then approximately $1.5 billion of public and private investment in land conservation would be needed to acquire and protect over 160,000 acres of open space in order to achieve the 21% target.

As the Green Bank looks to increase and accelerate private investment in land conservation, it will be exploring the following financing tools, including, but not limited to:

- Carbon offset markets
- Ecosystem services markets
- Pay-for-Performance
- Eco-Labeling (e.g., FSC Certified)
- Green Liberty Bonds
- Buy-Protect-Sell Revolving Loan Fund
  - Predevelopment Financing
  - Bridge Financing
  - Traditional Debt Financing
- Forest Investment Fund

For further details on the market opportunity, see Primer – Land Conservation.

5.4 Parks and Recreation

Infrastructure investments in parks and recreation can both mitigate the GHG emissions that cause climate change (e.g., carbon sinks from urban tree canopy cover) and increase resilience against the impacts of climate change (e.g., stormwater management through urban parks, improve public health).

[41] State goal for open space acquisition – https://law.justia.com/codes/connecticut/2012/title-23/chapter-447/section-23-8/
[42] 33 locations
[43] 107 locations
[44] Including wildlife management areas, fish hatcheries, flood control, natural area preserve, water access, wildlife sanctuaries, and other

The following is a breakdown of the market potential for parks and recreation from the perspective of active[45] and passive[46] outdoor recreation facilities, and on "land" or "water" based activities from the Statewide Comprehensive Outdoor Recreation Plan ("SCORP") – see Table 6.

Table 6. Outdoor Recreation Facilities in Connecticut (2005)

Outdoor Recreation Type	# of Facilities	DIRPS[47] per 10,000 Residents	Ownership		
			Statewide Average	Municipal Average	Other Average
Active – Land	4,788	1.4	4%	77%	20%
Active – Water	137	0.4	2%	69%	30%
Passive – Land	1,957	1.0	27%	46%	27%
Passive – Water	1,130	1.1	22%	45%	33%
Total	8,012	1.2	14%	62%	24%

The Trust for Public Land's ("TPL") ParkScore Index is a comprehensive rating system to measure how cities are meeting the needs for parks.[48] In an effort to assess ParkScore, the following data are for Connecticut's "Top 10" most populated municipalities with respect to park access – see Table 7.

Table 7. "Top 10" Most Populated Municipalities in Connecticut and ParkScore

City	Population	Acres	% Land as Parks	Acres of Land as Parks	Acres of Parks per 10,000 Residents	# of Parks	Parks per 10,000 Residents	10-Minute Walk
Hartford	121,203	11,136	9%	1,002	83	218	18.0	99%
New Haven	130,764	11,968	12%	1,436	110	128	9.8	96%
West Hartford	63,063	13,952	20%	2,790	442	48	7.6	82%
Stamford	129,302	24,064	5%	1,203	93	54	4.2	74%
New Britain	72,303	8,576	7%	600	83	23	3.2	73%
Bridgeport	143,653	10,304	7%	721	50	35	2.4	73%
Waterbury	106,458	18,240	6%	1,094	103	30	2.8	60%
Norwalk	88,326	14,656	3%	440	50	45	5.1	55%
Bristol	59,639	16,896	4%	676	113	20	3.4	51%
Danbury	84,732	26,880	5%	1,344	159	17	2.0	37%

[45] Active outdoor recreation facilities based on 2005 data (X – #) and 2017 use frequency index data, if available (# – Y), include fields, courts, and courses for baseball and softball (984 – 16.0), basketball (645 – 23.0), football (154 – 10.0), golf (125 – 13.6), multi-use (624), soccer (495 – 14.6), tennis (384 – 11.2), and volleyball (74 – 23.0), as well as playgrounds (1,065), swimming pools (137 – 60.9), and winter sports (238 – 9.3)

[46] Passive outdoor recreation facilities based on 2005 data (X – #) and 2017 use frequency index data, if available (# – Y) include access to sites for beaches (176 – 60.1), boating (285 – 10.9), camping (88 – 13.5), fishing (669 – 19.0), gardens (109), historic landmarks (99 – 35.9), hunting (88 – 3.5), picnics (677), and trails (896 – 102.8)

[47] Discrete Identifiable Recreation Places

[48] The "% of Land as Parks," "# of Parks," and "10-Minute Walk" data were used from TPL's ParkScore data set.

The quality of parks is difficult to discern. To better understand the quality of parks, TPL partnered with the Urban Resources Institute ("URI") to compare New Haven against the nation's most populous cities on five (5) categories reflective of an excellent city park system: Acreage,[49] Access,[50] Investment,[51] Amenities,[52] and Equity[53] – see Table 8.[54]

Table 8. TPL and URI Analysis of New Haven Compared to Other Cities

City	Overall	Acreage	Access	Investment	Amenities	Equity
New Haven, CT	60	36	95	35	71	65
Boston, MA	-	47	100	79	65	79
Baltimore, MD	-	25	81	68	40	83
Buffalo, NY	-	25	85	47	61	64

The TPL-URI research also delves deeper into the twenty (20) neighborhoods of New Haven to collect data with respect to population, acres of parks, and acres per 1,000 population, as well as demographic data including income and people of color. Based on data from TPL from 14,000 cities, parks that serve low-income households are four (4) times as crowded as parks that serve high-income households, and parks that serve people of color are five (5) times as crowded as parks that serve majority-white populations.[55] Such analyses in municipalities across Connecticut could elucidate opportunities for areas of improvement, including improving the public health of residents (e.g., reducing urban heat island effects) with access to parks and the economic development impact of property values within proximity to parks.

As the Green Bank looks to increase and accelerate private investment in parks and recreation, it will be exploring the following financing tools, including, but not limited to:

- Carbon offset markets
- Ecosystem services markets (e.g., Park Rx)
- Pay-for-Performance
- Green Liberty Bonds
- Tax Increment Financing
- Buy-Protect-Sell Revolving Loan Fund
  - Predevelopment Financing
  - Bridge Financing
  - Traditional Debt Financing

For further details on the market opportunity, see Primer – Parks and Recreation.

[49] Acreage score indicates the relative abundance of large 'destination' parks, which include large natural areas that provide critical mental health as well as climate and conservation benefits.

[50] Access score indicates the percentage of the city's residents that live within a walkable half-mile of a park – the average distance that most people are willing to walk to reach a destination.

[51] Investment score indicates the relative financial health of a city's park system, which is essential to ensuring parks are maintained at a high level for all to enjoy.

[52] Amenities score indicates the relative abundance of six park activities popular among a multi-generational cross-section of user groups (i.e., playgrounds, basketball courts, dog parks, senior and recreation center, splashpads, and permanent restrooms).

[53] Equity score indicates how fairly parks and park space are distributed within a city, including percentage of people of color and low-income households within a 10-minute walk of a park, and comparison of the amount of park space between neighborhoods by race and income.

[54] For example, a score of 90 means that the municipality is within the top 90 percent across the country.

[55] "The Heat is On" by The Trust for Public Lands

5.5 Agriculture

Nature-based solutions such as protecting farmlands from loss and improving farming practices, can both mitigate GHG emissions that cause climate change (e.g., climate smart agriculture) and increase resilience against the impacts of climate change (e.g., flood protection).

The following is a breakdown of the market potential for "agriculture" (i.e., farmland), including other natural forms of land cover (i.e., forestland and wetlands) – see Table 9.

Table 9. Land Cover in Connecticut (2015)[56]

3,179,253 Acres Land and Water in Connecticut				
921,827 Acres Developed Land[57] 29%	**233,847 Acres** Farmland 7%	**1,873,471 Acres** Forestland[58] 59%	**129,153 Acres** Wetlands[59] 4%	**20,955 Acres** Other Lands[60] 1%

More than 70% of Connecticut's land is farmland, forestland, or wetland. From 2001 through 2016, approximately 6% of the state's farmland was converted to urban or low-density residential development – placing the state in the top three nationally in percent of farmland lost to development.[61]

The long-term goal of the Farmland Preservation Program, which was set back in the 1980's, is to preserve 130,000 acres of farmland – see Table 10.

Table 10. Progress Towards the Farmland Preservation Program Target in Connecticut

<table>
<tr><th colspan="5">3,205,762 Acres
Land in Connecticut</th></tr>
<tr><td colspan="4">381,539 Acres[62]
Farmland</td><td rowspan="4">2,824,223 Acres
Non-Farmland</td></tr>
<tr><td>148,609 Acres
Farmland</td><td>113,355 Acres
Woodland</td><td>31,923 Acres
Pastureland</td><td>87,652 Acres
Other[63]</td></tr>
<tr><td colspan="4">130,000 Acres
Preserved Farmland Goal</td></tr>
<tr><td colspan="2">48,744 Acres
Preserved</td><td colspan="2">81,256 Acres
Not Preserved</td></tr>
</table>

[56] UCONN CLEAR Project – 2015 Land Cover
[57] Includes "Developed," "Turf & Grass," and "Other Grasses" classifications
[58] Includes "Deciduous Forest," "Coniferous Forest," "Forested Wetland," and "Utility-Rights-of-Way (Forest)" classifications
[59] Includes "Water," "Non-Forested Wetlands," and "Tidal Wetlands" classifications
[60] Includes "Barren" classification
[61] "Planning for Agriculture – A Guide for Connecticut Municipalities: Emerging Agricultural Trends" by the American Farmland Trust and Connecticut Department of Agriculture (2020 Edition) (Page 19)
[62] USDA Economic Research Service – 2017 data
[63] Land in house lots, ponds, roads, wasteland, etc.

As of October 2020, the Farmland Preservation Program has protected nearly 49,000 acres on 418 farms with agricultural conservation easements – leaving 81,000 acres of farmland left to preserve.[64] If the average real estate value of an acre of farmland in Connecticut in 2019 was $12,200, and Purchasing Development Rights ("PDR") is 30-50% of value, then between $300 to $500 MM of public investment (e.g., through the Connecticut Department of Agriculture ("DoAg") and/or USDA-Natural Resources Conservation Service ("NRCS")) would be needed to protect 81,000 acres of farmland to achieve the 130,000 acres of farmland preserved target.

As the Green Bank looks to increase and accelerate private investment in agriculture, it will be exploring the following financing tools, including, but not limited to:

- Carbon offset markets
- Ecosystem services markets
- Pay-for-Performance
- Eco-Labeling (e.g., Connecticut Grown)
- Green Liberty Bonds
- Linked Deposits
- Buy-Protect-Sell Revolving Loan Fund
  - Predevelopment Financing
  - Bridge Financing
  - Traditional Debt Financing
- Farmland Investment Fund
- Loan Guarantees (e.g., Smart-E Loan)

For further details on the market opportunity, see Primer – Agriculture.

5.6 Water

In FY 2023, the Green Bank will continue to explore opportunities to enable private investment in Connecticut's water infrastructure.

Per PA 21-115, there are several boundaries with respect to what the Green Bank can do with respect to water, including:

- **Environmental Infrastructure Fund** – may not receive funds from the Clean Water Fund pursuant to sections 22a-475 to 22a-438f, or funds collected from a water company as defined in section 25-32a; and

- **Apply for Federal Assistance** – may not apply directly or through a subsidiary to be eligible for federal grant assistance under the Clean Water Act, 33 USC 1251 et seq., nor the Safe Drinking Water Act, 42 USC 300f et seq., without the approval of the State Treasurer, Commissioner of Energy and Environmental Protection, and Commissioner of Public Health.

As a result of these restrictions, and since Connecticut's State Revolving Fund ("SRF") hasn't invested in green infrastructure,[65] the Green Bank will focus its efforts on nature-based solutions (e.g., land conservation) and stormwater (e.g., green roofs), as well as its financing programs (e.g., Smart-E Loan, C-PACE) to help end-use customers improve water on their property. It should be noted that within PA 21-115, that municipalities can create stormwater authorities.

[64] Connecticut Department of Agriculture, Farmland Preservation Programs Report (January 2022)

[65] Hansen, K., Thomas, T., Vo, S., Berven, K., Moudgalya, P., Vedachalam, S. (2022). Financing Green Stormwater and Natural Infrastructure with Clean Water State Revolving Funds. by the Environmental Policy Innovation Center – EPIC. (pp 11)

5.7 Waste and Recycling

In FY 2023, the Green Bank will explore opportunities to enable private investment in Connecticut's waste and recycling infrastructure.

It should be noted that the Green Bank is a leading financier of food waste[66] and farm waste[67] to energy projects that utilize anaerobic digesters and combined heat and power to reduce methane and produce renewable natural gas for onsite clean energy.

6. Citizen and Community Engagement – Green Bonds US

The Green Bank, and its predecessor the CCEF, have a long-standing history of community engagement in Connecticut. In 2002, the CCEF partnered with six private foundations[68] to co-found SmartPower – which launched the 20 percent by 2010 campaign and led the administration of the CCEF's EPA award-winning Connecticut Clean Energy Communities Program to engage citizens in signing-up to purchase clean energy.[69] Then in 2013, the Green Bank launched a series of Solarize campaigns in communities across the state in partnership with SmartPower and the Yale Center for Business and the Environment to help citizens install solar PV on their homes,[70] while also advancing the SunShot Initiative of the U.S. Department of Energy ("USDOE") in partnership with the Clean Energy States Alliance through projects that reduce soft-costs for solar PV (i.e., customer acquisition, permitting, and financing) and provide better access to solar PV for LMI households.

Citizen and community engagement have been in the DNA of the Green Bank since its inception. The Green Bank is reaching citizens and communities through various ways including green bonds, community match funds, community-based campaigns, and municipal assistance programs.

6.1 Green Bonds US

Whether through markets or within communities, the Green Bank is bringing people together and strengthening the bonds we share with one another. As the name of the Comprehensive Plan suggests – "Green Bonds US" seeks to promote a simple but critically important message; green, the environment, bonds us, brings us together, the environment unites us. The simple slogan combines the financial tool of green bonds that are being sold to retail investors across the United States with a unifying message that humanity and the environment are inextricably linked.

CGS Section 16-245n(d)(1)(C) is the enabling statute that allows the Green Bank to issue revenue bonds for up to 25 years for clean energy and 50 years for environmental infrastructure projects to support its purposes. Green Bonds are bonds whose proceeds are

[66] Quantum Biopower – http://www.quantumbiopower.com/

[67] Fort Hill Farm – https://aggridenergy.com/fort-hill-ag-grid-digester/

[68] Emily Hall Tremaine Foundation, The John Merck Fund, Pew Charitable Trust, The Oak Foundation, Rockefeller Brothers Fund, and Surdna Foundation

[69] "Climate Policy and Voluntary Initiatives: An Evaluation of the Connecticut Clean Energy Communities Program," by Matthew Kotchen for the National Bureau of Economic Research (Working Paper 16117).

[70] "Solarize Your Community: An Evidence-Based Guide for Accelerating the Adoption of Residential Solar" by the Yale Center for Business and the Environment.

used for projects or activities with environmental or climate benefits, most usually climate change mitigation and adaptation. Research shows that citizens across the US, including Connecticut, are interested in seeing their investments go towards green projects – see Table 11.[71]

Table 11. Green Project Types of Interest by Private Investors by Location

Green Project Types	Composite	National	Connecticut	Connecticut with Solar
Clean Water	65.4%	63.5%	68.6%	65.8%
Waste Reduction and Recycling	48.8%	40.7%	51.4%	62.2%
Rooftop Solar	48.5%	34.9%	38.4%	85.6%
Home Energy Efficiency	41.6%	30.7%	37.2%	67.6%
Electric Vehicles	38.0%	30.9%	30.0%	60.2%
Land Conservation	37.3%	29.5%	40.4%	49.4%
Agriculture	33.2%	26.1%	36.6%	43.8%
Parks and Recreation	30.1%	24.8%	34.6%	36.0%
Climate Adaptation and Resiliency	28.8%	21.8%	30.4%	41.0%

To enable everyday citizens with an opportunity to invest in the green economy, the Green Bank created two fixed income securities – Green Liberty Bonds and Green Liberty Notes, which have three features:

1. **Use of Proceeds** – funds raised from the bonds must go towards projects that support the Paris Agreement (i.e., mitigation of GHG emissions or adaptation to the impacts of climate change);

2. **Retail Accessible** – like the Series-E War Bonds of the 1940's, bonds must be small denomination (i.e., less than $1,000) and available to everyday retail investors; and

3. **Independently Certified and Verified** – due to the expectation by retail investors that the use of proceeds will go towards projects that support the Paris Agreement, the bonds must be independently certified and verified as green.

6.2 Green Liberty Bonds

In April of 2019, the Green Bank issued $38.6 million in green asset backed securities – its first rated debt issuance and the first ever solar asset-backed security ("ABS") transaction by a green bank. The issuance was certified by Kestrel Verifiers and independently assessed by Climate Action Reserve. In July 2020, the Green Bank issued $16.8 million in a Special Capital Reserve Fund ("SCRF") backed Green Liberty Bond that was Climate Bond Certified. And in April 2021, the Green Bank sold out $25 million in Green Liberty Bonds drawing four times as much demand as could be fulfilled from retail investors in Connecticut and across the U.S., as well as institutional investors interested in sustainability investments.

[71] 2021 Brand Awareness Digital Survey by Great Blue for the Connecticut Green Bank (August 2021)

In March and December of 2020, and June of 2022, the Green Bank's Green Liberty Bonds were awarded for innovation and green bond structure by Environmental Finance, The Bond Buyer, and Clean Energy States Alliance respectively.

For more information on Green Liberty Bonds, visit www.greenlibertybonds.com

6.3 Green Liberty Notes

In January of 2022, the Green Bank, in collaboration with Raise Green, began a two-year campaign to raise $2 million by providing an opportunity for citizens to invest as little as $100 to confront climate change. Issuances are anticipated quarterly. Investment by everyday citizens in Green Liberty Notes supports Eversource's SBEA program, administered through the Conservation and Load Management Plan, which helps small businesses reduce their energy consumption through deploying energy efficient equipment. As a result of the climate benefits associated with this program, the offering was reviewed and verified for its environmental attributes by Kestrel Verifiers.

To attract more investors, the program offers one-year maturity notes, with $100 minimums, that are easy to purchase through an online platform without a broker. The Green Liberty Notes were created as an investment companion to Green Liberty Bonds, which have been offered in $1,000 minimums to retail and institutional investors through brokerage firms.

For more information on Green Liberty Notes, visit https://invest.raisegreen.com/offerings

6.4 Sustainable CT and Community Match Fund

The strategic partnership between Sustainable CT and the Green Bank is focused on the following key priorities:

- Driving investment in projects in our communities, with a goal to accelerate over time;
- Community-level engagement, from project origination through financing, that is inclusive, diverse, and "knitted";
- Creating a structure that harnesses all types of capital for impact – from donations to investment;
- Developing a business model that covers the cost of the program; and
- Creating a measurable impact, both qualitative and quantitative.

Sustainable CT, in collaboration with Patronicity, has developed a community matching grant platform to raise capital in support of local projects that provide individuals, families, and businesses with funding opportunities to make an impact on sustainability in their communities. This online crowdfunding platform enables citizen leaders to have access to financial resources (i.e., matching grants) that they need to support local sustainability projects.

For more information on Sustainable CT's Community Match Fund, visit https://www.patronicity.com/sustainablect

6.5 Community-Based Campaigns

The Green Bank has once again partnered with the Yale School of the Environment,[72] to support USDOE-funded Solar Energy Evolution and Diffusion Study 3 ("SEEDS 3"). SEEDS 3 research builds on nearly a decade of work investigating the peer-to-peer effects of solar PV adoption – how do prospective solar PV customers make the decision to adopt and how do people talk to each other about going solar. Professor Gillingham developed a community-based solar adoption strategy that accelerated the adoption of solar in Connecticut through various Solarize campaigns.[73]

SEEDS 3 expands on this work to investigate the co-adoption of solar, storage, and electric vehicles. The Green Bank will support Professor Gillingham as he initiates and runs community-based solar plus storage campaigns over the next two years. We will leverage the learnings that these campaigns create to refine our storage marketing messages to assist ESS in achieving its goals.

6.6 Municipal Assistance Programs

Supported by public policy,[74] the Green Bank continues to support municipalities in their sustainability initiatives through the Solar Marketplace Assistance Program for Towns and Cities ("Solar MAP"). Many Connecticut towns, primarily smaller towns, are challenged to get through the many project steps preventing them from taking advantage of clean energy. Solar MAP provides turnkey support from start to finish to make it easier for towns to identify projects that will provide savings, to access necessary incentives and Green Bank financing, and to add much-needed capacity to manage project implementation and construction. The program administers a competitive solicitation to select a construction partner and bring more projects to the market to grow our state's clean energy economy. Projects are bundled into portfolios to achieve economies of scale driving down project costs and delivering better savings a town wouldn't experience if they acted alone. With feedback from contractors and municipalities, the Green Bank integrated additional transparency into the Programs' status and activities and developed a clearer mission and target audience. Solar MAP aims to support municipalities that are underserved by the market, typically towns that are smaller in population and/or town staff without recent history of doing solar projects. The comprehensive program support and refined mission help better serve municipalities and the clean energy market.

7. Investment

The Green Bank pursues investments that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability. With the mission to confront climate change, the Green Bank leverages limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.

[72] Professor Ken Gillingham

[73] https://cbey.yale.edu/our-stories/lessons-learned-from-solarize-campaigns-in-connecticut

[74] CGS 16-245n "…stimulate demand for clean energy and deployment of clean energy sources that serve end use customers in the state…" (i.e., 16-245n(c)); and "…shall (i) develop separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects…" CGS 16-245n(d)(1)(B).

7.1 State Funds

The Green Bank receives public revenues from a number of sources that are leveraged to mobilize multiples of private capital investment in the green economy of Connecticut.

System Benefit Charge

As its primary source of public revenues, the Green Bank through CGS 16-245n(b) receives a 1 mill per kilowatt-hour surcharge called the CEF from ratepayers of Eversource Energy and Avangrid. The CEF has been in existence since Connecticut deregulated its electric industry in the late 1990s.[7576] On average, households contribute between $7-$10 a year for the CEF, aggregating to about $25 MM per year, which the Green Bank leverages to attract multiples of private capital investment in clean energy through its Financing Programs.

Regional Greenhouse Gas Emission Allowance Proceeds

As a secondary source of public revenues, the Green Bank receives a portion (i.e., 23%) of Connecticut's RGGI allowance proceeds through CGS 22a-174(f)(6)(B). The Green Bank invests RGGI proceeds to finance clean energy projects through its Financing Programs. It should be noted that with the passage of PA 22-25, that allowance proceeds received in excess of $5.2 MM from the Green Bank's portion of RGGI, are to be directed to DEEP for the purposes of supporting electric school buses in environmental justice communities.

7.2 Federal Funds

The Green Bank receives public revenues through a number of past, current, and future sources[77] of federal funds as well that it leverages to scale-up and mobilize private capital investment in the green economy of Connecticut.

American Recovery and Reinvestment Act

Through the American Recovery and Reinvestment Act ("ARRA") the CCEF received $20 million for its programs and initiatives. After nearly $12 million of those funds were invested as grants, the Green Bank invested the remaining $8.2 million in financing programs. With $600,000 of ARRA funds left,[78] the Green Bank invested over $7.6 million of ARRA funds to attract and mobilize $167 million of public and private investment in residential clean energy financing programs.[79]

United States Department of Agriculture

The Green Bank has applied to the United States Department of Agriculture ("USDA") to seek access to low-cost and long-term federal loan funds for the deployment of clean energy in rural

[75] PA 98-28 An Act Concerning Electric Restructuring – https://www.cga.ct.gov/ps98/act/pa/1998pa-00028-r00hb-05005-pa.htm

[76] The Clean Energy Fund should not be mistaken with the Conservation Adjustment Mechanism (or the Conservation and Loan Management Fund), which is administered by the EDCs

[77] There have been ongoing public policy proposals at the national level that the Connecticut Green Bank has been a part of to create a US Green Bank. If such a public policy were passed, then the Connecticut Green Bank would have access to significant federal funds to leverage to scale-up and mobilize private capital investment in the green economy of Connecticut.

[78] As of June 30, 2022

[79] https://www.ctgreenbank.com/wp-content/uploads/2022/04/CGB_ARRA_Infographic_2022-4-4.pdf

communities.[80] The USDA has vast lending authority under the Rural Electrification Act of 1936, which enables direct loans, project financing and loan guarantees to a variety of borrowers.

Infrastructure Investment and Jobs Act

As a result of the IIJA, significant federal resources are being made available to local and state governments through formula grants, and through competitive requests for proposals from budget allocations across many federal agencies. The Green Bank will pursue federal funding to support its programs.

7.3 Additional Funding Sources

Per CGS 16-245n, additional funding sources include, but are not limited to:

- Charitable gifts, grants, contributions as well as loans from individuals, corporations, university endowments and philanthropic foundations;
- Earnings and interest derived from financing support activities for clean energy projects backed by the Connecticut Green Bank;
- If it qualifies as a CDFI under Section 4702 of the United States Code, funding from the CDFI Fund administered by the United States Department of Treasury, as well as loans from and investments by depository institutions seeking to comply with their obligations under the United States Community Reinvestment Act of 1977; and
- Contracts with private sources to raise capital.

8. Impact

The Green Bank's evaluation efforts seek to understand how the increase in investment and deployment of clean energy and environmental infrastructure supported through the Green Bank, result in benefits to society. To that end, the Green Bank has devised an Evaluation Framework and Impact Methodologies for various societal benefits.

8.1 Evaluation Framework

The Green Bank has established an Evaluation Framework to guide the assessment, monitoring and reporting of the program impacts and processes, including, but not limited to energy savings and clean energy production and the resulting societal impacts or benefits arising from clean energy investment.[81] This framework focuses primarily on assessing the market transformation the Green Bank is enabling, including:

- **Supply of Capital** – including affordable interest rates, longer term maturity options, improved underwriting standards, etc.

[80] "Rural" communities are defined by a population bound and the various limits depend on the program; at the broadest, "rural" may be considered a town that has a population not greater than 50,000 people. Despite its positioning in a mostly-developed corridor, we estimate Connecticut would have 69% of towns eligible at the 20,000-person limit and 89% of towns at the 50,000-person limit.

[81] https://ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Evaluation-Framework-July-2016.pdf

- **Consumer Demand** – increasing the number of projects, increasing the comprehensiveness of projects, etc.

- **Financing Performance Data and Risk Profile** – making data publicly available to reduce perceived technology risks by current or potential private investors.

- **Societal Impact** – the benefits society receives from more investment and deployment of clean energy.

With the goal of pursuing investment strategies that advance market transformation in green investing, the Green Bank's evaluation framework provides the foundation for determining the impact it is supporting in Connecticut and beyond across the four (4) "E's" (i.e., E^4) – including Economy, Environment, Energy, and Equity.[82]

The Evaluation Framework will have to be revised, over time, to include environmental infrastructure, as well as the important role Green Liberty Bonds play in raising capital for investments.

8.2 Impact Methodologies

To support the implementation of the Evaluation Framework, the Green Bank, working with various public sector organizations, has developed methodologies that estimate the impact from the investment, installation and operation of clean energy projects, including:

- **Jobs** – working in consultation with the Connecticut Department of Economic and Community Development ("DECD"), through the work of Guidehouse (formerly Navigant), the Green Bank devised a methodology that takes investment in clean energy to reasonably estimate the direct, indirect, and induced job-years resulting from clean energy deployment.[83]

- **Tax Revenues** – working in consultation with the Connecticut Department of Revenue Services ("DRS"), through the work of Guidehouse, the Green Bank devised a methodology that takes investment in clean energy to reasonably estimate the individual income, corporate, and sales tax revenues from clean energy deployment.[84]

- **Environmental Protection** – working in consultation with the USEPA and DEEP, the Green Bank devised a methodology that takes the reduction in consumption of energy and increase in the production of clean energy to reasonably estimate the air emission reductions (i.e., CO2, NOx, SO2, and PM2.5) resulting from clean energy deployment.[85]

- **Public Health Improvement** – working in consultation with the USEPA, DEEP, and the Connecticut Department of Public Health ("DPH"), the Green Bank devised a methodology that takes air emission reductions to reasonably estimate the public health

[82] https://www.ctgreenbank.com/wp-content/uploads/2021/12/FY12-FY21-CGB-ImpactReport-web.pdf
[83] https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf
[84] https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf
[85] https://www.ctgreenbank.com/wp-content/uploads/2018/01/CGB-Eval-IMPACT-091917-Bv2.pdf

benefits (e.g., reduced hospitalizations, reduced sick days, etc.) and associated savings to society resulting from clean energy deployment.[86]

- **Equity** – with the passage of PA 20-05, the Green Bank devised a methodology that takes the definition of "vulnerable communities" to track progress towards the goal of ensuring that no less than 40 percent of investment from its programs are directed to vulnerable communities by 2025.[87]

- **Energy Burden** – working in consultation with DEEP and PURA, the Green Bank devised a methodology that takes actual solar PV production data from meters compared against contractual lease and PPA prices, to estimate the energy burden reduction from financing solar PV.[88]

Each year, the Green Bank develops additional methodologies that value the impact the Green Bank is helping create in Connecticut and all of society. For more information on the Green Bank's impact methodologies, visit the Impact page of the website.[89]

In time, additional impact methodologies will be developed for environmental infrastructure.

8.3 Green Bond Framework

The Green Bank's Green Bond Framework[90] provides a structure in which the Green Bank can more efficiently and effectively support its efforts to raise capital and deploy more clean energy and environmental infrastructure through the issuance of green bonds.

Connecticut has been at the forefront of state-level efforts to combat the threat of global climate change. In order to increase investment, the Green Bank will use its statutory authority (i.e., CGS 16-245kk) to issue bonds, including green bonds. These are key to sourcing capital for clean energy and environmental infrastructure projects and providing a way for all residents, businesses, and institutions of Connecticut to invest in growing our green economy.

The framework sets out how the Green Bank proposes to use its Master Trust Indenture ("MTI") in a manner consistent with its purpose and provide the transparency and disclosures investors require to make investment decisions through green bonds. This framework is specifically intended for the MTI approved and adopted April 22, 2020, which establishes the purposes for which the Green Bank may issue green bonds or other public debt. The Framework is established in accordance with the Climate Bonds Initiative ("CBI") Standard and adheres to the Green Bond Principles issued by the International Capital Market Association.

The Green Bond Framework will have to be revised, over time, to include environmental infrastructure.

[86] https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB-Eval-PUBLICHEALTH-1-25-18-new.pdf
[87] https://www.ctgreenbank.com/wp-content/uploads/2021/10/Equity_Investment_in_Vulnerable_Communities.pdf
[88] https://www.ctgreenbank.com/wp-content/uploads/2021/09/CGB-Eval-Solar-Methodology-combined-6-8-2021-final.pdf
[89] https://www.ctgreenbank.com/strategy-impact/impact/societal-impacts/
[90] https://ctgreenbank.com/wp-content/uploads/2020/04/CGB_Green-Bond-Framework_final-4-22-2020.pdf

9. Reporting and Transparency

The Green Bank has extensive reporting on its financial management and societal impact through various mechanisms. As a recipient of public revenues (i.e., CEF and RGGI allowance proceeds), the Green Bank believes that complete transparency is important to ensure the public's continued trust in serving its purpose. The Green Bank reports to the Governor's Office (i.e., Office of Policy and Management ("OPM")), various committees of cognizance within the CGA (i.e., energy & technology, commerce, environment, and banking), and other departments (e.g., DEEP, Office of Fiscal Analysis).

9.1 Annual Comprehensive Financial Report

An Annual Comprehensive Financial Report ("ACFR") is a set of government financing statements that includes the financial report of a state, municipal or other government entity that complies with the accounting requirements promulgated by the Governmental Accounting Standards Board ("GASB"). GASB provides standards for the content of an ACFR in its annually updated publication *Codification of Governmental Accounting and Financial Reporting Standards*. An ACFR is compiled by a public agency's accounting staff and audited by an external American Institute of Certified Public Accountants ("AICPA") certified accounting firm utilizing GASB requirements. It is composed of three sections – Introductory, Financial, and Statistical. The independent audit of the ACFR is not intended to include an assessment of the financial health of participating governments, but rather to ensure that users of their financial statements have the information they need to make those assessments themselves.[91]

To date, the Green Bank has issued eight ACFR's, including:

- Fiscal Year Ended June 30, 2014 (Certificate of Achievement)
- Fiscal Year Ended June 30, 2015 (Certificate of Achievement)
- Fiscal Year Ended June 30, 2016 (Certificate of Achievement)
- Fiscal Year Ended June 30, 2017 (Certificate of Achievement)
- Fiscal Year Ended June 30, 2018 (Certificate of Achievement)
- Fiscal Year Ended June 30, 2019 (Certificate of Achievement)
- Fiscal Year Ended June 30, 2020 (Certificate of Achievement)
- Fiscal Year Ended June 30, 2021 (Certificate of Achievement)

As the "gold standard" in government reporting, the ACFR is the mechanism the Green Bank uses to report its fiscal year financial, investment, and impact performance to its stakeholders. For each of its seven years filing the ACFR with the Government Finance Officers Association the Green Bank has received a Certificate of Achievement for Excellence in Financial Reporting.[92]

[91] The Government Finance Officers Association (GFOA), founded in 1906, represents public finance officials throughout the United States and Canada. GFOA's mission is to enhance and promote the professional management of governmental financial resources by identifying, developing, and advancing fiscal strategies, policies, and practices for the public benefit. GFOA established the Certificate of Achievement for Excellent in Financial Reporting Program in 1945 to encourage and assist state and local governments to go beyond the minimum requirements of generally accepted accounting principles to prepare CAFRs that evidence the spirit of transparency and full disclosure and then to recognize individual governments that succeed in achieving that goal.

[92] GAO has yet to designate the FY 2021 ACFR with a Certificate of Achievement

9.2 Annual Report

Beyond the ACFR, the annual reports of the Green Bank are compiled by the marketing staff and include consolidated financial statement information and narratives of various program achievements in a condensed format that can be widely distributed.

To date, the Green Bank has issued ten annual reports, including:

- Fiscal Year 2012 Annual Report
- Fiscal Year 2013 Annual Report
- Fiscal Year 2014 Annual Report
- Fiscal Year 2015 Annual Report
- Fiscal Year 2016 Annual Report
- Fiscal Year 2017 Annual Report
- Fiscal Year 2018 Annual Report
- Fiscal Year 2019 Annual Report
- Fiscal Year 2020 Annual Report
- Fiscal Year 2021 Annual Report

9.3 Auditors of Public Accounts

The office of the Auditors of Public Accounts ("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. Included in such audits is an annual Statewide Single Audit of the State of Connecticut to meet federal requirements. The office is under the direction of two state auditors appointed by the state legislature. The APA audited certain operations of the Green Bank in fulfillment of its duties under Sections 1-122 and Section 2-90 of the CGS

To date, the APA has conducted four audits, including:

- Fiscal Years 2012 and 2013
- Fiscal Years 2014 and 2015
- Fiscal Years 2016 and 2017
- Fiscal Years 2018 and 2019

9.4 Open Connecticut and Open Quasi

Open Connecticut centralizes state financial information to make it easier to follow state dollars. In Connecticut quasi-public agencies are required to submit annual reports to the legislature, including a summary of their activities and financial information. In addition to that, the Comptroller's Office requested that quasi-public agencies voluntarily provide payroll and checkbook-level vendor payment data for display on Open Connecticut. The Green Bank, which was among the first quasi-public organizations to participate, has voluntarily submitted this information since the inception of Open Connecticut.[93] In June of 2020, the Comptroller launched Open Quasi, which provides payroll and checkbook level data for all quasi-public organizations in Connecticut.

For more information, go to https://openquasi.ct.gov/

[93] https://openquasi.ct.gov/

10. Research and Product Development

As the Green Bank implements its Comprehensive Plan, there will be ongoing efforts to develop market opportunities for future green investments. With the lessons being learned and best practices being discovered in the green economy, the Green Bank's ability to deliver more societal benefits requires understanding potential opportunities and the development of pilot programs and initiatives to increase and measure impact, including, for example:

- **Ecosystems Services** – increasing understanding of ecosystem services values from environmental infrastructure, will help to identify opportunities to mobilize private investment to maximize GHG emissions reductions and resiliency against climate change. Ongoing support of research studies to understand the value of ecosystem services from environmental infrastructure is important.

- **Carbon Offsets** – continuing to increase understanding of carbon offsets,[94] recognizing their importance within environmental infrastructure (e.g., forest carbon, climate-smart agriculture) and the potential to generate revenues in support of projects, there is need for ongoing support of research studies to understand carbon offset markets.

- **Resiliency** – in its efforts to advance resilience, the Green Bank working with DEEP, Insurance Department, and CIRCA, will seek to better understand labelling (e.g., FORTIFIED by the Insurance Institute for Business and Home Safety), direct install measures, and other programs (e.g., adapting Solarize campaigns to Ruggedize campaigns). To continue to develop ESS, research and pilots for vehicle to grid ("V2G") will also be pursued.

- **Electric School Buses** – per Public Act 22-25, the Green Bank supported contract extensions for electric school buses ("ESB") and financial support through RGGI for vouchers in support of ESB deployment in environmental justice communities through the Connecticut Hydrogen and Electric Automobile Purchase Rebate ("CHEAPR") program. Support for the deployment of ESBs and electric vehicle supply equipment ("EVSE") will enable increased private investment to support the 100% zero emission ESB goals for 2030 (i.e., environmental justice communities) and 2040 (i.e., all communities).

- **Hydrogen** – per Special Act 22-8,[95] and consistent with the definition of "clean energy" under CGS 16-245n, the Green Bank is chair of the task force to study hydrogen power. Recognizing the importance of "green hydrogen" to Connecticut's fuel cell industry, there may be the need for research on the sources, infrastructure, and uses related to hydrogen.

- **Impact Methodologies** – building on the Green Bank's leading impact methodologies for "clean energy," efforts will be undertaken to develop impact methodologies for "environmental infrastructure".

[94] Verified Carbon Standard – VM0038 Methodology for Electric Vehicle Charging Systems (V1.0) – https://verra.org/methodology/vm0038-methodology-for-electric-vehicle-charging-systems-v1-0/

[95] An Act Establishing a Task Force to Study Hydrogen Power – https://www.cga.ct.gov/2022/ACT/SA/PDF/2022SA-00008-R00HB-05200-SA.PDF

The Green Bank's research product development efforts are intended to open-up new market channels for private investment in Connecticut's green economy through studies, pilot projects, and other initiatives that have the potential for expanding the impact of the Green Bank.

11. Budget

11.1 FY 2023 Budget

For the details on the FY 2023 budget– click here.

12. Glossary of Acronyms

ABS	Asset-Backed Security
ACFR	Annual Comprehensive Financial Report
ACG Committee	Audit, Compliance, and Governance Committee
AICPA	American Institute of Certified Public Accountants
APA	Auditors of Public Accounts
ARRA	American Recovery and Reinvestment Act
BEA	Business Energy Advantage
BIL	Bipartisan Infrastructure Law
BOC Committee	Budget, Operations, and Compensation Committee
BOD	Board of Directors
CBI	Climate Bonds Initiative
CCEF	Connecticut Clean Energy Fund
CDFI	Community Development Financial Institution
CEF	Clean Energy Fund
CGA	Connecticut General Assembly
CGS	Connecticut General Statutes
CHEAPR	Connecticut Hydrogen and Electric Automobile Purchase Rebate
CIRCA	Connecticut Institute for Resilience and Climate Adaptation
C-PACE	Commercial Property Assessed Clean Energy
DECD	Department of Economic and Community Development
DEEP	Department of Energy and Environmental Protection
DoAg	Department of Agriculture
DPH	Department of Public Health
DRS	Department of Revenue Services
EDC	Electric Distribution Company
ESB	Electric School Bus
EEB	Energy Efficiency Board
EIF	Environmental Infrastructure Fund
ESS	Energy Storage Solutions
EM&V	Evaluation, Measurement, and Verification
EVSE	Electric Vehicle Supply Equipment
GASB	Governmental Accounting Standards Board
GHG	Greenhouse Gas Emissions
GWSA	Global Warming Solutions Act
HES	Home Energy Solutions
HES-IE	Home Energy Solutions – Income Eligible
IPC	Inclusive Prosperity Capital
IIJA	Infrastructure Investments and Jobs Act
LMI	Low-to-Moderate Income
MPA	Master Purchase Agreement
MTI	Master Trust Indenture
NRCS	Natural Resources Conservation Service
NRES	Non-Residential Renewable Energy Solutions
OPM	Office of Policy and Management

PA	Public Act
PDR	Purchasing Development Rights
PPA	Power Purchase Agreement
PURA	Public Utilities Regulatory Authority
RGGI	Regional Greenhouse Gas Initiative
RPS	Renewable Portfolio Standard
RRES	Residential Renewable Energy Solutions
RSIP	Residential Solar Investment Program
SBEA	Small Business Energy Advantage
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SCRF	Special Capital Reserve Fund
SHREC	Solar Home Renewable Energy Credit
SRF	State Revolving Fund
TPL	Trust for Public Land
URI	Urban Resources Institute
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Energy
USEPA	United States Environmental Protection Agency
V2G	Vehicle to Grid

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CONNECTICUT
GREEN BANK

Memo

To: Connecticut Green Bank Board of Directors

From: Bryan Garcia (President and CEO), Brian Farnen (General Counsel and Chief Legal Officer), and Alex Kovtunenko (Associate General Counsel, Financing Programs)

CC: Bert Hunter (EVP and CIO), Sergio Carrillo (Director of Incentive Programs), and Mackey Dykes (VP of Financing Programs and Officer)

Date: December 16, 2022

Re: Inflation Reduction Act – Dream Big including Navigating the Incentive Maze and Greenhouse Gas Reduction Fund

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On August 16, 2022, President Biden signed the Inflation Reduction Act ("IRA"), creating the largest investment in the history of the United States to confront climate change by enabling public and private investment, including fulfilling a campaign promise focus on environmental justice, just transition, and domestic manufacturing. Within the IRA are a number of tax credit provisions that provide project developers and end-use customers with a myriad of opportunities to stack and receive federal incentives. Helping developers and customers navigate these federal tax credits, alongside the various state incentive programs, represents an extraordinary opportunity that the staff calls the "Incentive Maze".

In addition to the tax credits, the IRA includes the creation of the Greenhouse Gas Reduction Fund ("GHGRF") – a $27 billion allocation through Sec. 134 of the Clean Air Act to simultaneously reduce GHG emissions and air pollution, while increasing investment in and benefits to low income and disadvantaged communities. The deployment mechanism of the GHGRF is modelled after the Connecticut Green Bank ("Green Bank") with a key priority to leverage private capital. It should be noted that on September 13, 2022, several staff members of the Green Bank were invited to the White House for the celebration of the signing of the IRA, and its inclusion of the GHGRF.

This memo provides a short overview of the IRA that the staff of the Green Bank believe is a once in a generation opportunity for the Green Bank to unleash its mission to "confront climate change by increasing and accelerating investment in Connecticut's green economy to create more resilient, heathier, and equitable communities." This is part of our developing efforts to "Dream Big" with a proposal we intend to bring to the Board of Directors for consideration in January of 2023.

Incentive Maze – Tax Credits

The IRA includes tax credits that have the potential to increase investment in and deployment of clean energy, especially in vulnerable communities.[1] If the complexity of these federal tax incentives, when combined together with Connecticut incentives (e.g., Home Energy Solutions, Residential Renewable Energy Solutions, Energy Storage Solutions), can be simplified to help project developers and end-use customers navigate the Incentive Maze, then there is the potential for Connecticut to realize significant benefits as a result of the IRA.

These tax credits come in many forms, including additional requirements and adders to promote the Biden administration's values towards climate change and environmental justice (e.g., support for low income and disadvantaged communities (DACs)), and the ability to transfer value (e.g., investment tax credits).

Additional (Labor) Requirements

Reflecting President Biden's commitment to a just transition, in order to receive maximum tax credit value for certain provisions of the tax code (e.g., Section 48 – Energy Investment Credit), prevailing wage and apprenticeship requirements must be included within projects:

- **Prevailing Wage** – With respect to any qualified facility, a taxpayer must ensure that any laborers and mechanics employed by the taxpayer or any contractor or subcontractor in: (i) the construction of such facility, and (ii) the alteration or repair of such facility (for a 10-year period after the facility is placed in service), are paid wages at rates not less than the prevailing rates for construction, alteration, or repair of a similar character in the locality in which such facility is located as most recently determined by the Secretary of Labor. There are also correction and penalty mechanisms for a taxpayer's failure to satisfy these requirements.

- **Apprenticeships** – With respect to the construction of any qualified facility, not less than 10-15% (depending on when construction began) of the total labor hours of the construction, alteration, or repair work (including such work performed by any contractor or subcontractor) must performed by qualified apprentices, subject to any applicable requirements for apprentice-to-journey worker ratios of the Department of Labor or the CT Department of Labor. Each taxpayer, contractor, or subcontractor who employs four or more individuals to perform construction, alteration, or repair work with respect to the construction of a qualified facility must employ one or more qualified apprentices to perform such work. A taxpayer to satisfy these requirements by a "Good Faith Effort Exception". There are also alternative payments for compliance ($50/h) and increased payment for intentional disregard ($500/h).

In the context of renewable energy generation, these labor requirements are only applicable to projects above 1MWac. In most instances if these labor requirements are not met, then project developers will not receive full value of the tax credit (e.g., 30%), but instead a reduced amount (e.g., 6%) creating an incentive to enable a just transition to the clean energy economy. It should be noted, that per Public Act 21-43 "An Act Concerning a Just Transition to Climate-Protective Energy Production and Community Investment," that the threshold for labor requirements for Class I projects in Connecticut is 2 MW.[2]

On November 30, 2022 IRS published Notice 2022-61 which (1) provides general guidance on the prevailing wage and apprenticeship requirements, (2) establishes the 60-day period described in those

[1] As defined by Public Act 20-05. Within its Comprehensive Plan, a goal of the Green Bank is to direct no less than 40 percent of investment and benefits in vulnerable communities by 2025.

[2] https://www.cga.ct.gov/2021/act/Pa/pdf/2021PA-00043-R00SB-00999-PA.PDF

provisions of the IRA with respect to the applicability of the prevailing wage and apprenticeship requirements, and (3) provides guidance for determining the beginning of construction or installation of projects which is necessary for credit calculation and applicability of requirements.[3]

Adders

Reflecting President Biden's commitment to environmental justice and manufacturing in the United States, there are additional incentives for some project developers and end-use customers, including:

- **Energy Communities** – 10% adders for projects located on: (i) a brownfield site; (ii) a metropolitan or non-metropolitan statistical area which (A) has, or had any time during the period beginning in 2010, 0.17% or more direct employment or 25% or more local tax revenues, in either case related to the extraction, processing, transport, or storage of coal, oil or natural gas, or (B) has an unemployment rate above the national average for the previous year; or, (iii) a census tract, or a census tract that is adjoining to a census tract, in which a coal mine has closed after 1999 or a coal-fired electric generating unit was retired after 2009.

- **Low Income** – 10% adder for a qualifying project (less than 5MWac) in a low-income community (as defined in the IRA) or on Indian land, 20% adder if the project is part of a qualified low-income residential building project (as defined in the IRA) or qualified low-income economic benefit project (as defined in the IRA).

- **Domestic Content** – 10% adders for qualifying facility if (i) 100% of any steel or iron that is a component of the facility was produced in the United States, and (ii) 40% of manufactured products that are components of the facility were produced in the United States. The required percentage of domestic manufactured products for offshore wind facilities is 20%. The required percentage of domestic content included in a facility increases each year.

Project developers and end-use customers that are able to take advantage of both the additional requirements and adders, can stack federal tax credit incentives. For example, a commercial, nonprofit or third-party owned residential solar PV project in the South End of Bridgeport, CT, has the potential to receive a federal tax credit of up to 60% by meeting prevailing wage and apprenticeship requirements (i.e., 30%), being located in an energy community next to a former coal fired power plant (i.e., 10%), and on the roof of a low-income household (i.e., 10-20%) – a significant opportunity to enable federal investment in and deployment of clean energy towards vulnerable communities of Connecticut.

Many provisions of the IRA, such as for labor requirements noted above, require guidance from IRS before they can be implemented, estimated or priced by the various market participants. The adders described in this section are among the most critical sections that require IRS guidance. On October 5, 2022 IRS Treasury/IRS published general request for comments on different aspects of extensions and enhancements of energy tax benefits in the IRA.[4] Green Bank submitted comments to IRS, focusing on elective payment ("direct pay") provisions, the "energy communities" adder definition, and the "low-income" adder definition. Green Bank's submitted comments were shared with the Board together with this memorandum. As of the date of this memorandum, subsequent IRS guidance (other than the labor requirements guidance discussed above) has not been issued.

[3] IRS Notice 2022-61

[4] October 5, 2022 IRS Notices

Tax Credits

There are a number of tax credits within the IRA that provide incentives for project developers and end-use customers for buildings, vehicles, and other types of projects that are relevant to the Comprehensive Plan of the Green Bank, including:

- **Energy Efficient Home Improvement Credit** (25C) – 30% credit for building envelope components and qualified energy property to a residence by the taxpayer, regardless of whether the taxpayer owns the dwelling unit or is the taxpayer's principal residence. Annual limit of $1,200 (and a $600-per-item limit, with exceptions, heat pumps limit is $2,000).

- **Residential Clean Energy Credit** (25D) – 30% credit to homeowners who install eligible technologies (i.e. solar, geothermal, fuel cells, storage) on their own home, whether it is their principal residence or a vacation home. Standalone storage now qualifies.

- **Previously Owned Clean Vehicles** (25E) – Credit for used EVs and fuel cell vehicles, lesser of $4,000 or 30% of the sale price. MAGI limits and other restrictions.

- **Alternative Fuel Vehicle Refueling** (30C) – 30% credit for qualified alternative fuel vehicle refueling property, subject to annual limits, placed in service in low-income census tracts or non-urban locations. Subject to labor requirements.

- **Clean Vehicle Credit** (30D) – $7,500 credit for new EVs and fuel cell vehicles. No per-manufacturer cap, as previously existed. MAGI limits and other restrictions.

- **Renewable Electricity Production Credit** (45) – Production credit for 10 years, for wind solar and other technologies, up to 2.5¢/kWh (plus inflation adjustment, published each year by the IRS, with a base year of 1992) for projects meeting labor requirements.

- **New Energy Efficient Home Credit** (45L) – Credits for a new construction residential subject to Energy Star Residential New Construction Program or the Energy Star Manufactured New Homes program requirements. Limits: Single family: $2,500 or $5,000, Multifamily: $500 or $1,000 per unit.

- **Qualified Commercial Clean Vehicle Credit** (45W) – 30% (limited to $7,500 for vehicles less than 14,000 pounds, and $40,000 for all other vehicles) credit for purchasing new commercial EVs and fuel cell vehicles.

- **Clean Electricity Production Credit** (45Y) – Starts in 2025, a technology-neutral production credit for generating facilities that have a greenhouse gas emissions rate of not greater than zero. Replaces section 45 credit. Credits for up to ten years. Subject to labor requirements.

- **Energy Investment Credit** (48) – 30% for solar, geothermal and wind energy property serving environmental justice populations for business taxpayers for projects beginning construction no later than December 31, 2024. Subject to possible adders. Projects above 1MWac are subject to labor requirements. Stand-alone storage and interconnection costs (below 5MWac) now qualify.

- **Advanced Energy Projects** (48C) – 30% credit, limited to $10 billion of new funding. Credits are competitively awarded by Treasury/DOE to 'qualified advanced energy projects' which (1) re-equip an industrial or manufacturing facility with equipment designed to reduce greenhouse

gas emissions by at least 20% through the installation of certain property; or (2) re-equip, expand, or establish an industrial or manufacturing facility for the processing, refining, or recycling of defined critical materials. Subject to labor requirements.

- **Clean Electricity Investment Credit** (48E) – Starts in 2025, technology neutral credit for generating facilities that have a greenhouse gas emissions rate of not greater than zero. Will replace the Section 48 credit. Subject to possible adders. Projects above 1MWac are subject to labor requirements.

- **Energy Efficient Commercial Buildings Deduction** (179D) – Up to $5 per square foot deduction for commercial buildings that achieve certain energy costs savings. Replaces lifetime cap with a 3 or 4-year lookback period. Now assignable and may be used by nonprofits. Subject to labor requirements.

And there are other tax credits that although not directly relevant to the Comprehensive Plan of the Green Bank, are potentially relevant to the State of Connecticut at large, including:

- **Carbon Capture and Sequestration Credit** (45Q) – tax credit for carbon oxide sequestration, computed per metric ton of qualified carbon oxide captured and sequestered. The amount of the credit, as well as various features of the credit, vary by year.

- **Zero Emission Nuclear Production Credit** (45U) – Production credit for electricity produced at a qualified nuclear power facility and sold by the taxpayer to an unrelated person in taxable years 2023 to 2033.

- **Clean Hydrogen Production Credit** (45V) – Production credit for clean hydrogen produced at qualified facilities for a 10-year period. Credit: $3/kg (subject to wage and labor requirements). The tax credit value is derated to the degree to which emitting resources are used to power the electrolysis used to create eligible clean hydrogen.

- **Advanced Manufacturing Production Credit** (45X) – Production credit for eligible components (e.g., solar, wind, storage, inverter comments and critical minerals), amount varies by component. Subject to labor requirements.

- **Clean Fuel Production Credit** (45Z) – Production credit bases on applicable fuel emissions factor, maximum $1.00/gallon ($1.75/gallon for aviation fuel). Subject to labor requirements.

In addition to the credits set forth above there are additional rebates that are going to be made available under the IRA, including:

- **Residential Efficiency and Electrification Rebates** (Sec. 50121) - DOE will disburse to energy offices (i.e., DEEP) to establish rebates for a variety of home energy upgrades under the Home Owner Managing Energy Savings ("HOMES") rebate program. Rebates for home energy retrofits up to the lesser $8,000 per home or 80% of project cost if the project saves at least 35%. Lesser amounts available if projects save less than 35%. Multi-family rebates are also supported with different rebate amounts. Caps can increase for low- and moderate-income families with approval of the Secretary.

- **High-Efficiency Electric Home Rebate Program** (50122) - DOE will disburse to energy offices (i.e., DEEP) for rebates to low-income single and multi-family homes which meet low-

income eligibility criteria. Limits set by eligible measures and limits rebates to no more than $14,000 per participant for either new construction, replacement of nonelectric appliances, or first-time appliance purchase.

Successfully navigating the tax credits and rebates within the IRA and coordinating these incentives with existing state policy, can bring extraordinary value to Connecticut, and advance and accelerate the mission of the Green Bank. For a "cheat sheet" of these additional requirements, adders, and tax credits – see Attachment A.

These federal incentives, in combination with the various state incentives, represent the Incentive Maze for Connecticut that we need to help project developers and end-use customers more easily and successfully navigate. If the Green Bank and its partners (e.g., DEEP, PURA, utilities, grassroots stakeholders) can simplify the process for project developers and end-use customers to access federal and state incentives, including access to capital to finance such projects, then significant benefits can be achieved for Connecticut, and its efforts to confront climate change, while increasing investment in and benefits to vulnerable communities.

Funding and Financing – Greenhouse Gas Reduction Fund
Within the IRA is a $27 billion appropriation to the Environmental Protection Agency ("EPA") for the GHGRF, which modifies Sec. 134 of the Clean Air Act, including:

- **Zero Emission Technologies** (Sec. 134(a)(1)) – led by Senator Sanders, $7 billion appropriation for zero emission technologies (e.g., residential rooftop solar) for low income and disadvantaged communities; and

- **National Climate Bank** (Sec. 134(a)(2-3)) – led by Congresswoman Dingell, Senator Markey, and Senator Van Hollen, ~$20 billion appropriation for qualified projects, including at least $8 billion for low income and disadvantaged communities.

Each of these sections has a political history with various leaders of Congress, and the involvement of the Green Bank along the way. The Green Bank continues to engage at the federal level, except now with the EPA.

Green Bank History with Sec. 134(a)(1)
In September of 2021, the Congressional negotiation team of Senator Sanders sought information from the Coalition for Green Capital ("CGC") on how green banks put solar PV on residential rooftops. At CGC's request, the Green Bank provided a two-page description called "Residential Solar and Green Banks – Towards an Inclusive, Just, and Resilient Green Economy in Connecticut," which featured an overview of the Residential Solar Investment Program ("RSIP"),[5] including its impacts[6] and effects from its financing programs – see Attachment B.

Subsequently, Senator Sanders led an effort to include $7 billion within the $27 billion GHGRF with the following features:

[5] CGS 16-245ff

[6] $1.4 billion of public and private investment reaching over 45,000 households, deploying nearly 370 MW of residential rooftop solar, creating over 16,000 job-years in our communities, avoiding the emissions of nearly 6 MMTCO2 over the life of the projects, avoiding $180 MM to $400 MM of public healthcare costs as a result of cleaner air, and reaching no less than 40% of investment in vulnerable communities.

- Making grants on a competitive basis to states, municipalities, and tribal governments, and eligible recipients;[7]

- Providing grants, loans, or other forms of financial and technical assistance as the purpose; and

- Focusing on low-income and disadvantaged communities.

Although the EPA is seeking public comment on the sorts of distributed technologies to include as "qualified projects" under the GHGRF, Senator Sanders has made his intentions clear to the EPA that Sec. 134(a)(1) of the GHGRF is to focus exclusively on residential solar PV by holding back his vote for presidential nominees to the EPA.[8] The Green Bank is aware of Senator Sanders public policy intentions because, as we note above, we were requested to provide information to his team over a year ago on Connecticut's RSIP.

Green Bank History with Sec. 134(a)(2-3)

On June 26, 2009, the American Clean Energy and Security Act ("ACES"), led by Congressmen Ed Markey and Henry Waxman, passed the House by a slim margin.[9] Within ACES, was a bipartisan-supported Clean Energy Development Administration ("CEDA") introduced by Congressman Chris Van Hollen within the Committee on Energy and Commerce – a provision that would have created a national climate bank. Although ACES passed the House, it was never voted on in the Senate, and thereby never became law.

The proponent of CEDA, within ACES, was Reed Hundt,[10] CEO of the Coalition for Green Capital ("CGC"), a nonprofit organization whose mission is to halt climate change by accelerating investment in clean energy technologies.[11] The concept of a "green bank" having failed to be supported at the national level through ACES, was introduced at the state level in Connecticut in 2011. In June of 2011, Governor Malloy and DEEP Commissioner Dan Esty, with legal support from CGC,[12] and nearly unanimous bipartisan support from the Connecticut General Assembly, created the nation's first state-level green bank (i.e., Connecticut Green Bank)[13] within Section 99 of Public Act 11-80 (i.e., CGS 16-245n).

The Green Bank would become the national example for smarter government using a limited amount of public funds to mobilize multiples of private investment in clean energy. For its innovation and impact, the Green Bank was awarded the "Innovations in American Government Awards" by the Ash Center of the Kennedy School of Government at Harvard University for "Sparking the Green Bank Movement".[14] Local (e.g., Montgomery County Green Bank, District

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[7] Eligible recipients means a nonprofit organization that is (a) designed to provide capital, including by leveraging private capital, and 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.

[8] "Struggle Over EPA Air Nominee Foreshadows Future Fights" in E&E News (December 2, 2022) – click here

[9] https://ballotpedia.org/American_Clean_Energy_and_Security_Act

[10] Yale University (BA, JD) and former Chairman of the Federal Communication Commission under President Clinton

[11] https://coalitionforgreencapital.com/

[12] Reed Hundt, Ken Berlin, and Alex Kragie

[13] Originally called the Clean Energy Finance and Investment Authority, but subsequently renamed the Connecticut Green Bank

[14] https://ash.harvard.edu/news/connecticut-green-bank-wins-top-prize-harvard%E2%80%99s-innovations-american-government-awards

of Columbia Green Bank), state (e.g., New Jersey, New York, Rhode Island), and national (e.g., New Zealand Green Investment Finance, Rwanda Catalytic Green Investment Bank) governments created green banks as a result of Connecticut's innovation and leadership. Bills were being introduced at the national level again, including by members of the Connecticut Congressional Delegation.[15]

The $20 billion National Climate Bank provision within the GHGRF was supported by Congresswoman Debbie Dingell, Senator Markey, and Senator Van Hollen,[16] and the White House,[17][18] but modified from its original form as the Clean Energy and Sustainability Accelerator ("CESA"), in order to meet the rules of budget reconciliation by the Parliamentarian. And, again, although the EPA is seeking public comment on Section 134(a)(2-3), Congresswoman Dingell, Senator Markey, and Senator Van Hollen have made their intentions clear to the EPA that these sections of the GHGRF are to focus on the creation of a single National Climate Bank – see Attachment C. The Green Bank is aware of their intentions because we have been involved in hearings and reviews of proposed legislation by Congressional leaders over the years.

Green Bank Engagement with EPA

Gina McCarthy – former Climate Advisor to President Biden, former Administrator of the EPA, former Commissioner of Connecticut Department of Environmental Protection, and former member of the Board of Directors of the Green Bank – is a supporter of the green bank model.[19] In support of President Biden's efforts to confront climate change and environmental justice, her team supported the green bank model from the White House by advancing the CESA.[20] And now, her predecessor, EPA Administrator Michael Regan, is responsible for implementing the GHGRF. The Green Bank is now engaged with the EPA to continue to position Connecticut, and its Green Bank, to receive funding through the GHGRF to support the successful achievement of climate change policies in Connecticut. It should be noted that in June 2021, a decade following the creation of the Green Bank, that Governor Lamont and DEEP Commissioner Katie Dykes, with a recommendation from the Governor's Council on Climate Change, and bipartisan support from the Connecticut General Assembly, expanded the scope of the Green Bank to include "environmental infrastructure," including the creation of an "environmental infrastructure fund," set up to receive federal funding through the GHGRF.

The EPA has initiated an extensive public comments process on the GHGRF, which the Green Bank has been actively engaged in, including:

- **National Listening Sessions** – verbal comments delivered on November 9, 2022;[21]

[15] For example, Congressman Jim Himes and Rosa DeLauro and Senators Murphy and Blumenthal sponsored or co-sponsored various bills in the House (i.e., Green Bank Act of 2014 (H.R.4522), Green Bank Act of 2016 (H.R.5802), Green Bank Act of 2017 (H.R.2995), National Green Bank Act of 2019 (H.R.3423), and National Green Bank Act of 2021 (H.R.2656)) and the Senate (i.e., Green Bank Act of 2014 (S.2271), Green Bank Act of 2016 (S.3382), Green Bank Act of 2017 (S.1406), National Green Bank Act of 2019, National Climate Bank Act of 2021 (S.283), and National Green Bank Act of 2021 (S.1208)).

[16] https://debbiedingell.house.gov/uploadedfiles/dingmi_120_xml_final.pdf

[17] https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/01/fact-sheet-president-biden-renews-u-s-leadership-on-world-stage-at-u-n-climate-conference-cop26/

[18] It should be noted that Gina McCarthy, White House National Climate Advisor, served on the Board of Directors of the Connecticut Green Bank. And, Jahi Wise, Special Assistant to the President (and Yale SOM and Law school graduate), is now overseeing the implementation of the GHGRF.

[19] Earth Day Remarks from Gina McCarthy (April 22, 2021) – click here

[20] https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-biden-administration-outlines-key-resources-to-invest-in-coal-and-power-plant-community-economic-revitalization/

[21] https://www.youtube.com/watch?v=ppwMggfbXZg&t=1s

- **Environmental Finance Advisory Board Public Comments** – public comments submitted on December 1, 2022 (comments available upon request); and

- **EPA Public Comments** – public comments submitted on December 5, 2022 – see Attachment D.

The Green Bank staff[22] is working hard to successfully compete for and win federal resources for Connecticut through the GHGRF.

Dream Big

In order to successfully navigate the Incentive Maze of federal tax credits and incentives, and compete for and win additional resources for Connecticut through the GHGRF, the Green Bank team is thinking ahead about a "Dream Big" strategy to build onto the FY23 Comprehensive Plan and Budget. We are exploring the six (6) P's – including Products, Promotion, People, Place, Policy, and Politics – to identify what areas can be enhanced to increase and accelerate investment in clean energy and climate change projects in vulnerable communities to advance our mission. Working through the Budget, Operations, and Compensation Committee, we intend to bring a set of recommendations to the Board of Directors at the January 20, 2023 meeting.

[22] Bryan Garcia (President and CEO), Bert Hunter (EVP and CIO), Eric Shrago (VP of Operations), Sara Harari (Associate Director of Innovation and Senior Advisor to the President and CEO), and Ashley Stewart (Manager of Community Engagement)

ATTACHMENT A
"Cheat Sheet" of Federal Tax Credits Under the IRA
[see attached]

ATTACHMENT B

Residential Solar and Green Bank
Towards an Inclusive, Just, and Resilient Green Economy in Connecticut

BACKGROUND

Through CGS 16-245ff, the Connecticut Green Bank ("Green Bank") was assigned the public policy responsibility of enabling the deployment of 350 MW of residential solar by the end of 2022, while also fostering the sustained orderly development of a local solar industry. As the nation's first green bank, it has implemented the most successful residential solar program in the northeastern U.S. (see Table 1 in Appendix I). In so doing, it has also ensured that vulnerable communities (i.e., low-income families and communities of color), have had easy and affordable access to solar through innovative financing mechanisms[23] that have made Connecticut among the few recognized "solar with justice" states.[24]

IMPACT – SOCIAL AND ENVIRONMENTAL

As of June 30, 2021,[25] the Green Bank's efforts have resulted in the following social and environmental benefits:

- **Investment** – $1.4 billion of total investment, comprising $1.246 billion of private investment and $0.154 billion of public investment, a leverage ratio of 9:1
- **Deployment** – 45,530 projects totaling 368.9 MW of installed capacity, which will produce about 420,000 MWh of zero emission renewable energy per year, or about 1.6% of Connecticut's RPS
- **Jobs** – through the investment in and deployment of residential solar in Connecticut, there has been 16,060 job-years created, including 6,591 direct and 9,499 indirect and induced
- **Climate Change and Public Health**- through the production of zero emission renewable energy, 5.8 MTCO2 are estimated to be avoided over the life of the systems, and as a result of the avoidance of SOx, NOx, and PM, between $180.6-$408.4 MM of public health costs (e.g., hospitalizations, sick days) will be avoided
- **Vulnerable Communities** – with the goal of by 2025, no less than 40% of investment and benefits (e.g., projects, deployment) directed to vulnerable communities,[26] $640.7 MM of investment (i.e., 46%), 22,873 projects (i.e., 50%), and 169.1 of the installed capacity (i.e., 46%) has been achieved for such communities (see Table 2 – Appendix I), resulting in part from innovative financing that eliminates the energy affordability gap[27]

As a result of the successful implementation of public policy on residential solar in Connecticut,[28] including financing programs (see Table 3 – Appendix I), the Green Bank will be administering battery storage incentive and financing programs to improve resilience from the impacts of climate change, especially with vulnerable communities.[29]

TOWARDS AMERICA

In 2020, of the 19.2 GW of solar deployed in America, 3.2 GW (or over 400,000 projects and a $9.1 B market) was residential – the largest year on record despite COVID-19. Double-digit growth is expected, leading to 4.7 GW in 2023 and 7.0 GW by 2030 with 23% of those systems expected to include battery

[23] "Performance of Solar Leasing for Low- and Moderate-Income Customers in Connecticut" by Lawrence Berkeley National Laboratory (May 2021).
[24] "Solar with Justice: Strategies for Powering Up Under-Resourced Communities and Growing an Inclusive Solar Market" by the Clean Energy States Alliance (December 2019).
[25] Comprehensive Annual Financial Report of the Connecticut Green Bank for FY21 (forthcoming)
[26] Per PA 20-05, including Community Reinvestment Act Eligible and Environmental Justice Communities per CGS 22a-20a.
[27] "Connecticut Green Bank Low and Moderate Income Solar Program Savings Analysis" by VEIC (October 2020).
[28] Public Act 21-53 "An Act Concerning Energy Storage" and Docket No. 17-12-03RE03
[29] "Connecticut Powers into the Lead with Breakthrough Customer Battery Program" by the Clean Energy Group (August 2021)

storage. As installed costs for residential solar continue to decline, innovation in consumer finance inspired by green banks,[30] in collaboration with private capital will continue, making residential solar more affordable and accessible to all.

APPENDIX I

Data

Table 1. Comparison of Residential Solar Deployment in the Northeast (2016-2020)[31]

	CT	MA	ME	NH	NJ	NY	RI	VT
Installed Capacity (MW)	311.2	527.7	29.5	63.2	736.0	716.7	53.8	49.5
Cumulative Watts/Capita	87.3	75.9	21.9	46.5	82.9	36.8	50.8	79.3

Table 2. Residential Solar Investment in Vulnerable Communities in Connecticut

Fiscal Year	Not Vulnerable	Vulnerable	Total	% Vulnerable
2012	$7,675,503	$2,226,008	$9,901,511	22%
2013	$27,476,228	$7,949,815	$35,426,043	22%
2014	$51,493,616	$22,622,847	$74,116,463	31%
2015	$137,616,423	$76,361,115	$213,977,538	36%
2016	$117,360,251	$100,049,058	$217,409,309	46%
2017	$53,452,499	$66,338,590	$119,791,089	55%
2018	$66,334,127	$80,613,565	$146,947,692	55%
2019	$93,396,871	$102,485,609	$195,882,480	52%
2020	$105,333,570	$101,566,914	$206,900,484	49%
2021	$99,770,722	$80,491,746	$180,262,468	45%
Total	**$759,909,811**	**$640,705,265**	**$1,400,615,076**	**46%**

Table 3. Connecticut Green Bank Financing Programs to Support Residential Solar

Product	Total Investment ($MM's)	Private Investment ($MM's)	Green Bank Investment ($MM's)	Projects	Installed Capacity (MW)	Energy Costs Avoided[32] ($MM's)
CT Solar Loan[33]	$9.1	$8.6	$0.5	279	2.2	-
CT Solar Lease[34]	$46.3	$36.8	$9.5	1,189	9.6	$3.9
Solar for All[35]	$118.3	$96.9	$21.5	4,292	28.5	$4.0
Total	**$173.7**	**$142.3**	**$31.5**	**5,760**	**40.3**	**$7.9**

[30] "Connecticut's Solar Lease Program Demonstrates High Borrower Fidelity" by Bethany Speers (October 2012)

[31] Solar data from "U.S. Solar Market Insight" (March 2021)

[32] To date, through June 30, 2021

[33] In collaboration with Sungage, a solar loan program that graduated in 2015. Resulted in Sungage receiving a $100 MM pool of capital to originate residential solar loans across the U.S. based on the success in Connecticut.

[34] In collaboration with US Bank, Webster Bank, and KeyBank, a solar lease program that graduated in 2016. The predecessor to the CT Solar Lease was done in 2007-2011 by the Connecticut Clean Energy Fund as the first public-private tax equity-backed residential solar lease program in the U.S. and recognized by CESA with the State Leadership in Clean Energy (SLICE) Award in 2012.

[35] In collaboration with PosiGen, a solar and energy efficiency lease program targeted at LMI families and communities of color

ATTACHMENT C
Letter from Congressional Leaders to Administrator Regan

Congress of the United States
Washington, DC 20515

September 9, 2022

The Honorable Michael Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Regan,

As the lead sponsors of the *National Climate Bank Act* (S. 283) and the *Clean Energy and Sustainability Accelerator Act* (H.R. 806) in the Senate and House of Representatives, we worked to include the Greenhouse Gas Reduction Fund (GHGRF) in the *Inflation Reduction Act* (Pub. L. 117-169) to provide resources to fulfill the mission of our legislation. Therefore, we write to encourage you to rapidly invest maximum funding from the GHGRF to capitalize a national climate bank that will support an equitable transition to a clean-energy economy and fund a nationwide network of state and local climate banks, which will turn the challenge of climate change into an opportunity for prosperity. As the GHGRF intentionally dedicates $8 billion to the "purposes of providing financial assistance and technical assistance in low-income and disadvantaged communities," the swift and successful disbursement of this funding will further the Biden administration's environmental justice goals, which you have been a strong advocate for within the Environmental Protection Agency (EPA). An effective national climate bank program will build generational climate-friendly wealth in communities that have the least access to clean energy capital and are most at risk from environmental harm.

We have long championed the concept of a single, independent, non-profit national climate bank that would maximize the leveraging of private capital investment, ensure the efficient distribution of funds within a growing green bank network, and create opportunities for large scale, transformational investments—particularly in environmental justice communities – and it is critical to the country's ability to reduce emissions of GHGs at the levels called for by the President.. The GHGRF is poised to accomplish that goal as it intentionally includes as an eligible recipient a nonprofit organization that:

> *"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; does not take deposits other than deposits from repayments and other revenue received from financial assistance provided using grant funds under this section; is funded by public or charitable contributions; and invests in or finances projects alone or in conjunction with other investors,"*

The provision also instructs eligible recipients to use grant funding to make direct investments which:

> *"provide financial assistance to qualified projects at the national, regional, state, and local levels; prioritize investment in qualified projects that would otherwise lack access to financing; and retain, manage, recycle, and monetize all repayments and other revenue received from fees, interest, repaid loans, and all other types of*

financial assistance provided using grant funds under this section to ensure continued operability."

Furthermore, the GHGRF requires recipients to make indirect investments to promote climate finance efforts throughout the country by:

> *"provid[ing] funding and technical assistance to establish new or support existing public, quasi-public, not-for-profit, or nonprofit entities that provide financial assistance to qualified projects at the State, local, territorial, or tribal level or in the District of Columbia, including community- and low-income-focused lenders and capital providers."*

A national climate bank is uniquely structured to meet all of the requirements of the GHGRF. It will bring together a comprehensive, diverse, and inclusive network of state and local financing entities in the public and non-profit sectors. We have championed the effectiveness of a standalone national institution that is authorized to capitalize both current and newly formed state and local banks, along with all other entities eligible to receive indirect assistance through our legislation. This approach allows these subnational entities, nonprofits, and lenders to make their own investments tailored to the needs of their communities, with the financial and technical support of the national climate bank. In the aggregate, a national climate bank and its network is expected to produce $10 billion of public-private investment over a decade for every $1 billion in initial capital.[1]

The GHGRF will provide a national climate bank with the funding it needs to immediately begin investing in qualified projects that would otherwise lack access to financing on favorable terms. There are $200 million worth of projects targeting low-and-moderate income communities, nonprofits, public schools, and affordable housing that are shovel-ready, in addition to the $21 billion in clean technology projects that are in the larger pipeline.[2] With so many projects ready to go, it is vital that we establish an organized central entity that is able to fund qualified large-scale projects and coordinate downstream financial entities to implement a system that efficiently reduces emissions and supports disadvantaged communities in those efforts.

As a centralized institution, a national climate bank will reduce costs for financial entities, attract private capital investments, and support a more efficient project-financing pipeline, while also seeding and providing technical support to state and local climate banks, minority depository institutions, community development financial institutions (CDFIs), and other nonprofits. Green banks have already proven successful on the local and state level, and a national bank would support those efforts while providing additional coordination for larger projects at the regional and national level. Green banks have been established or are being considered for development in 37 states and in Washington, DC, and are supported by governors of both parties.[3] A national climate bank will optimize our federal investment and provide a unified national approach to climate mitigation, while supporting state and local banks' abilities to meet their individual needs. A green bank network will be able to rise to the challenge that climate change presents with the leadership and guidance of a national climate bank.

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[1] "Supporting a Clean Energy Recovery: Jobs and Emissions Impacts of a $100 Billion Clean Energy and Sustainability Accelerator" (Vivid Economics Limited, December 18, 2020).

[2] "National Green Bank: Project Ready Day One - Conversations with the American Green Bank Consortium," July 7, 2021, http://coalitionforgreencapital.com/wp-content/uploads/National-Green-Bank-Project-Ready-Day-One.pdf.

[3] Nevada's green bank, the Nevada Clean Energy Fund, was signed into law by Republican Governor Sandoval.

To carry out the requirement that 40 percent of funds within the GHGRF be dedicated in support of environmental justice communities, a national climate bank can use trusted community partners, such as local green banks and CDFIs, to target investments within disadvantaged communities. These partnerships will allow the benefits of clean technologies to reach communities that have been left behind for too long. Moreover, the national climate bank will lower costs for all consumers, including low-to-moderate income households, by deploying tested financial instruments that will reduce energy consumption, costs, and emissions for everyday activities.[4]

Capitalizing a national climate bank will provide long-term, comparatively low-cost solution to reduce our reliance on fossil fuels and greenhouse gas emissions, while decreasing families' energy bills and creating new clean energy jobs. As authors of the legislation upon which the GHGRF is based, we urge you to maximize the impact of these funds through the capitalization of a national climate bank which will have the capacity to make direct investments in qualified projects at the national and regional levels and provide funding and technical assistance to state and local financing entities. We look forward to working together as EPA establishes the implementation procedures for the GHGRF, per the statute and intent of the *Inflation Reduction Act*, and thank you for your efforts on this historic project.

Sincerely,

Chris Van Hollen
United States Senator

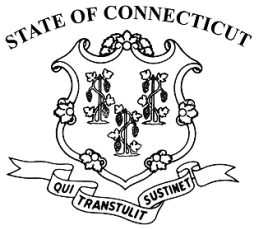
Edward J. Markey
United States Senator

Debbie Dingell
Member of Congress

[4] The Climate Access Fund of Maryland is developing, managing, and financing a community solar array on the rooftop of the Henderson-Hopkins School in Baltimore, MD. This project will be open to 175 low-to-moderate-income households in East Baltimore, and will save each subscriber an estimated $200 annually on electricity.

ATTACHMENT D

Connecticut Green Bank Comments provided to EPA on the GHGRF (December 5, 2022)



Substitute Senate Bill No. 356

Public Act No. 21-48

AN ACT ESTABLISHING AN ENERGY EFFICIENCY RETROFIT GRANT PROGRAM FOR AFFORDABLE HOUSING.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective from passage*) (a) Not later than September 1, 2021, the Department of Energy and Environmental Protection shall, using available federal or other funds, establish an energy efficiency retrofit grant program. The Commissioner of Energy and Environmental Protection may receive funds from the federal government, corporations, associations or individuals to fund the grant program. Such program shall award grants to fund the installation of energy efficient upgrades to (1) affordable housing, as defined in section 8-39a of the general statutes, including, but not limited to, property of a housing authority, as defined in section 8-39 of the general statutes, or (2) other dwelling units owned by a landlord, as defined in section 47a-1 of the general statutes, at the discretion of the commissioner. Such upgrades shall include energy efficiency and weatherization measures and may include, but need not be limited to, the installation of rooftop solar photovoltaic panels, energy storage systems located on the customer's premises, electric vehicle charging infrastructure, heat pumps and balanced ventilation, and the mitigation of health and safety hazards including, but not limited to, gas leaks, mold, vermiculite and asbestos, lead and radon, to the extent such hazards impede the

installation of energy efficiency upgrades and weatherization measures.

(b) The Department of Energy and Environmental Protection shall develop standards for the energy efficiency retrofit grant program. The department may consult with other state agencies, quasi-public agencies and housing authorities, and shall consider the energy performance standards developed pursuant to section 16a-38 of the general statutes, in establishing the standards for the grant program. The department may coordinate with other state agencies, quasi-public agencies and housing authorities to implement the grant program in conjunction with other existing state programs that have the purpose of installing or otherwise assisting state residents to obtain the upgrades set forth in subsection (a) of this section. The department may retain consultants with expertise in energy efficiency retrofit programs or distributed energy programs, or both, for assistance with its development or administration of the grant program.

(c) A grant applicant shall submit an application to the Commissioner of Energy and Environmental Protection on forms prescribed by the commissioner, which shall include, but not be limited to: (1) A description of the proposed project; (2) an explanation of the expected benefits of the project in relation to the purposes of this section; (3) information concerning the financial and technical capacity of the applicant to undertake the proposed project; (4) a project budget; and (5) any other information deemed necessary by the commissioner. The commissioner shall prioritize grants to applicants who (A) use the services of local contractors who pay the prevailing wage and who make good faith efforts to hire, or cause to be hired, available and qualified minority business enterprises, as defined in section 4a-60g of the general statutes, and (B) upgrade affordable housing or dwelling units for households that include an individual who qualifies for utility financial hardship programs or who receives means-tested assistance administered by the state or federal government.

(d) Not later than January 1, 2023, and annually thereafter, the Commissioner of Energy and Environmental Protection shall submit a report, in accordance with the provisions of section 11-4a of the general statutes, to the joint standing committees of the General Assembly having cognizance of matters relating to energy and technology and housing. Such report shall include the standards developed pursuant to subsection (b) of this section, an analysis of the scope of residences able to be served by the grant program and proposed goals for the annual percentage of affordable housing units that can be served by the program.

Sec. 2. Subdivision (2) of subsection (b) of section 16-244z of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(2) On and after January 1, 2022, each electric distribution company shall offer the following options to residential customers for the purchase of products generated from a Class I renewable energy source that is located on a customer's own premises and has a nameplate capacity rating of twenty-five kilowatts or less for a term not to exceed twenty years: (A) A tariff for the purchase of all energy and renewable energy certificates on a cents-per-kilowatt-hour basis; and (B) a tariff for the purchase of any energy produced and not consumed in the period of time established by the authority pursuant to subparagraph (C) of subdivision (1) of this subsection and all renewable energy certificates generated by such facility on a cents-per-kilowatt-hour basis. A residential customer shall select either option authorized pursuant to subparagraph (A) or (B) of this subdivision, consistent with the requirements of this section. Such generation projects shall be sized so as not to exceed the load at the customer's individual electric meter <u>or, in the case of a multifamily dwelling that qualifies under this subsection, the load of the premises,</u> from the electric distribution company providing service to such customer, as determined by such electric

distribution company. For purposes of this section, "residential customer" means a customer of a single-family dwelling, **[**or**]** a multifamily dwelling consisting of two to four units, or a multifamily dwelling consisting of five or more units, provided in the case of a multifamily dwelling consisting of five or more units, (i) not less than sixty per cent of the units of the multifamily dwelling are occupied by persons and families with income that is not more than sixty per cent of the area median income for the municipality in which it is located, as determined by the United States Department of Housing and Urban Development, or (ii) such multifamily dwelling is determined to be affordable housing by the Public Utilities Regulatory Authority in consultation with the Department of Energy and Environmental Protection, Department of Housing, Connecticut Green Bank, Connecticut Housing Finance Authority and United States Department of Housing and Urban Development. In the case of a multifamily dwelling consisting of five or more units, a generation project shall only qualify under this subsection if: (I) Each of the dwelling units receives an appropriate share of the benefits from the generation project, and (II) no greater than an appropriate share of the benefits from the generation project is used to offset common area usage. The Public Utilities Regulatory Authority shall initiate an uncontested proceeding to implement the distribution of the benefits from the generation project pursuant to this section.

Approved June 16, 2021

STATE OF CONNECTICUT

PUBLIC UTILITIES REGULATORY AUTHORITY
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

DOCKET NO. 22-08-02 **ANNUAL RESIDENTIAL RENEWABLE ENERGY SOLUTIONS PROGRAM REVIEW – YEAR 2**

November 2, 2022

By the following Commissioners:

Marissa P. Gillett
John W. Betkoski, III
Michael A. Caron

DECISION

TABLE OF CONTENTS

DECISION

I. INTRODUCTION

A. SUMMARY

In this Decision, the Public Utilities Regulatory Authority (Authority or PURA) approves updates to the Residential Renewable Energy Solutions Program (RRES Program or Program), administered by The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) and The United Illuminating Company (UI; collectively, with Eversource, the electric distribution companies or EDCs). The approved changes are intended to better align the RRES Program with the program objectives. The Decision also sets the RRES Program Tariff rates for project applications received in calendar year 2023.

B. BACKGROUND OF THE PROCEEDING

On February 10, 2021, the Authority issued an Interim Decision in Docket No. 20-07-01, PURA Implementation of Section 3 of Public Act 19-35, Renewable Energy Tariffs and Procurement Plans (Residential Tariff Decision), establishing renewable energy tariffs for residential customers of each EDC effective January 1, 2022, through December 31, 2027, pursuant to § 16-244z subsections (b), (d), (e) and portions of subsection (c) of the General Statutes of Connecticut (Conn. Gen. Stat.). The approved tariff program was subsequently named the RRES Program. As outlined in the Residential Tariff Decision, the Authority will initiate a docket annually to review key RRES Program metrics, including deployed megawatts (MW) and low- and moderate-income customer participation, and to ensure the Program is "on track to at least maintain historical deployment levels and to deliver a carbon free grid by 2040." Residential Tariff Decision, p. 40.

Further, the Authority stated it will use the docket to "set the [RRES Program] Tariff rates, any separate [renewable energy certificate (REC)] payments, and any fully, non-bypassable charges for Program applications received during the following calendar year." Id. The Authority additionally stated it would use the docket to evaluate the key data inputs, in addition to MW deployed, necessary to establish the annual RRES Program Tariff rates. Id. Thus, the above-captioned proceeding was initiated pursuant to the Residential Tariff Decision and in order to ensure the continued successful implementation of the RRES Program.

The Authority conducted the first annual RRES Program review in Docket No. 21-08-02, Annual Residential Renewable Energy Tariff Program Review and Rate Setting, issuing Decisions on October 6, 2021 (Year 1 Decision), January 5, 2022, and June 8, 2022. The Decisions respectively finalized the Program Manual and set the RRES Program Tariff rates for project applications received in calendar year 2022, provided limited modification and clarifications of the RRES Program Manual, and established eligibility and participation guidance for affordable housing in the RRES Program.

C. CONDUCT OF THE PROCEEDING

On June 8, 2022, the Authority issued the Notice of Proceeding in the above captioned proceeding.

On July 22, 2022, the Authority issued a Notice of Request for Written Comments,[1] which included two rounds of comments, and a Notice of Technical Meetings.[2] On August 5, 2022, the Authority also issued interrogatories to the EDCs and the Connecticut Green Bank (CGB). In response to the first round of comments, the Authority received seven (7) sets of comments on August 18, 2022. The EDCs and CGB filed their interrogatory responses between August 18 and 22, 2022. Subsequently, the Authority held a Technical Meeting on August 26, 2022. The purpose of the August 26, 2022 Technical Meeting was to, among other aims, receive presentations from the EDCs on deployment levels and installed cost data from Year 1 of the RRES Program and from stakeholders on proposed programmatic changes for Year 2.

The Authority received an additional ten (10) sets of comments in response to its second round of comments between September 1, 2022, and September 6, 2022. Subsequently, the Authority held a Technical Meeting on September 6, 2022, to further discuss, among other topics: (1) any potential programmatic changes; (2) the written comments due August 18, 2022, and September 1, 2022; and (3) the EDC compliance filings relevant to RRES Program Year 2 received as of September 6, 2022, with specific emphasis on the EDCs' least costs plans to use inverter data in the RRES Program. See, Motion No. 26 Second Motion Ruling, dated March 22, 2022, Docket No. 21-08-02, p. 3.

On September 7, 2022, the Authority issued a Notice of Request for Briefs with specific guidance for the Briefs in the instant proceeding. The Authority received five (5) Briefs on September 21, 2022, in response, with one Brief amended on September 27, 2022.

The Authority issued a Proposed Final Decision on October 12, 2022, and provided an opportunity for Participants to file Written Exceptions and to present Oral Argument.

D. PARTICIPANTS

A listing of all Participants to this proceeding is appended hereto as Appendix A.

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[1] Notice of Request for Written Comments, dated July 22, 2022 in Docket No. 22-08-02 is available at: https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/21f97a8a30e89924852588870053323f/$FILE/22-08-02%20Notice%20of%20Request%20for%20Written%20Comments.pdf.

[2] Notice of Technical Meetings dated July 22, 2022 in Docket No. 22-08-02 is available at: https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/7d3f9984a4ad5d0e852588870056eded/$FILE/22-08-02%20Notice%20of%20Technical%20Meetings.pdf.

II. LEGAL AUTHORITY

The RRES Program was established pursuant to subsections (b), (d), and (e) and portions of subsection (c) of section 3 of the Public Act 19-35, An Act Concerning a Green Economy and Environmental Protection, now codified in Conn. Gen. Stat. § 16-244z. Conn. Gen. Stat. § 16-244z(b)(1) required the Authority to establish tariffs for each EDC to purchase from residential customers Class I renewable energy from projects located on a residential customer's own premises as well as rates for such tariffs. Additionally, Conn. Gen. Stat. §§ 16-244z(b)(1) permits the Authority to modify the tariff rates based on changed circumstances.

As previously stated, the Authority indicated in the Residential Tariff Decision that it will initiate an annual docket to review key RRES Program metrics, including deployed MW and low- and moderate-income customer participation, and to ensure the Program is "on track to at least maintain historical deployment levels and to deliver a carbon free grid by 2040." Residential Tariff Decision, p. 40.

Herein, the Authority reviews the RRES Program design documents and Program Manual, relevant compliance filings, and current tariff rates to determine if and how the RRES Program can and should be modified to better align with the direction provided in the Residential Tariff Decision.

III. PROGRAM OBJECTIVES

In the Residential Tariff Decision, the Authority established the following five (5) objectives to guide the development, implementation, and administration of the RRES Program (Program Objectives).

1. The sustained, orderly development of the state's solar industry, ensuring at a minimum that Connecticut's annual historical deployment of residential solar is maintained (i.e., approximately 50-60 MW per year);
2. Achieve a 100% zero carbon electric grid by 2040, including by promoting additional annual deployment of residential renewable energy as needed;
3. Balance participant costs and benefits with non-participant costs and benefits and electric system costs and benefits;
4. Ensure program accessibility for customers, by providing customer protections both explicitly through resources and disclosure forms, and also through simplified program and tariff designs;
5. Encourage increased inclusivity overall, as well as program participation by low- and moderate-income (LMI) customers and customers in environmental justice communities.

Residential Tariff Decision, p. 7.

Accordingly, the Authority relied on the Program Objectives in evaluating the current RRES Program design and assessing any possible changes to be ordered in this proceeding and Decision. The primary objective of the Authority's review was to better align the RRES Program with the Program Objectives and the direction provided in the Residential Tariff Decision. The secondary goal of the Authority's review was to provide clarity to the EDCs and other stakeholders regarding Program implementation and administration. Relatedly, the Authority reaffirms that the Program Objectives shall guide the Program Administrators in their administration of the RRES Program, particularly in instances (1) not explicitly addressed through the approved RRES Program documents or through Authority direction in prior Decisions or motion rulings and (2) outlined in Section IV.N. where the EDCs are empowered to make administrative changes without PURA approval.

IV. AUTHORITY ANALYSIS

A. PROGRAM OVERVIEW

In the Residential Tariff Decision, the Authority established a statewide, six-year residential solar program to be administered by the EDCs in their respective service territories. Pursuant to Public Act 19-35, the RRES Program was created to ensure the continued growth of the residential renewable energy market upon the conclusion of the prior Residential Solar Investment Program (RSIP) and the sunsetting of net metering on December 31, 2021.

The RRES Program gives residential solar customers the opportunity to sell energy and renewable energy certificates (RECs) for a 20-year term under one of two tariff rate structures: (1) Buy-All; or (2) Netting. Under the Buy-All tariff, the solar project is provided fixed compensation for all energy and RECs produced over the 20-year term. Alternatively, under the Netting tariff, the qualified project is compensated for the energy produced at the retail electric rate at the time of generation and for the RECs at a fixed rate over the 20-year term. Under the Buy-All tariff, compensation can be provided directly to customers in the form of monetary on-bill credits, with the potential for an annual cash out of credits in excess of their utility bill, or to third-party beneficiaries, or some combination thereof. Under the Netting tariff, a customer's energy consumption, and monthly energy bill, is reduced by the energy produced and used on site. Further, under the Netting tariff, for any energy exported to the electric grid by the eligible project and not consumed on site, the EDCs provide customers with monetary on-bill credits. Last, under the Netting tariff, all REC payments are made on a quarterly basis.

As discussed above, the Authority has also established an annual rate setting and program review process, to evaluate whether the Program is achieving the above-listed Program Objectives. The annual rate-setting and program review process may, based on such review, lead to adjustments of program incentives and rules. In support of the annual program review process in future years, the Authority will direct the EDCs to file recommended program rule changes and redlines of the Program Manual annually by August 1, for the duration of the Program.

On June 30, 2022, in Docket No. 21-08-02, Eversource filed in compliance with Order No. 9 of the Year 1 Decision a report summarizing project application and deployment data for the RRES Program, including total projects and capacity broken down by month, tariff type, and incentive adder status, and describing the number of applications rejected for not scheduling a Home Energy Solutions (HES), Home Energy Solutions Income-Eligible (HES-IE), or other energy assessment for the period from January 1, 2022 through June 15, 2022. Similarly, on July 1, 2022, UI filed compliance with Order No. 9 containing the same data points in Docket No. 21-08-02. Subsequently, on September 15, 2022, both EDCs provided updated RRES Program data through August 2022, via compliance in Docket Nos. 21-08-02 and 22-08-03.

Table 1, below, provides a summary of the RRES Program Tariff rates for project applications received in calendar year 2022. Table 2, also below, includes a summary of the key program data for Year 1 (2022) of the RRES Program provided in the September 15, 2022, compliance filings. Assuming that "Approved kW" continues to progress at the average rate per day from January 2022 through August 2022 ([46,067+8,157] kilowatts (kW) / 243 days) of 223.14 kW/day, the RRES Program is on track to approve roughly 81,448 kW or 81.4 MW of residential projects in Year 1. See, Eversource Compliance Filing dated September 15, 2022; UI Compliance Filing dated September 15, 2022.

Table 1: 2022 Residential Tariff Rates

2022 Residential Tariff Rates		
	Buy-All Rate ($/kWh)	Netting Rate ($/kWh)
Eversource	0.2943	0.0318
UI	0.2943	0.0000
Low-Income Adder	0.0250	
Distressed Municipality Adder	0.0125	

See, Interim Decision dated October 6, 2021 in Docket No. 21-08-02 (21-08-02 Interim Decision), p. 13.

Table 2: RRES Program Year 1 Data

Residential Renewable Solar Program: January-August 2022				
	Total Applications	Total Application kW	Approved Applications	Approved kW
Eversource	6,843	55,716	5,796	46,067
UI	1,426	10,112	1,160	8,157

See, Eversource Compliance Filing dated September 15, 2022; UI Compliance Filing dated September 15, 2022.

B. RATE SETTING

In setting tariff rates for future Program years, the Authority is guided by the three rate-setting objectives outlined in the Residential Tariff Decision. First, the Authority seeks to foster the sustained orderly development of the state's solar industry by maintaining the historical solar deployment of 50 – 60 MW per year. Residential Tariff Decision, p. 37. Second, the Authority seeks to deploy residential renewable energy systems through the RRES Program to help achieve a 100% zero carbon grid by 2040. Id. Third, the Authority seeks to balance RRES Program participant costs and benefits with the costs and benefits to non-participating ratepayers and the electric system as a whole. Id. Ultimately, the Authority weighs all three objectives in establishing RRES Program Tariff rates, but errs on the side of setting such rates no higher than necessary to achieve these objectives, including meeting the annual solar deployment goal. Year 1 Decision, p. 5.

When authorizing the Program, the Authority relied on analysis from the CGB to determine the appropriate rate of return needed to meet the rate-setting objectives. Residential Tariff Decision, p. 38. Based on the CGB data and stakeholder testimony, the Authority subsequently determined that the rate of return that was necessary to achieve these objectives was 9 – 11%. Id. Finally, to calculate the ratepayer support necessary to achieve this rate of return, the Authority found the following values necessary to consider: "1) Average upfront installed system cost; 2) The federal Investment Tax Credit (ITC); 3) Ongoing operations and maintenance (O&M) costs; 4) System performance (e.g., capacity factor); 5) Retail electricity rates, including an assumed escalation factor; and 6) The unlevered IRR for each tariff (i.e., the buy-all and netting tariffs)." Year 1 Decision, p. 6.

The Authority carefully considered each of the variables, in addition to program application numbers and trends, to determine whether a change in the current rates was needed for the coming program year. In written comments dated August 18, 2022, Sunrun Inc. (Sunrun) noted that major changes to tariff levels were not necessary for the upcoming program year. Sunrun Written Comments, dated August 18, 2022, p. 1. Sunrun pointed out that operation and installation costs for solar have increased, due to inflation, supply chain issues, high demand, higher interest rates, and a competitive labor market. Id., pp. 2-3. Nevertheless, with the passage of the Inflation Reduction Act (IRA), the ITC for solar projects will now remain at 30% instead of decreasing to 22% in 2023, thereby offsetting some of the project cost increases noted above. Id., p. 4. Finally, with regards to utility rates for the coming year, Sunrun remarked that prices are expected to remain volatile because of natural gas price disruptions and suggested relying on a 3-year supply rate average as a solution to future price uncertainty. Id., pp. 4-6.

Additionally, the Office of Consumer Counsel (OCC), stated in written comments dated August 18, 2022, that recent project cost increases and ITC changes warrant a reevaluation of current tariff rates. OCC Written Comments, dated August 18, 2022, p. 2. The OCC also noted that current trends indicate that RRES is on track to meet its deployment objectives, suggesting that the current tariff rates may be "sufficient to encourage active and significant development of residential solar projects." Id., p. 3. The Department of Energy and Environmental Protection (DEEP) agreed with OCC's final

point in its written comments dated August 18, 2022, specifically remarking that the "significant number of applications" received by the RRES Program may indicate that "the incentive level [is] sufficient to incentivize participants." DEEP Written Comments, dated August 8, 2022, p. 2. Finally, the EDCs, in their August 18, 2022 joint written comments, indicated that, although a number of factors have negatively impacted the solar industry in 2022, the "pace of solar deployment in Connecticut has also been substantially sustained." EDC Written Comments, dated August 18, 2022, p. 2. The EDCs further noted that 32.8 MW of residential solar was installed in Eversource territory in 2022 to date, a figure comparable with the number of MW residential solar installations in 2021, which was 35.9 MW. Id.

The Authority appreciates the stakeholder comments regarding tariff rate setting for Year 2 (2023) of the RRES Program. While project cost data provided by the EDCs exceeds the reflected costs in the original rate-setting model, it is not yet known whether project costs will continue to increase in the coming year. As noted by Sunrun in their written comments on August 18, 2022, certain factors driving project cost increases will occur only in the short term. Sunrun Written Comments, dated August 18, 2022, p. 4. Project cost increases may in fact subside in 2023, considering the recent leveling of solar panel prices, and considering the Federal Reserve's focus on decreasing inflationary impacts in the economy at large. Tr. 08/26/22, p. 110. Additionally, the recent change in the ITC, where the ITC will remain at 30% for residential solar projects, will significantly offset recent price increases, because the planned reduction in the ITC would have significantly decreased the rate of return for residential solar projects. The Authority also concurs with Sunrun's view that energy cost increases will remain volatile and, thus, difficult to predict. However, the Authority is unconvinced that a 3-year supply rate average is the best solution to mitigate such volatility in setting RRES Program Tariff rates at this time, as using such an average as of October 2022 would reflect historical market anomalies that skew towards the assumption of lower supply rates when New England is currently experiencing the opposite, historically high supply rates, which are likely to persist into 2023.

Most importantly, residential solar project MW applications have generally continued to increase each month, sometimes substantially, and, in recent months, compare favorably against last year's numbers in Eversource's territory. Id., p. 5; EDC Correspondence dated August 24, 2022, pp. 10-11. As noted in Section IV.A., the RRES Program is on track to approve roughly 81.4 MW of residential projects in Year 1. Applying the historical success rate of roughly 80% for converting approved projects to completed projects with permission to operate, this equates to roughly 65 MW deployed through Year 1 of the RRES Program. Tr. 08/26/22, pp. 11, 58, and 140.

Ultimately, the Authority concludes that the current tariff rates and rate of return determined in the Residential Tariff Decision are currently in line with the three rate-setting objectives discussed at the onset of this section and appear to be sufficient to incent the appropriate number of applications to meet the RRES Program deployment targets. Further, the Authority concludes that an additional year of the RRES Program and project costs data is likely necessary before considering changes to the Netting and

Buy-All tariff rates due to the substantial uncertainty surrounding the direction of future project and electric supply costs, and the nascency of the Program itself. Moreover, overreliance on recent cost increases has the potential to result in a tariff rate that is needlessly high, which would not be in keeping with the third rate-setting objective.

The Authority will continue to actively monitor application numbers and MW deployed under the RRES Program to ensure the Program remains on track to meet its deployment targets and Program Objectives in future years. Consequently, the Authority hereby orders the EDCs to continue submitting as compliance in the present docket monthly application and deployment numbers, including, tariff type and incentive adder status in addition to the information currently provided on a monthly basis, so that the Authority can monitor the Program's progress toward meeting its objectives. Next year's rate-setting review in Docket No. 23-08-02 will be guided by the Program application and deployment numbers from January 1, 2022, through June 30, 2023, as well as the six values surrounding project costs outlined above and in the Year 1 Decision. The Authority retains discretion to change the methodology used to set future tariff rates as needed to ensure the RRES Program is meeting the Program Objectives, including reevaluating the target rate of return. Year 1 Decision, p. 7.

C. LMI ADDER

1. Incentive Level Increase

In the Residential Tariff Decision, the Authority approved two adders to further the Program Objectives: one for low-income customers and another for customers in Environmental Justice (EJ) communities. Residential Tariff Decision, p. 42. The Authority implemented these adders based on available examples, including the 20-year levelized value of the LMI adder in the RSIP and Solar Massachusetts Renewable Target (SMART) programs. Id. Accordingly, the Authority established an adder of $0.025/kWh for customers with incomes below 60 percent of the state median, called either the low-income customer adder or Income Eligible Adder throughout. Id. Further, the Authority established a separate adder for customers that reside in an economically distressed municipality, as defined by the most recent list developed by the Connecticut Department of Economic and Community Development (DECD), but not eligible for the low-income adder of $0.0125/kWh, called the Economically Distressed Communities Adder throughout.[3] Id. Additionally, in the Residential Tariff Decision, the Authority adopted a benchmark of deploying 40 percent of RRES systems in low-income households and low- to moderate-income households in economically distressed communities based on DEEP's recommendations, and in accordance with the Program Objectives. Id., p. 40.

According to the EDCs' August 26, 2022 Technical Meeting presentation, only 16.8%, or 1.7 MW, of installed residential solar projects to date have qualified for the low-income or distressed community adder, far below the Authority benchmark of 40 percent. EDC Correspondence, dated August 24, 2022, p. 9. While the RRES Program

[3] See, DECD list of distressed municipalities, available at: https://portal.ct.gov/DECD/Content/About_DECD/Research-and-Publications/02_Review_Publications/Distressed-Municipalities.

deployment target of 50-60 MW appears to be on track for Year 1, the current LMI adder and incentive structure warrants careful consideration to ensure Program Objective Five (5) to encourage program participation by LMI customers and customers in EJ communities will be achieved. Id. However, no stakeholder proposed a specific increase to either adder. Moreover, several stakeholders noted that the provision of the federal IRA set to take effect in 2023 will likely aid the RRES Program in meeting its 40% benchmark in future years. See, e.g., Sunrun Written Comments, dated August 18, 2022, p. 12. While the Authority agrees that maintaining the current adder levels may well be prudent given the addition of IRA benefits in 2023, the Authority notes that the low-income and EJ adders were overwhelmingly allocated under the Netting tariff, as 99.9% of the MW installed in LMI communities took service under this tariff. EDC Correspondence, dated August, 24, 2022, p.14. As discussed in the Residential Tariff Decision, the direct payment option for the Buy-All tariff potentially eliminates a key barrier to adoption in LMI and EJ communities, as project developer compensation is no longer tied to the credit worthiness of the customer. Residential Tariff Decision, pp. 14-15. Consequently, to ensure that the RRES Program provides benefits to vulnerable and low-income communities, and in congruence with principles of environmental justice, the Authority authorizes an upward adjustment to the low-income and EJ adders for customers taking service under the Buy-All tariff to $0.03 per kilowatt-hour (kWh) and $0.0175 per kWh, respectively.

Table 3, below, provides a summary of the approved Year 2 (2023) RRES Program Tariff rates**.**

Table 3: 2023 Residential Tariff Rates

2023 Residential Tariff Rates		
	Buy-All Rate ($/kWh)	Netting REC Rate ($/kWh)
Eversource	0.2943	0.0318
UI	0.2943	0.0000
Low-Income Adder	0.030	0.025
Distressed Municipality Adder	0.0175	0.0125

The Authority will carefully monitor the deployment of RRES-eligible projects amongst low-income customers and EJ communities over the ensuing period between annual RRES Program review docket decisions, and will seek stakeholder input and support for additional modifications to the above adders should deployment in these demographics continue to lag. The Authority may also add educational and outreach requirements in LMI communities if insufficient deployment continues to persist as timely and accurate information from trusted sources can often, understandably, be a barrier to deployment in LMI communities. CGB and others have shown the value of such concerted efforts in these communities in the past through outreach efforts known as “solarize campaigns”.

2. Automatic Enrollment

As noted by UI in Docket No. 21-08-02, RRES Program participants rarely select the Income Eligible Adder in their applications, thereby diminishing the adders’

effectiveness. UI Compliance, Application Report in Docket No. 21-08-02, dated July 1, 2022, p. 2. UI further stated that they have been automatically enrolling customers that meet the criteria for the Economically Distressed Communities Adder and intended to start cross checking customers against UI databases and automatically enrolling those applicants that are eligible for the Income Eligible Adder. Id. Eversource stated that reviewers are automatically alerted if an applicant's address makes them eligible for the Economically Distressed Communities Adder, and that in addition to being able to submit one of the acceptable forms to receive the Income Eligible Adder, Eversource staff checks for customer eligibility using HES-IE and eligible payment assistance program data. Eversource Response to Interrogatory CAE-009, p. 1.

The EDCs subsequently submitted a redlined Program Manual with proposed updates, including language outlining the circumstances under which the adders will be automatically applied by the EDCs for eligible RRES applicants. Motion No. 5, Exhibit A1, dated August 30, 2022, pp. 11-12. Specifically, the redlines state that "if the EDCs confirm that the Customer of Record is enrolled in a utility hardship program and/or has participated in Home Energy Solutions Income Eligible, the Income Eligible Adder will be automatically applied to the project. Projects located in Economically Distressed Municipalities will have the adder automatically added. In the event that a customer is Income Eligible and also located in an Economically Distressed Municipality, the higher of the two adders will be applied." Id.

To increase participation of LMI communities in the RRES Program, and to decrease application barriers, the Authority approves the Program Manual redlines pertaining to the automatic enrollment of LMI adders for eligible customers. The Authority further directs the EDCs to utilize and to explicitly incorporate into the Program Manual the use of low-income discount rate enrollment data, once it exists, to identify and enroll customers onto the RRES Program low-income adder (i.e., Income Eligible Adder).[4] Further, the Authority clarifies that the Income Eligible and Economically Distressed Municipality adders shall be applied to the Tariff Payment Beneficiary immediately once the EDC confirms the applicant's eligibility for the adder(s), and once the existing application requirements described in the Program Manual are fulfilled.

In written exceptions, UI stated:

> "for the purposes of applying the Income Eligible and Environmental Justice Adders, while adders can be automatically added to the project, UI cannot actually pay out adders until the applicable financial documents have been provided by the designated Tariff Payment Beneficiary. UI will take reasonable steps to collect the financial documents required to provide the Tariff Payment Beneficiary its adder. If such documents are not received UI will move forward with paying only the on-bill component of the Netting incentive until such time that required financial documents have been received."
>
> EDC Written Exceptions, dated October 21, 2022, p. 2.

[4] See, Proposed Final Decision dated September 14, 2022, in Docket No. 17-12-03RE11, PURA Investigation into Distribution System Planning of the Electric Distribution Companies – New Rate Designs and Rates Review.

The Authority notes that the purpose of automatic enrollment for the Income Eligible and Economically Distressed Municipality adders is to increase Program participation for Connecticut residents in vulnerable communities, to the benefit of the first, fourth, and fifth Program Objectives, to promote the sustained, orderly development of the state's solar industry, ensure program accessibility, and to encourage increased inclusivity overall. Thus, requiring additional financial documentation generally undermines the purpose of automatic enrollment by minimizing the barriers to customers that are reduced through automatic enrollment, and thus may discourage applicant participation. However, the Authority understands that some additional information may be required to provide customers with these adders off-bill. Regardless, the application burden for vulnerable customers would be further reduced if the adder application process was streamlined and if the number of documents required for payment of the adders was reduced. Accordingly, the Authority directs the EDCs in Section IV.N.1 of this Decision below to take additional steps to evaluate opportunities to reduce or eliminate the information and forms required in the RRES Program application, specifically the information and forms required to receive the Income Eligible and Economically Distressed Municipality adder payments.

D. MULTI-FAMILY AFFORDABLE HOUSING

On June 8, 2022, the Authority issued a final Decision in Docket No. 21-08-02 (Affordable Housing Decision), which, among other topics, discussed multi-family affordable housing participation in the RRES Program. Moreover, the Affordable Housing Decision included several orders to be filed by August 1, 2022. Specifically, Order Nos. 1 and 2 of the Affordable Housing Decision read:

> 1. The EDCs, in coordination with the Agencies, shall work with [United States Department of Housing and Urban Development (HUD)] to ensure that participation in the RRES Program, and specifically the receipt of on-bill credits, does not impact tenant eligibility for other assistance programs. No later than August 1, 2022, the EDCs shall provide an update on their conversations with HUD and the likelihood that the applicable California ruling(s) will be applied to Connecticut.
>
> 2. No later than August 1, 2022, the Working Group shall, in accordance with the direction outlined in this Decision, submit for Authority review and approval the following:
>
> > a. A recommendation as to whether to expand the proposed eligibility in Tier I to include NOAHs and its findings as to whether designating NOAHs to receive benefits under the RRES Program will affect eligibility for other programs.
> > b. A proposal for a tenant-controlled bank account as an alternative to annual checks for those affordable multi-family homes without individually metered units. The proposal should include, but is not limited to, recommendations on how the fund would be controlled, use cases (e.g., specific energy efficiency upgrades) or limitations for how the funds could be spent, a methodology for tenants to approve expenditures, and a methodology to ensure that funds are placed in the account and used

> appropriately, as well as written comments on the benefits and drawbacks of the approach.
> c. A framework for passing the project benefit for affordable multi-family homes to the property owners via an on-bill credit or direct payment, where property owners then pass on a percentage of the benefit to tenants via rent payment credits, along with written comments on the potential benefits and drawbacks of such a framework, including impacts to tenants' income, and mechanisms to ensure benefits distributed to property owners are dispersed to tenants as required by [the Program Manual].
> d. A proposed methodology for determining the appropriate allowance for oversizing systems for multi-family buildings (e.g., receiving a PE certified diagram and signed affidavit).
> e. A recommendation on the percentage of the total financial benefit that should be provided to tenants, and any additional proposed incentive payment frameworks (e.g., PPAs, roof leases) to stakeholders to ensure projects are financially viable.
> f. Proposed alternatives to direct payments for master-metered properties, to reduce the barrier to participation of requiring tenants, who are not electric account holders, and do not have a direct relationship with the EDCs, to have to register in the EDC's systems and potentially provide sensitive information in order to receive payment.
>
> Affordable Housing Decision, pp. 15-16.

On July 28, 2022, DEEP filed a motion for extension of time with respect to Order No. 2 of the Affordable Housing Decision, and the Authority granted extensions for Order Nos. 2(a) and 2(d) until August 22, 2022, and 2(b), 2(c), 2(e), and 2(f) to June 1, 2023. Motion No. 33 Ruling, Docket No. 21-08-02, dated August 1, 2022, p. 2.

On August 1, 2022, the EDCs filed compliance with Order No. 1 of the Affordable Housing Decision, stating that the EDCs had engaged HUD on several occasions and that DEEP had taken the lead in discussing a potential memo exempting on-bill credits from affecting other HUD program benefits in the RRES Program. EDC Compliance, dated August 1, 2022, pp. 1-2. The EDCs further state that HUD indicated support for the increased participation of HUD subsidized properties and residents in the RRES Program and is interested in continuing to collaborate with the EDCs and DEEP, CGB, the Connecticut Department of Housing (DOH), and the Connecticut Finance Authority (CFA; collectively, the Agencies) on allowances to exempt on-bill credits from income for the RRES Program. Id., p. 2. The EDCs also note that on July 27, 2022, the White House announced that HUD has issued new national guidance regarding the treatment of community solar credits and the exclusion of such credits from household income and utility allowance calculations. Id. Lastly, the EDCs note that, while optimistic that Connecticut's programs will qualify for an exemption, they requested additional time to review this new guidance with the Agencies and HUD and to provide an additional update to the Authority. Id. The Authority subsequently issued correspondence requesting that the update from the EDCs be filed no later than October 3, 2022. PURA Correspondence, Docket No. 21-08-02, dated August 11, 2022, p. 2.

On August 22, 2022, DEEP filed compliance with Order Nos. 2(a) and 2(d) from the Year 1 Decision with the Authority in Docket No. 21-08-02 on behalf of the Working

Group established pursuant to the Affordable Housing Decision, recommending to designate HUD qualified census tracts (QCTs) (IRS Code, 42(d)(5)(C)) as naturally-occurring affordable housing (NOAH), and to approve multi-family housing included in QCTs within a five-year lookback period. Docket No. 21-08-02, Working Group Compliance, dated August 22, 2022, p. 1. The compliance filing further recommended that owners of NOAH located in QCTs qualify for the RRES Program by self-certifying that their rents are affordable for households living at or below 80% of area median income, which has been used to define Tier I affordable housing eligibility. The inclusion of NOAHs in the RRES Program was supported by stakeholders, including Sunrun, NECEC, and the OCC, who agreed with the recommendation that QCTs be designated as NOAH and agreed that the HUD QCT criteria is the most suitable model for the NOAH designation. OCC Written Comments, dated September 1, 2022, pp. 1-2; NECEC Written Comments, dated September 1, 2022, pp. 1-2; Sunrun Written Comments, dated September 1, 2022, p. 1.

In the DEEP compliance, dated August 22, 2022, the Working Group also proposed a methodology for determining the appropriate allowance for oversizing multi-family buildings, consistent with the allowances for oversizing single-family residences in the RRES Program, allowing applicants to use standard oversizing assumptions based on the planned measures, or detailing the specific future electrification measures and the additional anticipated load in kWh in excess of the building's historical annual electric usage. Docket No. 21-08-02, Working Group Compliance, dated August 22, 2022, pp. 3-4. OCC offered support for using an oversizing allowance for multi-family affordable homes that is consistent with the established allowances for single family residences. OCC Written Comments, dated September 1, 2022, p. 2. Additionally, on September 30, 2022, the Working Group filed a recommendation for Order No. 2(e) from the Affordable Housing Decision on the percentage of the total financial benefit that should be provided to tenants, proposing at least 20% of the total RRES tariff should be provided to tenants. Docket No. 21-08-02, DEEP Compliance, dated September 30, 2022, p. 1. The Working Group noted that on average, nearly 60% of the tariff value was needed to cover expenses of the system including insurance, financing cost, and operations and maintenance, and that the Working Group believes splitting the remaining 40% equally, 20% to the tenants and 20% to the owner, is the most equitable solution while still maintaining an appropriate incentive for project deployment. Id. The Working Group further notes that they assumed a 30% Investment Tax Credit (ITC) in their analysis, but that the recently passed Inflation Reduction Act contains additional benefits for projects that serve low-income customers, and that the Working Group will update their recommendation accordingly if it believes the minimum benefits can be increased once guidance from the federal government is available. Id., pp. 2-3.

The Authority thanks the Working Group for their efforts in providing thoughtful recommendations on the aforementioned topics. The Authority approves the recommendations provided in the compliance submitted by DEEP, on behalf of the Working Group, dated August 22, 2022, with regards to Order Nos. 2(a) and 2(d) from the Affordable Housing Decision, and directs the EDCs to update the Program Manual and any other relevant resources, as appropriate. The Authority specifically directs the EDCs to incorporate the QCT self-certification process as part of Tier II established in the Affordable Housing Decision as it is the responsibility of the EDCs to screen Tier II eligibility. The EDCs will subsequently be responsible for confirming receipt of the self-certification from NOAHs. Further, the Authority approves the Working Group

recommendation with regards to Order No. 2(e) from the Affordable Housing Decision to require at least 20% of the total financial benefit to be directed to tenants in multi-family affordable homes, and respectfully requests that the Working Group provide an updated recommendation on the percentage of the total financial benefit to be provided to tenants by August 1, 2023. Additionally, the Authority clarifies that the benefit directed to tenants should be divided evenly amongst such tenants. Accordingly, the Authority directs the EDCs to begin allowing multi-family affordable housing with individual metering in the RRES Program beginning January 1, 2023, and notes that it may revisit the minimum percentage allocated to tenants in the next annual review docket, Docket No. 23-08-02.

The Authority is wary of approving direct payments for master metered multi-family affordable housing absent the Working Groups' remaining filings, as such payments may impact tenants' eligibility for other assistance programs. Accordingly, the EDCs shall not allow master metered multi-family affordable housing to participate in the RRES Program at this time. However, pending the expected filings from the Working Group in response to Order Nos. 1, 2(b), 2(c), and 2(f), the Authority intends to further explore this issue through the Year 3 Annual Review Docket, Docket No. 23-08-02, and the Authority intends to allow master-metered multi-family affordable homes to participate in the RRES Program no later than January 1, 2024.

1. Affordable Housing Appendix

On August 30, 2022, in Docket No. 21-08-02, the EDCs jointly filed Motion No. 37 requesting the Authority's approval of an appendix to the RRES Program Manual regarding multi-family affordable housing eligibility, benefit distribution, and other implementation details, pursuant to Order No. 7 of the Affordable Housing Decision. Moreover, on August 30, 2022, in Docket No. 22-08-02, the EDCs jointly filed in Motion No. 5 redline edits to the RRES Program Manual for Authority review and approval, in accordance with Order No. 4 of the Affordable Housing Decision, which states that the EDCs must submit and file for the Authority's review any edits to the Program's rules, guidelines, resources, and requirements to reflect new Program information and Authority orders and/or rulings.

In its September 1, 2022 Written Comments, Sunrun notes that the affordable housing appendix includes a section on qualification for both the low-income (or Income Qualified) and Economically Distressed Municipalities Adders and asserts that all Tier I, II, and III facilities should be eligible for the Income Qualified Adder. Sunrun Written Comments, dated September 1, 2022, p. 2. Sunrun further notes that NOAH facilities are not included and opines that if the omission is unintentional, the appendix would declare all RRES multi-family dwellings (e.g., Tier I, II, III and NOAHs) eligible for the Income Qualified Adder, making the appendix information on the Economically Distressed Municipality Adder extraneous.[5] Id.

The Authority is inclined to believe the intention of the Working Group is to grant NOAH eligibility for the Income Qualified Adder. Further, while the definition used for determining single family eligibility for the low-income adder is not wholly consistent with the affordable

[5] Omitting NOAHs would make all RRES multi-family dwellings eligible for the low-income adder because Section II.E. of Appendix H states that ""All Tier I, II, and III multi-family affordable housing facilities shall qualify for the income-eligible adder in the RRES program." Motion No. 37, dated August 30, 2022, p. 4, in Docket No. 21-08-02.

housing definitions, each affordable housing Tier and NOAH will include an eligibility assessment based on income. As such, the Authority finds that it is appropriate to allow all affordable housing to be eligible for the Income Qualified Adder under the RRES Program. The EDCs shall update the Program Manual, specifically Appendix H, and any other relevant sections, to clarify that NOAHs will be captured in Tier II of RRES eligibility, as noted above, and, therefore, are eligible for the Income Qualified Adder. Moreover, Section II.F., Distressed Communities Adder Qualification, should be removed from the affordable housing appendix. Accordingly, Motion No. 37 in Docket No. 21-08-02 is granted with modification.

E. BUY-ALL PLUS STORAGE CONFIGURATION

In compliance with Order No. 8 of the Year 1 Decision, the EDCs submitted wiring diagrams for solar systems that include a co-located battery storage system to take service under the Buy-All tariff. However, under the initial configuration provided, the battery storage system could not provide back-up power to the customer in the event of an outage. Docket No. 21-08-02, Motion No. 23, Attachments 1 and 2, dated December 30, 2021, p. 6; EDC Responses to Interrogatory CAE-006, dated August 19, 2022, p. 2. Subsequently, the Authority issued Order No. 3 in the Affordable Housing Decision, directing the EDCs to work with the solar industry to file proposed solutions for systems with energy storage to both provide back-up capabilities and share benefits with multi-family residential customers. Affordable Housing Decision, p. 16.

In response to Order No. 3, the EDCs worked with Sunrun and the Connecticut Solar and Storage Association, Inc. (ConnSSA) and filed wiring diagrams that would enable a co-located battery storage system to be directly charged by a solar photovoltaic (PV) system taking service under the Buy-All tariff. Docket No. 21-08-02, Motion No. 36, Attachments 2 and 3, dated August 15, 2022, p. 1. The same configuration was presented by Sunrun in its September 6, 2022 Technical Meeting presentation as a viable option for use under the Buy-All tariff. Sunrun Correspondence, September 1, 2022, p. 5. Further, in written comments dated September 1, 2022, Sunrun agreed that the currently allowed storage configurations under the Buy-All tariff are not feasible for most residential customers. Sunrun Written Comments, dated September 1, 2022, p. 5. Tesla also noted that the currently allowed storage configuration is not ideal and that the limited optionality provided under the RRES Program has led Tesla to decline business projects in Connecticut. Tesla Written Comments, dated September 1, 2022, p. 2. Accordingly, Tesla proposed wiring diagrams to solve this issue. Id., pp. 9-12. Lastly, in written comments dated September 1, 2022, the Northeast Clean Energy Council (NECEC) concurred with the concerns of Tesla and Sunrun regarding the currently allowed storage configurations under the Buy-All tariff, suggesting that the omission of DC-coupled storage systems from Buy-All tariff eligibility will affect the "openness and sustainability of the RRES Program" due to reductions in program accessibility and utility. NECEC Written Comments, dated September 1, 2022, p. 2. Additionally, NECEC pointed out that because new additions must fall under the Buy-All tariff, existing customers are unable to move forward with storage projects. Id.

The Authority recognizes stakeholders' concerns and understands the importance of including viable storage configurations for customers participating in the RRES Program under the Buy-All tariff. First, the Authority notes, that while the wiring diagrams filed by the EDCs in response to Order No. 3 in the Affordable Housing Decision were

designed for multi-family residential applications, the EDCs have stated their willingness to consider a similar system configuration for RRES customers not specifically at multi-family affordable housing properties. EDC Response to Interrogatory CAE-006, dated August 19, 2022, p. 2. Consequently, the Authority's below approval of Motion No. 36 in Docket 21-08-02 is intended to allow, subject to the relevant necessary discussions and safety review, the solar plus storage system design for use by all RRES customers, not exclusively at multi-family affordable homes.

Second, while the Authority appreciates the proactive wiring diagram proposals provided by Tesla, such proposals require significantly more information and vetting with the EDCs before PURA can determine if they are in line with Program Objective Three (3) to appropriately balance costs and benefits. At the September 6, 2022 Technical Meeting, Eversource, in responding to Tesla's proposals, remarked that the implementation costs and timeline would be "substantial." Technical Meeting Tr. 09/06/22, p. 100. When asked about the specific costs of implementing one portion of the proposed solution in Massachusetts, Eversource stated that the cost was over $1 million and took 12 months. Id., p. 101.

The Authority nevertheless seeks additional solutions to this issue to ensure the continued success of the RRES Program, especially as the use of DC-coupled storage increases in popularity. Consequently, the Authority directs the EDCs to propose at least one DC-coupled solar plus storage wiring diagram under the Buy-All tariff by May 1, 2023, in Docket No. 23-08-02, which shall include an estimated timeline and cost for implementation. The Authority also directs the EDCs to have at least two meetings with relevant stakeholders to develop an appropriate solution to this important issue prior to its submission in Docket No. 23-08-02.

Additionally, taking into consideration the EDCs' recommendation to complete an additional safety review and discussions with municipal inspectors prior to finalizing the wiring diagrams submitted as Attachments 2 and 3 in Motion No. 36 to enable a co-located battery storage system to be directly charged by a solar PV system taking service under the Buy-All tariff, the Authority directs the EDCs to complete the necessary discussions and safety review, and to file the finalized wiring diagrams with the Authority by December 15, 2022. If the wiring diagrams submitted are unchanged from Attachments 2 and 3 in Motion No. 36, the finalized diagrams shall be considered approved and may be filed as compliance so long as they take into account the above direction regarding the use of the multi-family solution for all RRES customers as appropriate. Conversely, if adapted following a safety review, the new diagrams must be filed for Authority review and approval. Subject to the aforementioned direction, Docket No. 21-08-02 Motion No. 36 is granted with modification.

Further, on August 30, 2022, the EDCs filed meter wiring diagrams in Motion No. 6 in the instant docket, noting that the Motion was pending PURA approval of Motion No. 36 in Docket No. 21-08-02, as the approved wiring diagrams from Motion No. 36 would be incorporated into each EDC's respective set of metering diagrams. Motion No. 6, dated August 30, 2022, p. 2. Contingent upon the EDCs implementing the updates to the meter wiring diagrams as directed above and as finalized after the necessary discussions and safety reviews are completed, Motion No. 6 is granted with modification. Further, the

Authority requests that the EDCs file the updated meter wiring diagrams, consistent with the above direction, by December 15, 2022.

1. Additional Storage Configurations

Additionally, in written comments dated September 1, 2022, Tesla noted that for both AC- and DC-coupled systems, there is no guidance in the wiring diagrams for customers seeking to expand upon existing solar with additional solar plus storage. Tesla Written Comments, dated September 1, 2022, p. 2. Further, Tesla noted that the requirement to use the Buy-All tariff to expand upon existing solar systems results in the exclusion of DC-coupled systems, which are only feasible under the Netting tariff. Id. In written exceptions filed October 21, 2022, in response to the Draft Decision, Tesla expanded on this point by recommending that PURA direct the EDCs "to create two [wiring diagrams] for scenarios in which customers are seeking to add solar with [storage] to an existing solar system: one for adding an AC-coupled system and one for adding a DC-coupled system." Tesla Written Exceptions, dated October 21, 2022, p. 4. Tesla further suggested that the diagram designs should be required to allow the solar plus storage system expansions to be capable of providing backup power to a home during a grid outage, and noted that in written comments Tesla proposed amended metering design guidelines that would allow for some backup during storms for AC- and DC-coupled system expansions. Id.; Tesla Written Comments, dated September 1, 2022, pp. 9-12.

Tesla also stated in written comments that as constructed, the allowable Buy-All configuration limits the ability of solar systems to provide customers backup power during grid outages. Tesla Written Comments, dated September 1, 2022, pp. 2-3. Tesla expanded on this comment in written exceptions, noting that while the Docket No. 21-08-02, Motion No. 36 wiring diagram for an AC-coupled configuration under the Buy-All tariff is capable of using solar as backup during an outage, the configuration "has several problems that would cause significant headaches for Tesla and other residential installers." Tesla Written Exceptions, dated October 21, 2022, p. 5. Tesla further stated that project managers reviewed the aforementioned design and claimed that Tesla is unable to use it in a single-family setting. Tesla Written Exceptions, dated October 21, 2022, p. 5.

2. Authority Conclusion on Storage Configurations

Based on stakeholder input, as well as in furtherance of the first, second, and fourth Program Objectives, to promote the sustained, orderly development of the state's solar industry, to achieve a 100% zero carbon grid by 2040, and to encourage increased inclusivity overall, he Authority directs the EDCs to develop the following wiring diagrams in conjunction with solar industry representatives that allow solar projects to provide backup power during grid outages: (1) A DC-coupled configuration for RRES systems added to existing solar systems taking service under the Buy-All tariff; (2) AC-coupled configuration for RRES systems added to existing solar systems taking service under the Buy-All tariff; and (3) AC-coupled configuration for solar systems taking service under the Buy-All tariff, specifically for single-family systems, if materially different from wiring diagram #2. These configurations should be developed in concert with the DC-coupled solution discussed above in Section IV.E. of this Decision and through the same stakeholder meetings. Thus, in summary, the Authority directs the EDCs to develop four

new solar plus storage wiring diagrams by May 1, 2023, in Docket No. 23-08-02, which shall include an estimated timeline and cost for implementation for each. The Authority also directs the EDCs to have at least two meetings with relevant stakeholders to develop appropriate solutions to this important issue prior to its submission in Docket No. 23-08-02.

Lastly, the Authority notes that it has directed the EDCs to consult with the solar industry to develop various wiring diagrams, or pathways to system financial viability, on several occasions to date with the end goal of helping ensure the success of the RRES Program. Residential Tariff Decision, pp. 34,46; Year 1 Decision, pp. 23-24, 28; Affordable Housing Decision, pp. 10-12, 16. The Authority is concerned that some system configurations available are not feasible for most residential customers and that solar developers are turning down projects due to restrictions in the approved wiring diagrams, resulting in a substantial hindrance to the achievement of Program Objectives, specifically the first, second, and fourth objectives. Accordingly, the Authority expects the EDCs to work diligently and collaboratively with industry stakeholders to develop, at minimum, the additional system wiring diagrams outlined herein to better meet the Program Objectives. The EDCs' recent collaboration with the industry on the meter socket issues gives the Authority confidence that practical solutions will be presented for the Authority's consideration in next year's annual program review docket.

F. METER SOCKET REPLACEMENT REQUIREMENT

On February 16, 2022, ConnSSA filed a motion (Motion No. 26) with the Authority in Docket No. 21-08-02. Specifically, Motion No. 26 requested that the Authority, in light of a shortage of meter sockets, require the EDCs to take immediate action to ensure sufficient RRES Program deployment in 2022. The Authority held a Technical Meeting on Motion No. 26 on March 14, 2022. On March 22, 2022, the Authority issued a ruling on Motion No. 26 directing the EDCs to take a series of actions to provide relief in light of the national meter socket shortage. Subsequently, on May 16, 2022, in response to direction from the Authority, the EDCs jointly filed a response to Motion No. 26 and a new motion, Motion No. 29 in Docket No. 21-08-02 (Motion No. 29), providing a solution including new metering guidelines that permit initial installation of eligible systems enrolled in the Netting tariff without a production meter socket and temporary, one-time acceptance of inverter data. EDC Response to Motion No. 26, Docket No. 21-08-02, dated May 16, 2022, p. 2; Motion No. 29, Docket No. 21-08-02, dated May 16, 2022, p. 2.

The Authority subsequently granted with modification Motion No. 29. Motion No. 29 Ruling, dated May 27, 2022, p. 5. Specifically, the Authority approved the EDCs' proposed plan to temporarily allow the operation of systems enrolled under the Netting tariff without installation of a meter socket or through the installation of an approved non-bypass meter socket. Id., p. 2. However, the Authority acknowledged that, according to the EDCs' explicit statement, non-bypass meter sockets have a higher expected failure rate and would be more likely to impact the customer experience and create safety risks over the long-term duration of the RRES Program than bypass meter sockets. Id., p. 3. Accordingly, the Authority directed the EDCs to develop an affidavit that installers must sign and submit when installing a non-bypass socket, agreeing to replace the meter

socket within five (5) years of the project being energized, to ensure the safety and reliability of installed projects under the RRES Program. Id., p. 5.

Motion No. 31 was subsequently filed in Docket No. 21-08-02 by Sunrun, ConnSSA, Sunnova, PosiGen, EcoSmart Home Services, SunPower, and Trinity Solar (together, the Joint Solar Parties) requesting that the Authority reconsider the ruling to Motion No. 29 in Docket No. 21-08-02 and remove the 5-year non-bypass meter socket replacement requirement, citing administrative burden.

On June 29, 2022, the Authority issued a ruling on Motion No. 31 in Docket 21-08-02, denying the request that the Authority rescind the requirement that solar installers sign an affidavit attesting that any non-bypass meter sockets will be replaced within five (5) years of a project being energized. Motion No. 31 Ruling, Docket No. 21-08-02, dated June 29, 2022, p. 1. However, the Authority reserved the right to discuss with stakeholders both the potential long-term administrative burdens identified in the present motion, along with the potential long-term safety risks of non-bypass meter sockets, and to potentially alter the affidavit requirement as seen fit based on input from stakeholders at that time. Id., p. 2.

Subsequently, Sunrun stated, in written comments dated September 1, 2022, that project installers would continue to have difficulty in securing bypass meter sockets as the demand for this product continues to outstrip the supply due to supply chain disruptions. Sunrun Written Comments, dated September 1, 2022, p. 11. Additionally, Sunrun contended that since the non-bypass meter sockets are only being used for solar production, and since the socket includes an AC disconnect, the non-bypass meter socket risks and benefits under the RRES Program, as outlined by the EDCs, are minimized. Id., p. 12. The EDCs agreed with Sunrun that for the Netting tariff system design, safety concerns are mitigated due to the utility disconnect, which can be used to safely de-energize non-bypass meter sockets. UI Response to Interrogatory CAE-001, dated August 18, 2022, p. 1; Eversource Response to Interrogatory CAE-001, dated August 19, 2022, p. 1. Eversource further stated that in the event of a socket failure, customers would not be left without electricity. Id., p. 2. Additionally, NECEC, in written comments dated September 1, 2022, noted that the requirement to replace non-bypass meter sockets within five (5) years would cause power disruptions to residential customers during lever replacement and was not recommended by the EDCs. NECEC Written Comments, dated September 1, 2022, p. 2. NECEC further wrote that unneeded costs are created by the requirement without equal benefits to RRES Program projects. Id., p. 2-3. Finally, as noted by the EDCs in their Response to Interrogatory CAE-001, there is no available data to suggest that non-bypass sockets have a higher failure rate than bypass sockets. UI Response to Interrogatory CAE-001, dated August 18, 2022, p. 1; Eversource Response to Interrogatory CAE-001, dated August 19, 2022, p. 2.

In light of the above stated arguments raised by stakeholders, the Authority directs the EDCs to remove the non-bypass meter replacement requirement from the Program Manual. The Authority concurs that removing the requirement best serves the Program Objectives at this time, including Program Objective Three (3), which requires the

appropriate and thoughtful balancing of costs and benefits when weighing program requirements. Residential Tariff Decision, p. 7. Due to the administrative costs and limited benefits of the replacement requirement, and the stakeholder comments asserting the high level of safety using non-bypass meter sockets in the Netting tariff system configuration, the Authority determines that the replacement requirement is unwarranted in light of this new information. Non-bypass sockets should instead be replaced as needed, rather than proactively.[6]

Lastly, the Authority commends the work of the EDCs in coordinating with the solar industry to develop solutions to the meter socket supply shortage after the Technical Meeting held on March 14, 2022. The Authority notes that the predicted impact to the RRES Program appears to have been nullified, as RRES Program applications and deployment have significantly increased since Motion No. 26 was filed.

Nonetheless, the Authority addresses below some of the events, comments, and process related to Motion No. 29 dated May 27, 2022, as they as informative for similar instances in the future and how the Authority plans to address them. Specifically, the Authority exercised its discretion to hold a technical meeting and undertake previously uncontemplated actions – and thus, by definition, provided extraordinary relief – in response to what it understood to be a potentially program-ending supply shortage, as was evidenced by, among other factors, the seventeen (17) comments received in response to Motion No. 26. Subsequently, the Joint Solar Parties took issue with a perceived lack of process and record evidence in their request to reconsider the Authority's ruling to Motion No. 29 dated May 27, 2022, via Motion No. 31. The Authority takes seriously such allegations, yet finds that the Joint Solar Parties' position lacks merit on several fronts: (1) no such concern was raised for other unsupported statements in Motion No. 29 that argue in favor of the proposed solution; (2) stakeholders were provided the standard process of one week to respond to the motion; and (3) the motion approval process was the only option available to timely rule on the motion as additional process would likely have added a month or more, in direct contradiction to the stated urgency of the issue. Furthermore, while the Joint Solar Parties asserted that the Authority's ruling on Motion No. 29 would "…immediately halt all Netting Tariff projects with non-bypass sockets for potentially the next month while the forms and processes are developed by the July 15 deadline," no such event came to pass. Motion No. 31, p. 1. Specifically, despite denying Motion No. 31 (i.e., upholding the ruling to Motion No. 29), RRES Program applications remained relatively constant across June, July, and August. Eversource Compliance Filing, dated September 15, 2022; UI Compliance Filing, dated September 15, 2022.

The Authority raises these issues to highlight for all stakeholders that PURA cannot both react with urgency, and thus rule on motion rulings in the shortest possible timeframe (i.e., within two weeks of filing), *and* conduct an extensive process (e.g., hold technical meetings, accept briefs, etc.) before issuing such determination. Moreover, substantial evidence cannot be applied to only one side of a recommendation or ruling and is a bar

[6] As such, any affidavits executed in connection with the Authority's Motion Ruling No. 29 shall be null and void.

to which stakeholders on both sides of an issue must be held. Perhaps most importantly, concerns or reactions that are later demonstrated to be overstated will contribute to the likelihood of the Authority taking up (or not taking up) other RRES Program matters identified as urgent in the future, due in part, to the fact that the Authority has available to it the same limited technical staff to work on all clean energy and affordability-related matters, as well as all advanced ratemaking and other grid modernization efforts. As such, the Authority will apply the standard set forth in Section IV.N when reviewing all future proposed changes to the RRES Program.

G. PROOF OF LOAD REQUIREMENT

On May 27, 2022, the Authority issued a third ruling to Motion No. 26 in Docket No. 21-08-02 approving the EDCs' ability to waive the proof of load requirements for all systems less than 9 kW with less than 12 months of electricity usage data until the end of December 31, 2022 (Ruling No. 3). The purpose of the interim change was to reduce the barriers to RRES project deployment for customers with less than 12 months of historical usage data. See, Docket No. 21-08-02, EDC Response to Motion No. 26, dated May 16, 2022, pp. 2-3; See also, Docket No. 21-08-02, Motion No. 29, dated May 16, 2022, pp. 2-3. In Ruling No. 3, the Authority determined that the barrier posed by the requirement for the systems specified would hinder the RRES Program's ability to meet its objectives, particularly Program Objectives One (1) and Four (4). Ruling No. 3, p. 6. Further, the Authority agreed in the ruling that systems sized 9 kW (AC) or smaller were likely to be appropriately sized. Id.

During the August 26, 2022 Technical Meeting, the EDCs proposed maintaining the mid-year program revision, as issued in Ruling No. 3, for Year 2 of the Program. EDC Correspondence, dated August 24, 2022, p. 19. However, the EDCs also note in their proposal that for customers with 6-12 months of usage history for systems under 9 kW, the average monthly usage would be multiplied by 12 when calculating load requirements for future program years. EDC Written Comments, dated August 18, 2022, p. 7. The EDCs further note that the proof of load requirement would be waived for those customers with less than 6 months of usage history, which runs contrary to Ruling No. 3 in which the proof of load requirement was waived for systems under 9 kW with under 12 months of usage data. Id.; Ruling No. 3, p. 6. In written comments dated August 18, 2022, Sunrun supported making the change to the proof of load requirements permanent. Sunrun stated that the changes provide needed flexibility and allowed for program use at newer homes. Sunrun Written Comments, dated August 18, 2022, pp. 7-8. Moreover, in its written comments dated August 18, 2022, ConnSSA expressed support for keeping the proof of load requirements the same for future program years. ConnSSA Written Comments, Excel Workbook, dated August 18, 2022, Proof of Load Requirements. Lastly, NECEC argued in favor of making the requirement permanent, for reasons similar to Sunrun's. NECEC Written Comments, dated August 18, 2022, p. 1.

The Authority recognizes the stakeholder support for implementing the mid-year program updates for 2022 from Ruling 3 for Year 3, and potentially beyond. The Authority concurs that making this interim provision permanent provides benefits in support of the Program Objectives. The Authority therefore directs the EDCs to implement the

guidelines for proof of load requirements from Ruling No. 3 as the permanent requirements for the RRES Program beginning January 1, 2023. The Authority notes the redlined Program Manual submitted by the EDCs in Motion No. 5, specifically the relevant language in Section IV.G., reflects the guidelines from Ruling No. 3, and as such the Authority approves of the language in the manual related to proof of load for new construction with less than 12 months of usage data. Motion No. 5, Exhibit A1, dated August 30, 2022, p. 20.

H. HES REQUIREMENT

The Residential Tariff Decision directed the Program administrators to require a HES audit "before a renewable energy system is energized and begins taking service under the Residential Tariffs." Residential Tariff Decision, p. 23, n. 31. The Year 1 Decision updated the requirement from necessitating a completed HES audit prior to RRES system energization to only requiring a scheduled HES audit before system energization. Year 1 Decision, p. 18. RRES eligibility, consequently, requires that the Customer of Record schedule a HES or a HES-IE assessment prior to program enrollment. Additionally, for customers that have already had a HES or HES-IE assessment, the assessment must have been completed after 2011 to meet this requirement. Program Manual, EDC Compliance, Attachment 1B, dated January 28, 2022, pp. 14-15.

On June 3, 2022, UI submitted correspondence in Docket No. 21-08-02 alerting the Authority to Home Energy Solution (HES) audit budget constraints, which has implications for the ability of RRES Program participants to meet the HES requirement as outlined in the Program Manual. UI Correspondence, Docket 21-08-02, dated June 3, 2022, pp. 1-2. UI also stated that the budget constraints outlined will affect HES programs in their territory for the rest of the year. Id.

Subsequently, numerous stakeholders raised concerns or objections to the HES requirement of the RRES Program in the instant proceeding. In written comments dated August 18, 2022, NECEC pointed to the lack of funding and resources for HES, in addition to customer resistance to energy audits. NECEC Written Comments, dated August 18, 2022, p. 2. Moreover, in their written comments dated August 18, 2022, ConnSSA noted that "EDC budgets, audit company staffing, and homeowner malaise in scheduling audits has created a significant roadblock" in meeting the HES requirement. ConnSSA Written Comments, dated August 18, 2022, p. 3. Sunrun also expressed concern with the HES requirement, arguing in their written comments submitted on August 18, 2022, that "customer resistance, limited energy efficiency contractor funding and resources, and scheduling challenges" hindered the requirement's effectiveness. Sunrun Written Comments, dated August 18, 2022, p. 9. Alternatively, The Energy Store, a stakeholder in the HES industry, noted the importance of keeping the requirement in place, noting that HES contractors have invested heavily in their relationship with the solar industry, and the dissolution of such relationship would "severely cripple [The Energy Store], and many others like it." The Energy Store Correspondence, dated September 14, 2022, p. 1. Moreover, smaller HES contractors could go out of business if the requirement was removed. Id. HES contractors have subsequently proposed working with the solar industry to make the requirement less burdensome. Id.

The EDCs proposed via written comments and redlines to the Program Manual that proof of completion of a Department of Energy Home Energy Score (DOE Score) performed at the residence be accepted in place of scheduling a HES audit if the residence is not eligible for efficiency measures to be installed due to the age of the home or they were not able to move forward with a HES or HES-IE assessment due to the existence of a health and safety barrier. Motion No. 5, Exhibit A1, dated August 30, 2022, p. 16; EDC Written Comments, dated August 18, 2022, pp. 8-9. Further, the EDCs propose to accept proof of a Weatherization Assistance Program (WAP) assessment that was performed at the residence within 15 years of the Application. Id., p. 9.

To increase the number of options available to customers when completing the HES requirement, DEEP has suggested including the Energize CT Virtual Pre-Assessment as a second pathway to meeting the HES requirement. DEEP Written Comments, dated August 18, 2022, pp. 4-5. As noted by DEEP, customers completing the Energize CT Virtual Pre-Assessment still interact with a technician, albeit over the phone or internet, to receive a specific energy report for their residence, in a manner which takes less time and resources to complete than the original HES requirement. Id. While the Energize CT Virtual Pre-Assessment provides valuable information to customers, this assessment does not provide the direct-install benefits of the original HES requirement. Id. Additionally, in a separate docket correspondence it was proposed that homes built between 1979 and 1999 be allowed to choose between a full HES/HES-IE audit or a virtual HES/HES-IE audit. HE-Energy Solutions LLC Correspondence, dated September 15, 2022, p. 2. Similarly, in its Brief dated September 27, 2022, DEEP recommended that homes constructed on or after January 1, 1980, be exempt from the HES audit requirement.

The Authority appreciates the concerns of the stakeholders, while also acknowledging that the benefits of the HES requirement are substantial. Increased energy efficiency through a HES assessment, as already noted, provides financial benefits to customers in the form of increased savings on their annual energy bills, which pays dividends for those customers year-over-year. Increased global energy prices will also magnify the effect of energy savings created by the assessment. Furthermore, increased energy efficiency will help reduce greenhouse gas emissions, thereby helping the state meet its clean energy goals in addition to serving Program Objective Two (2). As can be understood from the information provided in correspondence from The Energy Store, the HES requirement also supports the maintenance of the energy efficiency industry at large. Energy Store Correspondence, dated September 14, 2022, pp. 1-2.

Based on stakeholder input, and recognizing both the benefits to customers of HES and HES-IE audits and the alleged barriers that requiring such audits can pose to the timely deployment of projects under the RRES Program, the Authority approves: (1) the EDCs' proposal to allow for the submission of proof of completion of a DOE Score or a WAP assessment in the instances identified above in lieu of a HES or HES-IE audit; and (2) the modification to the HES audit requirement proposed by DEEP that limits the requirement to homes constructed before January 1, 1980. The Authority finds that the above modifications to the HES requirement are supported by record evidence and will best support the coordination between existing state and federal clean energy and energy efficiency programs, while enabling the homes most in need of energy efficiency and weatherization measures to receive them.

I. HARDSHIP ELIGIBILITY

In its written exceptions to the Proposed Interim Decision dated December 22, 2021, in Docket No. 21-08-02, ConnSSA stated that the EDCs' policy for the New Start, Matching Payment Program, and other income-qualified EDC financial hardship programs causes customers to become ineligible for those programs if they install a solar project at the customer site. Docket No. 21-08-02, Final Decision, p. 13; SolarConn Written Exceptions, dated December 24, 2021, p. 1.

Through the Notice dated January 13, 2022, the Authority subsequently sought additional comment on the topics raised by ConnSSA in their written exceptions prior to issuing a Final Decision in Docket No. 21-08-02. In response to that request for comment, UI stated that "verified low-income customers that install solar can participate in UI's Winter Protection Program and Matching Payment Plan ("MaPP") program and, when eligible, UI's Forgiveness Matching Payment Program ("MPP")." Docket No. 21-08-02, Final Decision, p. 13; UI Written Comments, dated February 18, 2022, p. 4. Like UI, Eversource remarked that its customers can participate in both RRES and MPP simultaneously. Docket No. 21-08-02, Final Decision, p. 13; Eversource Written Comments, dated February 18, 2022, p. 2. However, Eversource indicated its Customer Information System does not allow financial hardship customers to concurrently participate in New Start (the analogous program to UI's MaPP program, now known as UI's Bill Forgiveness Plan, or BFP) and any solar rate, including RRES. Id. Eversource noted that New Start customers who install solar will need to continue to make their current monthly New Start payment to receive arrearage forgiveness. Such customers may also need to make a secondary payment to a third-party solar owner; and the sum of these two payments may overburden the customer. Id. Notably, as stated above, UI can enroll customers in BFP simultaneously with RRES, as they calculate monthly payments for the BFP program differently than Eversource does for the New Start program. Docket No. 21-08-02 Final Decision, p. 13; Technical Meeting Tr. 03/07/22, pp. 19-21.

In the Affordable Housing Decision, on the topic of hardship program eligibility, the Authority agreed with the sentiments expressed by ConnSSA that installing a solar project should not render customers ineligible for such programs, including the EDCs' MPP, Eversource's New Start Program, and UI's BFP. The Authority further noted that

simultaneous participation in hardship and solar programs should make financial sense to the customer. The Authority expressed a preference for a standardization of customer payment calculation practices across the EDCs. Affordable Housing Decision, p. 13. In this Decision, the Authority reiterates its support for these views. To support the Program Objectives, including Objectives Four (4) and Five (5), the Authority seeks to ensure customer protection and inclusivity, so that RRES participation does not negatively impact participants' enrollment in valuable hardship programs.

The specific issue of ensuring eligibility for Eversource customers in both the RRES and New Start Programs is addressed more directly in the final Decision in Docket No. 22-05-01, 2022 Energy Affordability Annual Review. In the meantime, however, the Authority directs Eversource to add a disclaimer on their RRES Program and hardship program webpages stating that existing New Start Program participants are unable to reduce their payments by enrolling in the RRES Program. Moreover, moving forward, the Authority requires Eversource and UI to provide such disclaimer(s) on the appropriate clean energy and hardship program webpages for any instances where hardship program enrollment is jeopardized or negatively impacted by enrollment in solar programs, or vice versa. The disclaimer(s) shall also provide an explanation to customers as to its meaning and why it applies to them. Finally, the Authority will require all such disclaimer(s), including the required New Start disclaimer, to be filed with the Authority as compliance in the appropriate annual RRES Program review docket and provide links to the online locations where the disclaimer(s) is/are located.

J. INVERTER DATA PLAN

On February 16, 2022, ConnSSA filed Motion No. 26 with the Authority in Docket No. 21-08-02. Specifically, Motion No. 26 requested that the Authority, in light of a shortage of meter sockets, require the EDCs to utilize production data from inverters with revenue grade metering capability to verify the production of solar facilities under the RRES Program. Motion No. 26, p. 1.

In response to Motion No. 26, the Authority stated that it would hold a Technical Meeting on March 14, 2022, on the issues raised in Motion No. 26 and issue a subsequent ruling. Motion Ruling No. 26 dated March 1, 2022. The March 14, 2022 Technical Meeting included presentations from ConnSSA, in conjunction with various stakeholders from the solar industry, as well as Eversource, UI, and CGB.

On March 22, 2022, the Authority issued a second Motion Ruling to Motion No. 26 in Docket No. 21-08-02 (Ruling No. 2), concluding that fully integrating data from inverters with revenue grade metering capability at that time would not provide the immediate relief sought by ConnSSA. Ruling No. 2, p. 3. However, the Authority stated an interest in using inverter data in the future, and directed the EDCs to file a least cost plan for leveraging the distributed energy resource management systems (DERMS) and other systems from the Energy Storage Solutions and Non-Residential Renewable Energy Solutions Programs, as well as any planned or proposed systems in the EDCs' Advanced Metering Infrastructure (AMI) plan, to utilize inverter data in the RRES Program. Id. The Authority directed the EDCs to file this least cost plan in the instant proceeding. Id.

On August 18, 2022, the EDCs filed its plan to incorporate inverter data into the RRES Program as compliance with the Authority. The plan limits inverter data use to systems enrolled under the Netting tariff and for New England Power Pool Generation Information System reporting purposes (i.e., inverter data was not proposed to be used for EDC billing systems or incentive calculations). EDC Compliance, dated August 18, 2022, p. 1. Further, the EDCs note that the AMI plan filed in Docket No. 17-12-03RE02, PURA Investigation into Distribution System Planning of the Electric Distribution Companies – Advanced Metering Infrastructure, will be implemented over several years and the solutions identified to meet the RRES Program needs are much more limited, and that integrating inverter data into the existing AMI systems would not be cost effective. Id., p. 6. However, Eversource notes that it expects that the utilization of inverter data will grow following deployment of AMI implementation plans. Id.

The Authority declines to approve the EDCs' inverter data plan at this time, due to its limited functionality and the Authority's planned future work in other dockets, including Docket No. 17-12-03RE02. While the Authority agrees with DEEP's written comments, dated September 1, 2022, that using inverter data will be essential to achieving Connecticut's clean energy goals, the Authority also concurs with DEEP that it would be beneficial to see the EDCs focus more on integrating inverter data with its AMI plans. DEEP Written Comments, dated September 1, 2022, pp. 2-3. Like DEEP, the Authority has not concluded whether the inverter data plan presented by the EDCs is worth the cost of implementation, considering more comprehensive future approaches may sink any investments made at this time. Id., p. 3. Further, Sunrun states that while there is a viable pathway for using inverter data in the RRES Program, doing so may necessitate changes to tariff review and interconnection. Sunrun Written Comments, dated September 1, 2022, p. 6. Consequently, the Authority does not approve the implementation of the EDC plan to incorporate inverter data to the RRES Program, but expects the EDCs to proactively work to find opportunities to leverage inverter data with any future AMI investments in order to maximize the value of ratepayers' investments in such infrastructure.

K. PROPOSED APPLICATION FEES

Currently, the Application Fee for the RRES Program is $129, while the Tariff Payment Beneficiary Change Fee is $22 as approved in the rulings on Motion Nos. 20 and 21 in Docket No. 21-08-02. Docket No. 21-08-02, Motion Nos. 20 and 21 Ruling, dated December 8, 2021, p. 3. Order No. 5 of the Residential Tariff Decision directed the EDCs to annually file "a proposal for a Residential Tariff [P]rogram application fee to cover the estimated administrative costs associated with processing applications," including "detailed calculations and written descriptions to explain and to justify the proposed application fee" and proposed administrative fees "for any change orders or re-designation changes subsequent to the initial project interconnection" (Order No. 5). Residential Tariff Decision, p. 44.

Pursuant to Order No. 5, Eversource filed administrative cost estimates for the RRES Program in Motion No. 4 on August 30, 2022. Eversource collected a "total of $628,101 in fees from over 4,800 applications through June 30, 2022 [and] incurred $645,686 in program operation costs over the same period". Motion No. 4, Attachment 1, p. 1. Consequently, Eversource argued for preserving the current Program fees, because it believes that the current fee structure significantly offsets Program costs without hindering Program participation. Id. Furthermore, in Motion No. 8, filed on August 31, 2022, UI filed their administrative cost estimates for RRES. UI estimated it collected "$124,872 in fees from approximately 986 applications through June 30, 2022 [and] incurred $171,158 in program operation costs over the same period." Motion No. 8, Exhibit 1, p. 1. UI stated that the application fee agrees with its calculation methodology used in its previous Order No. 5 compliance filing. UI also supported maintaining the current fee structure because they believe that the fees offset most of the program administration costs without posing a barrier to RRES participation. Id.

The Authority finds that the current Program fee structure offsets a large majority of the costs associated with RRES Program administration. Additionally, Program applications remain strong and are continuing to increase, supporting the claim that the current fee structure is not preventing new applications from being filed. Maintaining the current fees will subsequently prevent customer confusion and reduce stakeholder uncertainty. The Authority is also unaware of any stakeholder opposition to the present Program fees. As a result, the Authority approves maintaining the current Program fees, specifically, the Application Fee and the Tariff Payment Beneficiary Change Fee, and hereby grants Motion Nos. 4 and 8. The Authority will continue to monitor application numbers and program costs, and reserves the right to change the fee structure as needed in future years to best suit RRES objectives.

L. PROJECT CANCELLATION PERIOD

In written comments dated August 18, 2022, the EDCs state that the current program requirement to allow projects to await corrections or remain in "On-Hold" or "Contingent Approval" status indefinitely may lead to an increasing volume of duplicative or stale projects. EDC Written Comments, dated August 18, 2022, pp. 11-12. The EDCs further propose working through the Interconnection Subgroup process and suggest that the updated Program Manual should align with the Statewide Interconnection Guidelines, which state that if a customer does not provide the required documentation within (15) business days of the EDC's request, the EDC may deem the project as withdrawn. Id.

The Authority acknowledges it may be helpful to reduce the backlog of stale or duplicative projects from a program administration standpoint. However, the Authority believes implementing a change such as the fifteen (15) business day cancellation process requires additional stakeholder discussion. Accordingly, the Authority directs the EDCs to work with the Policy Working Group (PWG) established through Docket No. 17-12-03RE06, PURA Investigation into Distribution System Planning of the Electric Distribution Companies –Interconnection Standards and Practices, to propose a cancellation period (e.g., 15 business days), after which projects can be cancelled if they have not progressed. Further, the proposal should include a working definition of projects that have not progressed. The proposal shall be filed on or before July 1, 2023, for

Authority review and approval in the next RRES annual review docket, Docket No. 23-08-02, at which time it will be taken up by PURA in full.

M. ACCEPTABLE ENERGY MODELS

In written comments dated August 18, 2022, ConnSSA noted that the EDCs currently allow Home Energy Rating System (HERS) energy rating models, and request that the model be listed as allowable in the Program Manual.

The Authority agrees that if the list of models the EDCs have deemed acceptable has grown that it would be beneficial to all stakeholders if the Program Manual is updated to reflect that information. Accordingly, the Authority directs the EDCs to update the Program Manual, specifically Section IV.G., to add a list of models that have been deemed acceptable through the petition process as described in the Program Manual. Motion No. 5, Exhibit A2, dated August 30, 2022, pp. 20-21. The EDCs shall update the list of acceptable models no less than annually when submitting its proposed redline edits to the Program Manual in the annual program review docket (e.g., Docket No. 23-08-02).

N. ADMINISTRATIVE & OTHER CHANGES BETWEEN ANNUAL REVIEW DOCKETS

As noted above, the Authority has established an annual review process to consider changes to the RRES Program and the Program Manual to better align program outcomes with the Program Objectives. This process is purposefully designed to allow for a comprehensive review of the RRES Program and to enable fair, transparent, and inclusive stakeholder engagement. Thus, the Authority is generally averse to addressing substantive programmatic changes outside of the annual review process. However, the Authority recognizes that, in *limited* circumstances, adjustments may be necessary between annual review dockets.

Such adjustments do not always require the Authority's approval. Indeed, some administrative changes can be made by the EDCs without prior approval. Pursuant to Conn. Gen. Stat. § 16-244z and the Residential Tariff Decision, the EDCs are tasked with offering residential solar tariffs and administering the RRES Program in accordance with the Program Objectives. Residential Tariff Decision, p. 7. Accordingly, the Authority identifies below which types of administrative changes may be made by the EDCs without prior approval from PURA and which changes require PURA approval. All changes that do not require prior PURA approval must be clearly documented, explained, and justified, including addressing the four (4) bulleted points below, in a compliance filing submitted at least ten (10) business days prior to such changes taking effect in the relevant RRES Program review docket (e.g., any changes related to Year 2 of the RRES Program shall be disclosed in this proceeding, Docket No. 22-08-02). Justification must include a clear articulation of how each Program Objective may or may not be impacted and how the requested change would serve to further the Program Objectives overall.

RRES Program changes require prior PURA approval if:

- The identified change necessitates a modification to the Program Manual and/or a reversal of previous PURA guidance issued through a motion ruling or Decision;
- The identified change implicates customer, solar system, or grid safety or electric service reliability or quality;

- The identified change likely negatively impacts one or more of the Program Objectives; or
- The EDCs cannot reach consensus with solar industry representatives.

All other RRES Program changes do not require PURA approval.

Changes that require Authority approval shall be filed as a motion for review and approval in the relevant RRES Program review docket with clear documentation, explanation, and justification. Justification must include a clear articulation of how each Program Objective may or may not be impacted and how the requested change would serve to further the Program Objectives overall. As noted above and discussed in Section IV.F., the Authority will only entertain motions to modify the RRES Program outside of the annual review process on a *limited* basis, where a clear need to do so is demonstrated by substantial evidence. Stated another way, the Authority may entertain such motions where compelling facts and detailed analysis are presented, but will not be compelled by form letters or assertions of harm absent a detailed accounting of and factual basis for such claims. As such, the burden to demonstrate not only (1) the need for change to the RRES Program outside of the annual review process, but also (2) the reasonableness of and justification for the requested change (i.e., the solution presented can be practically implemented and serves to further the Program Objectives) shall lie with the movant. In instances where insufficient evidence or analysis is submitted, the motion will be denied without prejudice, with the issue available to be re-opened for discussion in the following annual review docket (e.g., Docket No. 23-08-02). Unless otherwise stated, a Technical Meeting shall also be held on each motion requesting a RRES Program change outside of an annual review docket, which necessitates the provision of adequate notice to stakeholders and availability of Authority personnel.

1. Application Process Working Group

On September 15, 2022, the Authority issued a Procedural Order directing the EDCs to establish an Application Process Working Group (APWG) with members of the solar industry, including but not limited to, ConnSSA and its members, Sunrun, and Tesla, Inc., to identify improvements to streamline the RRES application process (Procedural Order).[7] The Authority also directed the EDCs to invite DEEP and OCC to join the APWG. The Procedural Order directed the APWG to file a final report of all RRES application process changes proposed for adoption by 4:00 p.m. on Wednesday, December 14, 2022.

The Authority will hold a Technical Meeting on January 4, 2023, to receive presentations on the APWG report. Subsequently, the Authority will issue a Decision on the relevant section of the APWG report, which will be cross-posted as a ruling to the EDCs' motion (Final Decision). The Authority anticipates issuing the Final Decision by January 31, 2023, and providing the EDCs with two (2) months to implement the approved changes, unless another timeline is agreed upon by all APWG members or PURA is otherwise persuaded by the APWG report. The Final Decision will not approve the costs

[7] Available at: https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/52860e7d7cbbd895852588be0069270e/$FILE/22-08-02%20Procedural%20Order%20-%20Application%20Process%20Working%20Group.pdf.

associated with any identified RRES application process changes. Rather, such costs will be subject to a future prudency review in the applicable annual rate adjustment mechanisms docket (e.g., Docket No. 23-01-03 or 23-01-04).

Lastly, as discussed in Section IV.C.2, the Authority concludes that the automatic enrollment and payment process for Income Eligible and Distressed Municipality applicants would be made easier and more accessible, to the benefit of the Program Objectives, if the number of required financial documents for adder enrollment and payment were reduced. In contrast to Eversource, UI requires the completion of additional payment forms beyond a W-9, including the Vendor Set-up Form, Business Classification Form, ACH or Wire Authorization Form and either a Voided Check or Banking Information on Company Letterhead. Program Manual, Motion No. 5, Exhibit A2, dated August 30, 2022, pp. 10-11, 23. These additional application requirements may disproportionately affect the payment of the Income Eligible and Distressed Municipality adders to vulnerable applicants, to the detriment of the Program Objectives. Therefore, the Authority directs the APWG to examine how the automatic enrollment process for the Income Eligible and Distressed Municipality adders differs between each EDC, and whether the forms required for applicant enrollment can be better streamlined. The Authority also directs the APWG to examine the necessity of requiring a W-9 form as a part of the application process, particularly if adders are provided on-bill. If the W-9 is found by the APWG to be necessary when paying out adders off-bill but not on-bill, then the Authority intends to revisit placing adders on-bill in Docket No. 23-08-02 to reduce the applicant burden for low-income or environmental justice customers, and to ensure that vulnerable customers benefit from the adders for which they are eligible. Finally, the Authority directs the EDCs to file as compliance an evaluation of the documents required for the automatic enrollment and payment of the Income Eligible and Distressed Municipality adders, including argumentation for whether the current process can be better streamlined, justification for why the current forms required are necessary, and whether a W-9 is necessary if adders are received as on-bill credits.

O. PROGRAM REDLINES & ADDITIONAL MOTION RULINGS

On August 30, 2022 the EDCs jointly filed in Motion No. 5 redline edits to the RRES Program Manual for Authority review and approval, in accordance with Order No. 4 of the Affordable Housing Decision, which states that the EDCs must submit and file for the Authority's review any edits to the Program's Manual, guidelines, resources, and requirements to reflect new Program information and Authority orders and/or rulings. The Authority grants with modification Motion No. 5, pursuant to the redline updates as directed by the Authority in this Decision. Further, the Authority directs the EDCs to file updated RRES Program documents, including the Program Manual (both a redlined and a clean version), incorporating all of the approved modifications authorized herein.

On September 30, 2022, Eversource and UI filed Motion Nos. 9 and 10 with PURA. Motion Nos. 9 and 10, respectively, seek approval of Eversource and UI's compliance with Order No. 8 of the Affordable Housing Decision.[8] As outlined below, Motion Nos. 9 and 10 are denied.

[8] Order No. 8 of the Affordable Housing Decision states:

In Motion Nos. 9 and 10 the EDCs stated that the current RRES Program allows customers enrolled under the Buy-All tariff to receive all REC and adder payments on-bill. Motion No. 9, p. 1; Motion No. 10, p. 1. The EDCs further stated that it is feasible to provide all REC and adder payments on-bill for those customers enrolled under the Netting tariff with adjustments to the current metering, data management, and billing system capabilities. Id. The EDCs noted that the necessary capability developments would largely overlap with the upgrades needed to implement a variable non-bypassable per-kWh charge on the customer's production meter and be displayed on customer bills using production meter reads in alignment with the current billing cycle, and, consequently, such developments have a similar implementation timeline and costs as those outlined in Motion No. 24 in Docket No. 21-08-02. Id., pp. 1-2; Docket No. 21-08-02, Motion No. 24, Attachment 2, p. 1; Docket No. 21-08-02, Motion No. 24, Attachment 3, p. 1. Accordingly, Eversource estimated costs of $1.75 million, excluding expected additional ongoing administration costs, and project completion to occur about seven (7) months after the initiation of work, likely not before January 1, 2024, and UI estimated costs of $600,000 and a timeline of ten months after a vendor has been engaged to work on the project, reasonably concluding by mid-2024. Motion No. 10, p. 3; Motion No. 9, pp. 2-3.

Eversource suggested that while allowing REC and adder payments to be received on-bill for customers under the Netting tariff is possible, the change, if implemented, would serve only a small number of customers for a short amount of time, as current systems are expected to be retired by 2026 upon the launch of new systems as planned in the Advanced Metering Infrastructure proposal in Docket No. 17-12-03RE02, PURA Investigation into Distribution System Planning of the Electric Distribution Companies - Advanced Metering. Motion No. 9, p. 3. Further, if the proposal were to be implemented, limitations may exist, including requiring Netting customers seeking to receive REC and adder payments on-bill to receive 100% of such credits (e.g., no division of payments), and only allowing one system per billing account to be enrolled under the Netting tariff. Id., p. 2. Similarly, UI noted that while allowing REC and adder payments to be received on-bill for customers under the Netting tariff is possible, the change, if implemented, would accommodate several assumptions, including that REC and adder payments not be split between parties, REC and adder payments could not be split between on- and off-bill, the plan would be implemented as an alternative as opposed to an option for customers, and existing customers would be migrated to the new payment structure. Motion No. 10, pp. 3-4.

The Authority notes that customers currently have an ability to receive REC and adder payments on-bill under the Buy-All tariff. Further, the Authority is unconvinced that the benefits of the proposed plan outweigh the costs at this time, particularly given the new billing systems proposed through Docket No. 17-12-03RE02. However, the Authority may reconsider this position, particularly for any systems implemented after 2026, if the RRES low-income and Environmental Justice deployment goals of 40% are not met in future program years and/or administrative barriers, such as the requirement of a W-9 to

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No later than October 1, 2022, the EDCs shall file for Authority review and approval a plan in Docket No. 22-08-02, Annual Residential Renewable Energy Tariff Program Review and Rate Setting, to incorporate an option for customers to receive REC and adder payments as on-bill credits. Such plan shall also include estimated and itemized costs.

Interim Decision, p. 47.

receive the incentive adder, would be alleviated. Accordingly, the Authority denies Motion Nos. 9 and 10.

V. CONCLUSION AND ORDERS

A. CONCLUSION

In this Decision, the Authority explores and approves several changes to the RRES Program to better serve the Program Objectives. The Decision also approves the RRES Program Tariff rates for project applications received in calendar year 2023.

Further, the Decision amends the Affordable Housing Decision and hereby orders the EDCs to begin allowing eligible affordable housing facilities with individually metered customers to participate in the RRES Program, taking service under the Buy-All tariff, beginning January 1, 2023, subject to the direction provided herein.

The Decision also includes the Authority's rulings to Motion Nos. 4, 5, 6, 8, 9, and 10 in the instant proceeding and Motion Nos. 36 and 37 in Docket No. 21-08-02.

B. EXISTING AND NEW ORDERS

For the following Orders, the Company shall file an electronic version through the Authority's website at www.ct.gov/pura. Submissions filed in compliance with the Authority's Orders must be identified by all three of the following: Docket Number, Title and Order Number. Compliance with orders shall commence and continue as indicated in each specific Order or until the Company requests and the Authority approves that the Company's compliance is no longer required after a certain date. All Orders requiring Authority review and approval shall be submitted as a motion.

The below standing orders are a summation of prior orders related to the RRES Program that continue to apply. In some instances, the Authority has amended those standing orders with redline edits. The below new orders apply on a going forward basis.

1. Standing Orders to be filed in RRES Annual Review Dockets

1. Reference Docket No. 20-07-01 Interim Decision, dated February 10, 2021, Order No. 4, p. 44: No later than August 2, 2021, the EDCs shall develop and file for the Authority's review, modification, and approval a set of (1) Program Manual and guidelines and (2) other resources for residential utility customers and/or renewable energy contractors to explain the technical, administrative, and procedural requirements of the Residential Tariff program, including all cash out provisions. Such Program Manual, guidelines, and other resources shall strictly adhere to this Interim Decision, incorporating any direction provided herein. Any proposed rules and guidelines shall include a list of program eligibility requirements. The EDCs shall update the RRES Program Manual, [providing both a clean and a redlined version of all documents and an accompanying narrative document explaining how the recommended changes better achieve the Program Objectives], guidelines, and other resources by August 1 annually to reflect [recommended changes to the RRES Program,] the most recent program

information, and Authority orders and/or rulings, and file the aforementioned updated documents in the appropriate annual review docket (e.g., changes to be enacted in 2024 should be filed in Docket No. 23-08-02).

2. Reference Docket No. 20-07-01 Interim Decision, dated February 10, 2021, Order No. 5, pp. 44-45: No later than August 2, 2021, and annually thereafter, each EDC shall file, in the annual Residential Tariff program review and rate setting proceeding for the Authority's review, modification, and approval a proposal for a Residential Tariff program application fee to cover the estimated administrative costs associated with processing applications. The EDCs shall provide detailed calculations and written descriptions to explain and to justify the proposed application fee. In the same filing, the EDCs shall file for the Authority's review, modification, and approval a proposed nominal administrative fee pursuant to Section III.A. for any change orders or re-designation changes subsequent to the initial project interconnection, so long as a robust rationale for the proposed fee and fee level is provided. The 2021 submission shall provide a copy of the language to be included in the customer disclosure form informing program participants of the fee.

3. Reference Docket No. 20-07-01 Interim Decision, dated February 10, 2021, Order No. 15, p. 46: No later than November 1, 2021, the EDCs shall file with the Authority link to their respective Residential Tariff program webpages. Such webpages shall include all relevant information regarding the "buy-all" and netting Residential Tariffs for interested residential customers and renewable energy contractors. Such website shall be made public no later than January 1, 2022 and shall be updated as frequently as is practicable, unless otherwise directed herein, to reflect the most recent program information and Authority orders and/or rulings.

4. Reference Docket No. 20-07-01 Interim Decision, dated February 10, 2021, Order No. 19, p. 47: No later than January 1, 2023, each EDC shall have in place a customer education and information webpage that shall, at a minimum, include the average installed cost ($/W) and PPA or lease price ($/kWh) for all Residential Tariff applications accepted by the EDC over the preceding 6-month period, as well as current and historical retail rates for the customer to compare their pricing and savings in real-time. Such website shall be updated at least monthly and customers shall be required to electronically acknowledge that they have reviewed the material on the customer education and information webpage as part of Residential Tariff application process. On or before January 1, 2022, each EDC shall submit a cost estimate for the development of such a webpage. On or before August 1, 2022, each EDC shall file with the Authority a working draft of such webpage.

5. Reference Docket No. 20-07-01 Interim Decision, dated February 10, 2021, Order No. 21, p. 47: No later than June 1, 2022, each EDC shall publicly disclose the costs of setting up and maintaining the REC metering equipment, as well as the customer acquisition costs, on their respective Residential Tariff websites. Each EDC shall update the required information at least annually. No later than June 1, 2022, and annually thereafter, each EDC shall submit in the above-captioned proceeding and in the appropriate annual review docket (e.g., changes to be

enacted in 2024 should be filed in Docket No. 23-08-02) the required REC metering cost information.

6. Reference Docket No. 20-07-01 Interim Decision, dated February 10, 2021, Order No. 22, p. 47: No later than August 1, 2022, and annually thereafter, the EDCs shall jointly file, in the annual Residential Tariff program review and rate setting proceeding the Excel workbooks outlined in Section III.B.6.a. The EDCs shall each use the same Excel workbook, including the same format and the exact same data fields, as each other. The EDCs shall follow all other direction provided in Section III.B.6.a.

7. Reference Docket No. 21-08-02 Interim Decision, dated October 6, 2021, Order No. 8, p. 28: No later than January 1, 2022, the EDCs shall submit revised compliance with Order No. 14 of the Residential Tariff Decision for Authority review and approval. The EDCs shall review and update their meter wiring diagrams and guidelines as appropriate, but no less frequently than August 1 annually, and submit the revised documents in the appropriate Annual Review docket.

8. Reference Docket No. 21-08-02 Final Decision, dated June 8, 2022, Order No. 4, p. 16: No later than August 1, 2022, and annually thereafter, PURA requests that the Agencies file as compliance in the appropriate RRES annual review docket (i.e., in Docket No. 22-08-02 on August 1, 2022, etc.) a list of housing facilities eligible under Tier I of the affordable housing definition approved in Section II.A of this Decision.

9. Reference Docket No. 21-08-02 Final Decision, dated June 8, 2022, Order No. 5, p. 16: No later than August 1, 2022, and annually thereafter, the EDCs shall file as compliance in the appropriate RRES annual review docket (i.e., in Docket No. 22-08-02 on August 1, 2022, etc.) a list of housing facilities eligible under Tier II of the affordable housing definition approved in Section II.A of this Decision.

10. Reference Docket No. 21-08-02 Final Decision, dated June 8, 2022, Order No. 6, p. 16: No later than August 1, 2022, and annually thereafter, PURA requests that the Agencies file as compliance in the appropriate RRES annual review docket (i.e., in Docket No. 22-08-02 on August 1, 2022, etc.) the DEEP and DOH contact information for a housing facility seeking to be defined as “affordable housing” that does not meet the Tier I or Tier II thresholds of the affordable housing definition approved in Section II.A of this Decision.

11. Reference Docket No. 21-08-02 Final Decision, dated June 8, 2022, Order No. 9, p. 17: No later than August 1, 2023, and annually thereafter, the EDCs shall file as compliance documentation of the distribution of the incentive adders to validate that the required percentage of the benefit was received by the tenants in multifamily affordable houses in the previous year (e.g., calendar year 2022 for the August 1, 2023 filing), for both the cases of on-bill credits for individually metered units and annual checks or other approved distribution methodology for those multifamily homes where units are not individually metered.

2. New Orders

12. Reference Docket No. 21-08-02 Motion No. 26 Ruling, dated March 22, 2022, p. 4: On a monthly basis through January 1, 2024, the EDCs shall provide updates to Docket No. 21-08-02 Response to Interrogatory CAE-8. Specifically, the Authority adapts the ruling in Docket No. 21-08-02 to Motion No. 26 dated March 22, 2022, which directed the EDCs to submit as a compliance filing an update to Interrogatory CAE-8 on or before the 15th of every month through January 1, 2023 (i.e., the final filing would have been made on December 15, 2022), to instead direct the compliance filings to continue monthly through January 1, 2024. Such filings shall be made in Docket No. 22-08-02 moving forward and should also include tariff type and incentive adder status information.

13. No later than December 15, 2022, the EDCs shall file as compliance updated RRES Program documents, including the Program Manual, incorporating all of the approved modifications authorized in this Decision. Such filing shall include both a clean and a redlined version of all RRES Program documents.

14. No later than December 15, 2022, the Authority directs the EDCs to complete an additional safety review and discussions with municipal inspectors and update as necessary and file the wiring diagrams submitted as Attachments 2 and 3 in Motion No. 36 to enable a co-located battery storage system to be directly charged by a solar PV system taking service under the Buy-All tariff. If the wiring diagrams submitted are unchanged from Attachments 2 and 3 in Motion No. 36, the finalized diagrams shall be considered approved and may be filed as compliance so long as they take into account the direction herein regarding the use of the multi-family solution for all RRES customers as appropriate. Conversely, if adapted following safety review, the new diagrams must be filed for Authority review and approval.

15. No later than January 1, 2023, the EDCs shall update any clean energy and hardship program webpages where dual enrollment in any clean energy programs is adversely impacted or otherwise prohibited. Specifically, Eversource shall update at least their RRES Program and New Start webpages with a disclaimer alerting customers that, until such time as a proposal to enable concurrent participation in the RRES Program and the New Start Program is submitted by Eversource and approved by the Authority, existing New Start Program participants are unable to continue to participate in New Start once enrolled in the RRES Program. Moreover, moving forward, the Authority requires Eversource and UI to provide such disclaimer(s) on the appropriate clean energy program website for any instances where hardship program enrollment is jeopardized or negatively impacted by enrollment in solar programs, or vice versa. Each disclaimer should include an explanation of why dual enrollment is adversely impacted or prohibited. Further, the EDCs shall file a copy of the disclaimer(s) as compliance and provide links to the online locations where the disclaimer(s) is/are located.

16. Reference Tesla Written Comments, dated September 1, 2022, pp. 4-7: No later than March 1, 2023, the EDCs shall file as compliance a gantt chart timeline and itemized estimated budget for implementing the Tesla proposal to adopt for the

Buy-All tariff the same metering guidelines used under the Netting tariff for all system designs (AC-coupled, DC-coupled, and no ESS), and simply alter how customer energy usage and production are calculated with the meter and in the billing system.

17. Refer to Sunrun Written Comments, dated August 18, 2022, pp 12-13: No later than May 1, 2023, and quarterly thereafter for the remainder of the RRES Program, the EDCs shall submit information for the prior quarter (e.g., January 1, 2023 through March 31, 2023 for the May 1, 2023 filing) on the following items related to RRES Program applications: (1) the length of time from application to submission to tariff review approval; (2) the length of time from tariff review approval to interconnection contingent approval; (3) the length of time to receive the work order number needed to apply for permits from cities and towns; (4) the length of time to process payments when applicable; (5) the length of time for any applicable witness tests; (6) the number of days between when the utility is notified of a completed inspection to meter installation; and, (6) the length of time for final issuance of the permission to operate. The RRES APWG may recommend additions to this list in their final report filed on December 14, 2022. Such filings shall be submitted in the relevant RRES Program review docket (e.g., any updates related to Year 2 of the RRES Program shall be disclosed in this proceeding, Docket No. 22-08-02).

18. No later than May 1, 2023, the EDCs shall file in Docket No. 23-08-02 at least one proposal for each of the following system configurations with the ability to provide home backup during grid outages:
    a. DC-coupled solar plus storage wiring diagram under the Buy-All tariff, for both single- and multi-family homes;
    b. DC-coupled systems under the Buy-All tariff for homes with existing solar systems;
    c. AC-coupled systems under the Buy-All tariff for homes with existing solar systems; and
    d. AC-coupled systems under the Buy-All tariff, specifically for single-family systems.

    The EDCs shall hold at least two meetings with relevant stakeholders in the solar industry to jointly develop the proposals for submission. The filing shall include timeline and costs for implementation of each wiring diagram.

19. No later than June 1, 2023, the EDCs shall file as compliance an evaluation of the documents required for the automatic enrollment of customers in the Income Eligible and Distressed Municipality adders, including argumentation for whether the current process can be better streamlined, justification for why the current forms required for adder enrollment and payment are necessary, and whether a W-9 is necessary if adders are received as on-bill credits.

20. No later than July 1, 2023, the EDCs shall submit in Docket No. 23-08-02 a proposal for a cancellation period (e.g., fifteen business days), after which, projects which have not progressed in any way can be cancelled. The EDCs are directed to work with the Policy Working Group (PWG) established through Docket No. 17-

12-03RE06, PURA Investigation into Distribution System Planning of the Electric Distribution Companies –Interconnection Standards and Practices, to develop the proposal. Further, the proposal should include a working definition of projects that have not progressed.

21. No later than August 1, 2023, the Working Group established pursuant to the Affordable Housing Decision shall file in Docket No. 23-08-02 an updated proposal, as necessary, for a minimum percentage of the total RRES tariff financial benefit to be provided to tenants in multi-family affordable housing. The proposal is to be filed in Docket No. 23-08-02.

22. Through the end of the RRES Program, the EDCs shall follow the guidance provided in Section IV.N of this Decision when making administrative changes to the RRES Program without prior PURA approval. Such changes shall be clearly documented, explained, and justified in a compliance filing submitted at least ten (10) business days prior to such changes taking effect in the relevant RRES Program review docket (e.g., any changes related to Year 2 of the RRES Program shall be disclosed in this proceeding, Docket No. 22-08-02). Justification must include a clear articulation of how each Program Objective may or may not be impacted and how the requested change would serve to further the Program Objectives overall.

DOCKET NO. 22-08-02 **ANNUAL RESIDENTIAL RENEWABLE ENERGY SOLUTIONS PROGRAM REVIEW – YEAR 2**

This Decision is adopted by the following Commissioners:

Marissa P. Gillett

John W. Betkoski, III

Michael A. Caron

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

Jeffrey R. Gaudiosi, Esq.
Executive Secretary
Public Utilities Regulatory Authority

November 2, 2022
Date

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STATE OF CONNECTICUT

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DOCKET NO. 22-08-04 **ANNUAL SHARED CLEAN ENERGY FACILITY PROGRAM REVIEW – YEAR 4**

December 7, 2022

By the following Commissioners:

Marissa P. Gillett
John W. Betkoski, III
Michael A. Caron

DECISION

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DECISION

I. INTRODUCTION

A. SUMMARY

The Public Utilities Regulatory Authority (Authority or PURA) revises and approves the Shared Clean Energy Facility (SCEF) Modified Program Requirements, renamed the SCEF Program Manual herein, and Appendix B to the SCEF Program Manual. Additionally, the Authority approves Bid Preferences and a Procurement Price Cap for the Year 4 Procurement.

B. BACKGROUND OF THE PROCEEDING

Through the SCEF Program, the state seeks to deploy eligible Class I renewable generation projects selected through a competitive procurement process each year for six (6) years.[1] In 2019, the Authority approved, with modification, the SCEF Program Requirements developed by the Department of Energy and Environmental Protection (DEEP). Decision, Dec. 18, 2019, Docket No. 19-07-01, Review of Statewide Shared Clean Energy Facility Program Requirements (SCEF Decision). The first SCEF procurement (Year 1) occurred in 2020.

Subsequent to the Year 1 SCEF procurement, the Authority conducted a proceeding to review the SCEF Program for the Year 2 SCEF procurement to determine whether any adjustments were necessary. Based on this review, the Authority approved certain modifications to the SCEF Program Requirements. Decision, April 28, 2021, Docket No. 19-07-01RE02, Review of Statewide Shared Clean Energy Facility Program Requirements – Year 2 Procurement (Year 2 SCEF Decision). The Year 2 SCEF procurement was conducted in 2021.

Concurrently, the Authority opened a docket to review compliance filings related to Order Nos. 5, 6, and 7 in the SCEF Decision and to serve as the administrative record for the working groups authorized in the SCEF Decision to help inform the development of such compliance orders. At the conclusion of that proceeding, the Authority approved the process for the electric distribution companies[2] (EDCs or Companies) to identify, verify, and enroll customers into the SCEF Program, including contracting with Operation Fuel to identify eligible low- and moderate-income customers. See Decision, Sept. 15, 2021, Docket No. 19-07-01RE01, p. 21, Review of Statewide Shared Clean Energy Facility Program Requirements – Customer Enrollment (SCEF Enrollment Decision).

Following the Year 2 SCEF procurement, the Authority again performed a review of the SCEF Program and approved changes. Decision, Nov. 17, 2021, Docket No. 21-08-04, Annual Review of Statewide Shared Clean Energy Facility Program Requirements

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[1] The SCEF Program was implemented pursuant to Section 7(a)(1)(C) of Public Act 18-50, An Act Concerning Connecticut's Energy Future, codified as Conn. Gen. Stat. § 16-244z(a)(1)(C).

[2] The two EDCs in Connecticut are The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) and The United Illuminating Company (UI).

– Year 3 (Year 3 SCEF Decision). The Year 3 SCEF procurement was completed in 2022.

The Authority initiated this proceeding on June 20, 2022, to again review the SCEF Program to consider any modifications for the upcoming Year 4 SCEF procurement that would better align the program with objectives outlined in Section II. (A) below (Program Objectives). By September 1 of each year, the EDCs are required to jointly file the current SCEF Program rules and all Request for Proposal (RFP) documents and to propose modifications "that will allow the SCEF Program to better meet the Program Objectives." Year 3 SCEF Decision, Order No. 3. By the same September 1 deadline, DEEP submits proposed Procurement Price Cap and Bid Preferences to the Authority. SCEF Program Manual, § 3.3.

In addition to its traditional annual review, the Authority used this proceeding to consider changes to the SCEF Program required as a result of the passage of Public Act (P.A.) 22-14, An Act Concerning Clean Energy Tariff Programs, which became effective October 1, 2022.[3] The Authority also reviewed customer enrollment implementation and other relevant topics as part of this proceeding. See Notice of Proceeding, p. 1.

C. CONDUCT OF THE PROCEEDING

On June 20, 2022, the Authority issued the Notice of Proceeding in the above-captioned docket, pursuant to the General Statutes of Connecticut (Conn. Gen. Stat.) §§ 16-19, 16-19e, and 16-244z, to, inter alia, conduct the annual review of the SCEF Program.

As a result of the amendments to the definitions of "low-income customer" and "moderate-income customer" in P.A. 22-14, the Authority issued a request for written comments to allow participants the opportunity to comment on the impact of P.A. 22-14 and also extended the deadline for complying with Order Nos. 2 through 8 in the SCEF Enrollment Decision. See Notice of Request for Written Comment and Notice of Extension of Orders, June 24, 2022 (June 24 Notice).

On August 29, 2022, the Authority issued a Notice of Request for Written Comment (August 29 Notice), asking Participants to comment on DEEP's September 1, 2022[4] filing pertaining to its recommended Bid Preferences and Procurement Price Cap, proposed revisions to the SCEF Program Manual, and proposed changes to Appendix B – Submittal to DEEP (together, DEEP Proposals) and the EDCs' joint Motion No. 3 September 1, 2022, regarding the SCEF Program Manual and RFP documents (EDC Proposals). In addition, within the same notice, the Authority issued a Notice of Technical Meeting, which was held on September 30, 2022. The Technical Meeting featured presentations and discussion regarding the topics outlined in the August 29 Notice, as well as modifications to the low-income and moderate-income customer definitions in P.A. 22-14 and the effects on program modifications as outlined in the Authority's June 24 Notice.

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[3] Available at: AN ACT CONCERNING CLEAN ENERGY TARIFF PROGRAMS. The Non-Residential Renewable Energy Solutions (NRES) Program for commercial and industrial customers was also amended by P.A. 22-14.

[4] DEEP refiled these documents as a Compliance Filing dated September 6, 2022.

On September 6, 2022, the Authority issued a Notice of Evidentiary Material to incorporate into the evidentiary record all underlying materials from Docket No. 19-07-01RE01.

The Authority issued a Proposed Final Decision on November 9, 2022, and provided an opportunity for Participants to file Written Exceptions.

D. PARTICIPANTS

A listing of all Participants to this proceeding is appended hereto as Appendix A.

E. PUBLIC ACT 22-14

1. Low- and Moderate-Income Customer Eligibility Definitions

The passage of P.A. 22-14 resulted in several changes to the SCEF Program; the most significant amendments were to the definitions of low- and moderate-income customers, which impacts customer eligibility provisions.

Specifically, the definition of "low-income customer" was changed from customers whose income does not exceed 80% of the area median income[5] (AMI) to customers whose income does not exceed 60% of the state median income[6] (SMI). Section 2 of P.A. 22-14; Conn. Gen. Stat. § 16-244z(a)(7)(B). The amendment lowers the maximum income threshold (from 80% to 60%) and changes the relevant median income (from AMI to SMI).

As established in the SCEF Enrollment Docket, the EDCs use a two-step process to verify a customer's low-income eligibility. SCEF Enrollment Docket, p. 5. This two-step process involves: (1) evaluating existing EDC data and Operation Fuel customer lists to automatically verify a customer's eligibility through participation in one or more of the EDCs' existing programs; and (2) a screening process whereby the EDCs review documentation provided through a utility assistance program application or the SCEF Program Subscriber Enrollment Form. Id., pp. 5-6. With the statutory change, the EDCs no longer need to engage in these additional review processes to determine if a customer qualifies as low-income because the 60% or less of SMI threshold is consistent with the eligibility requirements of other programs for which the EDCs have data. P.A. 22-14 expanded the definition of "moderate-income customer" from customers whose income is between 80% to 100% of the area median income (AMI) to customers whose income is between 60% and 100% of the AMI. Id.; Conn. Gen. Stat. § 16-244(a)(7)(D). The change lowers the minimum income criteria (from 80% to 60%) but retains the same median income (AMI).

The conflict between the type of median income (AMI vs. SMI) used in the definitions for low-income and moderate-income creates an eligibility gap or overlap to the extent that the AMI and SMI differs. Specifically, if the SMI is less than the AMI, depending on the Connecticut metro area, some customers may earn too much to qualify

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[5] Area Median Income is defined using data from the United States Department of Housing and Urban Development available at: https://www.huduser.gov/portal/datasets/il.html.

[6] State Median Income is defined using data from the Connecticut Department of Social Services. 2022-2023 data is available at: https://uwc.211ct.org/connecticut-state-median-income-2013/.

as a "low-income customer" but not enough to qualify as a "moderate-income customer." Conversely, if the SMI is greater than the AMI, a customer may qualify as both a low- and moderate-income customer. Stakeholders raised concerns that the changes in the definitions of low-income and moderate-income customer results in an eligibility gap when comparing certain household sizes in Connecticut metro areas, whose income is greater than the SMI limit, but less than the AMI threshold. SCEF Enrollment Docket, Motion No. 12, June 16, 2022, pp. 3-4 (EDCs); Operation Fuel Written Comments, July 15, 2022, p. 2; OCC Written Comments, July 15, 2022, p. 2. The EDCs provided Table 1 to illustrate the eligibility gap.

Table 1: 60% SMI Compared to 60% AMI for Connecticut Households Size 1 - 4[7]

		Household Size			
		1	2	3	4
Statewide	60% of SMI	$ 39,027	$ 51,035	$ 63,044	$ 75,052
Stamford-Norwalk Metro Area	60% of AMI	$ 53,663	$ 61,313	$ 68,963	$ 76,613
	Income Gap	*$ 14,636*	*$ 10,277*	*$ 5,919*	*$ 1,560*
Danbury Metro Area	60% of AMI	$ 47,250	$ 54,000	$ 60,750	$ 67,463
	Income Gap	*$ 8,223*	*$ 2,965*	-	-
All Other Metro Areas	60% of AMI	$ 46,950	$ 53,663	$ 60,375	$ 67,050
	Income Gap	*$ 7,923*	*$ 2,627*	-	-

Id., p. 3.

In addition to illustrating the eligibility gaps, Table 1 shows that under certain household sizes, a household's income could meet both the 60% SMI and 60% AMI thresholds. Where 60% of AMI is less than 60% of SMI, customers in those households would qualify as both low- and moderate-income (LMI). SCEF Enrollment Docket, Motion No. 12, June 16, 2022, p. 4. For example, 60% of SMI for a 3-member household is $63,044, but in the Danbury Metro Area and All Other Metro Areas, 60% of AMI is just over $60,000, meaning those customers qualify as both low- and moderate-income customers. To address the potential confusion arising from this overlap, the Authority provides guidance to the EDCs below on determining eligibility for customers that fall within the gap or meet LMI definitions.

a. Authority Guidance to Address Statutory Low- and Moderate-Income Customer Eligibility Definitions

The Authority provides the following guidance for the EDCs to use when implementing the Year 4 SCEF Program. First, the Authority confirms that customers whose income does not exceed 60% of the SMI qualify as "low-income customers," which

[7] The AMI data sets used for this chart are available at https://www.huduser.gov/portal/datasets/il.html.

is consistent with the statutory changes. Those customers whose income exceeds the 60% SMI threshold, but do not meet the 60% AMI threshold, shall qualify as "moderate-income customers." Where there is an overlap in the eligibility criteria, the Authority directs the EDCs to qualify those customers that qualify as both low- and moderate-income, as "low-income customers" for purposes of SCEF Program administration. Further, the Authority acknowledges that an eligibility gap exists for moderate-income customers. However, this result is clearly unintended by the legislature, and yields an absurd programmatic result (i.e., customers with lower income than the moderate-income definition not being prioritized for SCEF Program customer credits). A more reasonable interpretation of P.A. 22-14 is that any customer with income below 100% of AMI, but at or above 60% of SMI meets the definition of moderate-income. Accordingly, the Authority directs the EDCs to qualify customers whose income exceeds the 60% SMI threshold, but do not meet the 60% AMI threshold, as "moderate-income customers" for purposes of SCEF Program administration.

The Authority recognizes that further legislative action may be needed to align the definitions of low-income and moderate-income customers. Docket Participants expressed similar opinions on the potential need for a legislative change to the moderate-income definition. Specifically, Operation Fuel suggests a legislative change to address the inconsistent definitions by changing the upper limit of the moderate-income definition to 100% SMI. Operation Fuel Written Comments, July 15, 2022, p. 3. The EDCs also propose this legislative change. SCEF Enrollment Docket, EDCs' Joint Written Comments, July 15, 2022, p. 5. OCC acknowledges the need for legislative action and recommends further discussion. OCC Letter in Lieu of Brief, Oct. 12, 2022, p. 1. The Authority generally agrees and would support a legislative proposal to amend the upper limit of the moderate-income definition to 100% SMI as proposed by Operation Fuel and the EDCs.

b. Amended Statutory Reference to Affordable Housing Facility

The definition of "low-income customer" was also amended to remove the reference to Conn. Gen. Stat. § 8-39a, which defines affordable housing facilities. The EDCs propose to use a tiered definition in the SCEF Program that is consistent with the definition the Authority developed in the Residential Renewable Energy Solutions (RRES) Program. Tr. 09/30/22, pp. 25-26; SCEF Enrollment Docket, Motion No. 18, Aug. 1, 2022, Attachment 1, p. 2. See discussion below in Section III.C. Affordable Housing Facility Eligibility (Motion No. 18). The Authority approves the EDCs' proposal to use the same tiered definition of affordable housing in the SCEF Program as in the RRES Program. In future SCEF annual review dockets, the EDCs shall maintain the same definition of affordable housing in the SCEF Program as in the RRES Program, including updating the SCEF definition if and when the definition is updated in the RRES Program.

c. Other Amendments to Conn. Gen. Stat. § 16-244z in P.A. 22-14

In addition to changes to the definitions of low- and moderate-income customers, P.A. 22-14 amended other sections of Conn. Gen. Stat. § 16-244z that impact the implementation of the SCEF Program. These statutory changes apply to the Year 4 SCEF Program, and do not retroactively alter previous SCEF procurements (i.e., Year 2

and Year 3). Under the canon of statutory interpretation, legislative changes to substantive statutes apply prospectively unless the Legislature states that amendments are intended to apply retroactively. See Coley v. Camden Associations, Inc., 243 Conn. 311, 316 (1997). In reviewing the statutory changes in P.A. 22-14, the Authority concludes that the amendments do not apply retroactively to the implementation of previous SCEF program years and exclusively apply to SCEF Year 4 and future program years, as the effective date was October 1, 2022. Here, the amendments change the substantive elements of the SCEF Program. Nothing in the legislative history supports the interpretation that the amendments apply retroactively. The Legislature knows how to draft laws and would have provided further guidance if it intended for the changes to apply retroactively. Therefore, the Authority reasonably concludes that the amendments to Conn. Gen. Stat. § 16-244z apply to the SCEF Program prospectively. These changes are reflected in revisions to the SCEF Program Manual.

First, Section 1 of P.A. 22-14 changed the definition of SCEF by increasing the nameplate capacity rating from four megawatts or less to five 5 megawatts or less.[8] Second, Section 2 of P.A. 22-14 increased the requirement of the percent of customer credits from the SCEF Program provided to low-income customers from no less than 10% to 20% and the requirements for the percentage of credits provided to low-income or moderate-income customers or low-income service organizations from not less than 10% to 60%.

Third, Section 3 of P.A. 22-14, increased the aggregate total megawatts available under all three clean energy tariff programs authorized under Conn. Gen. Stat. 16-244z (i.e., RRES, NRES, and SCEF) in years two[9] through six of the tariffs from 85 to 160 megawatts, with the specific SCEF program cap increasing from 25 to 50 megawatts per year. Additionally, megawatts not allocated in any given year are now permitted to roll over from year-to-year.

The Authority recognizes these statutory changes and below approves the associated revisions to the program rules proposed by the EDCs. The Authority further directs the EDCs to change the name of the Modified Program Requirements to the "Program Manual" for consistency with the other programs authorized under Conn. Gen. Stat. § 16-244z.

II. AUTHORITY ANALYSIS

A. SCEF PROGRAM OBJECTIVES

As part of its annual review, the Authority evaluates the SCEF Program Objectives to ensure the objectives remain current. Previously, the Authority identified the following objectives for the SCEF Program:

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8 The new definition of SCEF is: "a Class I renewable energy source, as defined in section 16–1, that (i) is served by an electric distribution company, as defined in section 16–1, (ii) is within the same electric distribution company service territory as the individual billing meters for subscriptions, (iii) has a nameplate capacity rating of five megawatts or less, and (iv) has at least two subscribers."

9 As discussed above, the Authority does not interpret P.A. 22-14 to retroactively increase the megawatt capacity in Year 2 and Year 3 of the SCEF Program.

1. Annually and cost-effectively allocate up to 25 megawatts to SCEFs, as defined in Conn. Gen. Stat. § 16-244x;
2. Provide savings to specific categories of customers, particularly customers with low- to moderate-income (LMI), low-income service organizations, and customers who reside in environmental justice communities; and
3. Lower or eliminate barriers to entry for Subscriber Organizations, if and when possible.

Year 2 SCEF Decision, p. 6.

The Authority finds that these objectives remain relevant but require revision to account for P.A. 22-14. The objectives are modified as follows:

1. Annually and cost-effectively procure up to 50 megawatts of SCEFs, as defined in Conn. Gen. Stat. § 16-244z;
2. Provide savings to specific categories of customers, particularly customers with low- to moderate-income (LMI), low-income service organizations, and customers who reside in environmental justice communities; and
3. Lower or eliminate barriers to entry for Subscriber Organizations, if and when possible.

Consistent with past SCEF Program reviews, the Authority used the above objectives when evaluating the modifications and comments submitted by docket Participants in the instant proceeding, and in developing the direction and orders herein. See Year 2 SCEF Decision, p. 6; see also Year 3 SCEF Decision, p. 2. Further, the Authority reiterates that the EDCs shall administer the SCEF program in accordance with the three objectives identified above (i.e., the annual cost-effective allocation of 50 MW, programmatic focus on LMI customers and customers in environmental justice communities, and lowering barriers to entry), consistent with past direction. Id.

B. PROPOSED PROGRAM MODIFICATIONS

1. Definitions

DEEP proposed establishing a definition for "Solar Canopy"[10] and revising the definition for "Brownfield," in the SCEF Program Manual, to add fairness and transparency in evaluating bid preference eligibility. Id., pp. 4-5. DEEP recommended a revised definition of "Brownfield" for Year 4, to streamline the project review process. Id., p. 4. DEEP raised concerns about the continued use of the statutory definition in the SCEF program because they believe it is broad and subjective, and the definition itself does not provide certainty to developers about the type of information they must submit to DEEP to claim the preference. DEEP Correspondence, Oct. 7, 2022, p. 2. Specifically, DEEP stated that developers could claim they meet the statutory definition for a Brownfield if

[10] Solar Canopy, referred to herein by the Authority, includes Solar Carports. In DEEP's Year 4 Appendix B Revisions, available at: Attachment A DEEP Year 4 Appendix B Revisions 22-08-04.pdf (state.ct.us), the definition for Solar Canopy states: "as determined at DEEP's sole discretion based on materials submitted by the Bidder, the portion of the direct current (DC) nameplate capacity of a SCEF project that is installed above a permeable and/or non-permeable existing or new parking/driving area, pedestrian walkway, courtyard, or other utilized surface that requires shade, which is installed in a manner that maintains the function of the area beneath the structure and continues to be used or available for use for such purposes for the term of SCEF program participation."

there was simply the possibility of contamination with no actual proof. Id. While DEEP noted it makes sense to have a broad definition when seeking to participate in remediation programs, the purpose of the bid preference for SCEF projects sited on brownfields is to redevelop land that would otherwise be abandoned and unproductive. Id. DEEP also suggested that the bid preference should only go to projects that are sited on land that a bidder can objectively demonstrate is abandoned or underutilized due to the presence of one or more contaminant. Id. In addition, DEEP's non-exhaustive Brownfield Inventory list is not updated in real time and sites that are remediated are not necessarily removed; therefore, projects proposed at addresses on the Brownfield Inventory could have potentially been on remediated sites suitable for other uses such as commercial or residential development. Id.

2. Bid Preferences

In accordance with the SCEF Program Manual, PURA approves preferred policy criteria to apply in the next procurement process. SCEF Program Manual, § 2. DEEP proposed two bid preferences for the Year 4 Procurement. First, DEEP recommended maintaining the 20% bid preference for projects on landfills or brownfields to continue incentivizing developers to build on previously disturbed land, while accounting for the additional cost of such projects. DEEP Proposals, DEEP Year 4 Recommendations, p. 3. In Year 3, three out of six projects with this bid preference were selected in Eversource territory, one on a landfill and two on brownfields, and two out of two projects with this bid preference were selected in UI territory, one on a landfill and one on a brownfield. Based on this information from Year 3, DEEP believes this bid preference is appropriate to maintain for Year 4. Id. In addition, DEEP stressed that the brownfields and landfill bid preference ensures consistency with other programs such as the Non-Residential Renewable Energy Solutions (NRES) program, where the 20% bid preference was applied for projects sited on brownfields or landfills in Year 1 of that program. Id.

Second, DEEP proposed increasing the bid preference for solar canopies from 30% to 40%, for ranking and evaluation purposes only, to further incentivize these projects and more fully account for the cost of building solar canopies as opposed to ground mounted solar. Id., p. 4. DEEP further asserts that, based on stakeholder input received outside of this proceeding regarding the bid preference, the 30% bid preference was not enough to make Solar Canopy projects competitive. Id.

In addition to bid preferences for landfills or brownfields and solar canopies, DEEP sought comments on other potential bid preferences, but ultimately did not propose including them in the Year 4 Procurement after evaluating comments from stakeholders. DEEP Proposals, DEEP Year 4 Recommendations, pp. 5-8. Pursuant to Conn. Gen. Stat. § 16-244z(a)(6)(F), DEEP may establish "preferences for projects that serve low-income customers and [SCEF projects] that benefit customers who reside in environmental justice communities." In its filing, DEEP described that there were many commenters who provided feedback regarding Environmental Justice (EJ) and Community Engagement, and while DEEP does not recommend a bid preference for Year 4, it is one potential bid preference that, if designed properly, could bring measurable benefits to Environmental Justice communities. Id., p. 5. Furthermore, DEEP received comments regarding economic development, specifically citing local ownership of SCEF projects and local workforce development as two benefits of projects sited in EJ communities. Id. DEEP is interested in exploring this topic further, particularly as

increased federal funding supporting workforce development is deployed. Id., pp. 6-7. As such, DEEP recommended the inclusion of an additional question in Appendix B to explore this topic further with developers and potentially inform future recommendations. Id., p. 7.

Another consideration DEEP sought comments on was whether Year 4 should include a bid preference for fuel cells that exclusively use hydrogen. Id. Commenters generally asserted that hydrogen fuel is currently expensive and there is limited accessibility, ultimately advising against a hydrogen-powered bid preference for Year 4. Id. DEEP came to a similar conclusion, agreeing that it may be premature for the market to be able to respond to a hydrogen-powered fuel cell bid preference for Year 4, but noted that they will continue to monitor the potential of hydrogen for future procurement years to reduce emissions from fuel cells participating in the program. Id.

Finally, DEEP received comments suggesting a bid preference for projects that would deliver measurable energy resilience benefits, which DEEP has already explored in previous SCEF procurements. DEEP Proposals, DEEP Year 4 Recommendations, p. 8. Ultimately, due to work in this topic area already underway or previously authorized, such as the Authority's Resilience Framework recently approved through the Decision dated August 31, 2022, in Docket No. 17-12-03RE08, PURA Investigation into Distribution System Planning of the Electric Distribution Companies – Resilience and Reliability Standards and Programs, DEEP did not recommend a bid preference for projects delivering resilience benefits. Id.

3. Procurement Price Cap

In the Year 2 SCEF Decision, the Authority directed DEEP, for each subsequent year after September 1, 2021, to submit the Procurement Price Cap and Bid Preferences to PURA no later than September 1 to allow for public input on those elements of the Program through the docket proceeding established by PURA. Year 2 SCEF Decision, Attachment A, p. 6. On September 1, 2022, DEEP filed its proposed Procurement Price Cap and Bid Preferences, contemporaneously with its proposed revisions to the SCEF Program Manual.[11]

Pursuant to Conn. Gen. Stat. § 16-244z(a)(5), the maximum purchase price of energy and renewable energy certificates in a SCEF procurement is the "maximum selected purchase price for the same resources in the prior year's solicitation, unless the authority makes a determination that there are changed circumstances in any given year." As such, DEEP proposed the same $155.43/MWh procurement price cap for solar canopies, from Year 3, and $135/MWh for all other technologies. DEEP Proposals, DEEP Year 4 Recommendations, p. 2. DEEP acknowledged that P.A. 22-14 doubled SCEF program capacity but noted that in Year 3 there were enough bids to fulfill the new program size in Eversource territory and there is no evidence that the price cap was a factor in the limited number of bids received in UI territory. Id. DEEP further stated that in Year 3, the Authority established a higher price cap for solar canopy projects and recommends maintaining the same $155.43/MWh price cap for solar canopy projects for Year 4, given there was only one solar canopy project in Year 3 and the bid price was at the price cap. Id., pp. 2-3.

[11] DEEP refiled the documents as a Compliance Filing available at: Compliance Filings for 22-08-04 (state.ct.us).

4. Appendix B: Submittal to DEEP

In addition to submitting bids to the EDCs in the SCEF procurement, bidders are required to submit information directly to DEEP, using the "**Appendix B: Submittal To DEEP**" form. The specific requirements contained in "**Appendix B: Submittal To DEEP"** are included in Appendix B of the SCEF Program Manual. Through its compliance filing dated September 6, 2022, DEEP proposed significant changes to Appendix B. DEEP asserts that the proposed changes improve the bidder experience and streamline DEEP's review of the provided information.[12] Specifically, as discussed above, DEEP proposes a revised definition of "Brownfield" and added a definition of "Solar Canopy." DEEP also removed questions that DEEP believes were not crucial to its evaluation of the Bids, and, added questions to section B6 that relate to the Bidder's community impact and engagement. DEEP Year 4 Recommendations, p. 8. DEEP did not provide a redlined version of the changes made to Appendix B, citing the reorganization of Appendix B and the extensive removal of questions. Id.

C. PURA APPROVED MODIFICATIONS

The Authority approves DEEP's proposed revisions to the SCEF Program Manual and Appendix B, subject to the modifications discussed below. The Authority directs the EDCs herein, to incorporate such revisions and modifications into the SCEF Program Manual and Appendix B, and to make any necessary conforming revisions to the accompanying documents. Any revisions proposed by DEEP and not explicitly addressed in this Decision shall be deemed approved and incorporated by the EDCs. The EDCs shall jointly submit the final program documents for the Year 4 Procurement for Authority review and approval no later than December 31, 2022.

1. Definitions

The Authority recognizes that the absence of a definition for solar canopy can create unnecessary confusion in determining eligibility therefore, establishing a definition adds clarity. In general, stakeholders did not object to the definition, as limited comments were received on the subject, with the exception of Lodestar and Save the Sound (STS). Specifically, Lodestar believes that the discretion of eligibility for solar canopies should be left to an independent entity, not DEEP, while STS recommended the definition be revised to explicitly recognize solar canopy agrovoltaics. Lodestar Written Comments, Sept. 22, 2022, p. 2; STS Written Comments, Sept. 22, 2022, p. 3. The Authority appreciates the issues brought forth by Lodestar and STS. However, additional information and consideration of the inclusion of an ombudsperson and agrovoltaics into a solar canopy definition is required prior to adoption, whereas the benefits of standardization of such definition in terms of clarity and transparency are clear. As such, the Authority approves DEEP's proposed definition of "Solar Canopy" for use in SCEF Program Year 4 to ensure that project eligibility is fair and transparent, subject to additional discovery and consideration in future program review dockets. Accordingly, the EDCs shall include the following definition of "Solar Canopy" in revising the Program Manual and Appendix B for SCEF Program Year 4:

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[12] See DEEP Year 4 Recommendations, Attachment A available at: Compliance Filings for 22-08-04 (state.ct.us).

> "'**Solar Canopy**' means as determined at DEEP's sole discretion based on materials submitted by the Bidder, the portion of the alternating current (AC) nameplate capacity of a SCEF project that is installed above a permeable and/or non-permeable existing or new parking/driving area, pedestrian walkway, courtyard, or other utilized surface that requires shade, which is installed in a manner that maintains the function of the area beneath the structure and continues to be used or available for use for such purposes for the term of SCEF program participation."
>
> DEEP Year 4 Recommendations, pp. 5-6.[13]

The new definition of brownfield proposed by DEEP specifically limits brownfield projects to sites that match the list maintained by DEEP on the Connecticut Brownfields Inventory, or to sites with a Phase 2 Environmental Site Assessment. Id., p. 4. Lodestar asserts that the existing statutory definition is clear and that creating a new definition, only for SCEF, creates more confusion, not less. Lodestar Written Comments, Sept. 22, 2022, p. 2. In addition, Lodestar further stated that it takes years for large-scale solar developers to cultivate potential projects, so arbitrarily changing definitions at any time threatens to undermine those efforts. Id. Further, in the Authority's Decision dated November 9, 2022, in Docket No. 22-08-03, Annual Non-Residential Renewable Energy Solutions Program Review – Year 2 (22-08-03 NRES Decision), PURA cited to stakeholder concern that the new definition narrows eligible brownfield sites "to a non-exhaustive list," thereby deterring brownfield project development. 22-08-03 NRES Decision, p. 30 (citation omitted). The Authority appreciates the concerns of the stakeholders regarding the change in the current brownfield definition for the NRES Program and ultimately declined to approve the new brownfield definition. Id.

In the SCEF Program, the Authority was initially, similarly concerned that the new definition unnecessarily limits the number of sites eligible for the brownfield bid preference, to the detriment of the Program Objectives, specifically the first and third objectives to cost-effectively procure up to 50 megawatts and to lower or eliminate barriers to entry, if and when possible. However, on October 7, 2022, DEEP submitted additional justification for the new "Brownfield" definition not previously provided in this proceeding or Docket No. 22-08-03 (DEEP Correspondence). DEEP states that the new definition provides less subjectivity compared to the statutory definition and that it is not significantly harder for bidders to meet this definition, as they can still cite the Brownfields Inventory if the address of their project is on the list. DEEP Correspondence, p. 3. In addition, DEEP recognized that the Brownfield Inventory is not an exhaustive list of all brownfields and that there are other sites that should be eligible for the bid preference, therefore, the new definition includes another way for bidders to demonstrate eligibility. Id. DEEP further explained that the new definition requires bidders demonstrate that the site is abandoned or underutilized because it is contaminated, which is a core component of the statutory brownfield definition and should not be difficult for bidders to claim if their site is legitimately a brownfield. Id. Moreover, DEEP asserted that Solar Alliance for Virtual Energy (SAVE) supported the revised definition during their public process held outside of this proceeding, while Bloom Energy stated that the "definition of 'Brownfield' proposed by DEEP is reasonable and appropriate." Id., p. 2. Based on the additional

[13] DEEP identified an error in its proposed solar canopy definition whereby the original proposal referenced "direct current (DC) nameplate capacity" but DEEP stated in its written exceptions that the definition should state "alternating current (AC) nameplate capacity." DEEP Written Exceptions, p. 2.

justification provided by DEEP, the Authority finds that the new brownfield definition is appropriate for the SCEF Program evaluation based on DEEP's explanation. As such, the Authority approves the proposed "Brownfield" definition for use in SCEF Program Year 4. Accordingly, the EDCs shall include the following definition of "Brownfield" in revising the Program Manual and Appendix B:

> "'**Brownfield**' means a site that is either: (1) an address that is included on the Connecticut Brownfields Inventory maintained by DEEP and an attestation that such site has not achieved regulatory closure in the form of either a verification report from a licensed environmental professional or from DEEP; or (2) an address with a Phase 2 Environmental Site Assessment from a licensed environmental professional identifying that the site is contaminated with pollutants, unless such pollutants are present solely because soil at such address has been historically intermixed with coal ash, wood ash, coal fragments, coal slag, coal clinkers, asphalt paving fragments, or any combination thereof, and the Bidder can demonstrate, to DEEP's sole satisfaction, the site is either abandoned or underutilized because of such contamination."
>
> Id., p. 4.

However, the Authority does note that it did not approve the above definition for inclusion in the NRES Program, as the DEEP Correspondence or similar justification was not provided in Docket No. 22-08-03. DEEP is not directly involved in the vetting of NRES projects and is still somewhat concerned that the requirement of a Phase 2 Environmental Site Assessment may unnecessarily limit bid preference eligibility. The Authority will more comprehensively review this matter across both the NRES and SCEF Programs in the next annual program reviews to arrive at a more similar definition across both programs. As such, project developers are on notice that the brownfield definition may change in future program years.

2. Bid Preferences

As discussed in Section II. (B), DEEP proposed two bid preferences for the Year 4 Procurement: maintaining a 20% bid preference for solar projects built on brownfields or landfills and increasing the Solar Canopy bid preference to 40%.

a. Brownfields and Landfills

In addition to DEEP, the EDCs, Office of Consumer Counsel (OCC), HyAxiom, Lodestar, and SAVE were generally supportive of the brownfields and landfill bid preference of 20%. HyAxoim supported the continued application of a bid preference for projects built on landfills and brownfields, for scoring purposes, because the price reduction facilitates competition between multiple technologies, not limited to solar considerations. HyAxiom Written Comments, Sept. 22, 2022, pp. 3-4. Similarly, SAVE supported maintaining the current brownfield and landfill bid preference as it encourages the development of solar systems on underutilized land resources that may not be useful for any other purpose. SAVE Written Comments, Sept. 22, 2022, p. 1. OCC echoed the support by other stakeholders, noting that the bid preference is sufficient to incentivize projects to be built on parcels that inherently have additional costs, and is also consistent

with other DEEP led procurements and the NRES Program. OCC Written Comments, Sept. 22, 2022, p. 1. Lodestar provided support for DEEP's proposed brownfield and landfill bid preference with some modification, specifically recommending that developers be allowed to "stack" or combine with the distressed and brownfield 20% adders. Lodestar Written Comments, Sept. 22, 2022, p. 2.

The Authority finds a 20% bid preference appears to have appropriately incentivized developers to propose projects on brownfields or landfills in the Year 1, 2, and 3 procurements and is suitable for use in Year 4. Further, the Authority made similar findings regarding a bid preference for brownfields and landfill for the NRES Program. See 22-08-03 NRES Decision. As such, the Authority approves maintaining the 20% bid preference for brownfields and landfills. Finally, the Authority approves DEEP proposal to maintain public disclosure of this bid preference to put developers on notice of the value associated with each preference.

b. Solar Canopy

DEEP proposed increasing the bid preference for solar canopies from 30% percent to 40% percent for Year 4, for ranking and evaluation purposes only. Similarly, OCC found that the 30% bid preference was insufficient for Solar Canopy projects to be competitive but will continue to evaluate Solar Canopy preferences in subsequent SCEF years to consider the amount to which such projects may continue to need preferential status during procurement. OCC Written Comments, Sept. 22, 2022, p. 1. STS recommended the Authority raise the bid preference to 45% as had the 40% bid preference been applied to the sole Year 3 project proposal (resulting in an evaluated bid price of $93.26), it would not have resulted in the carport/canopy project displacing any of the selected projects on an evaluated bid price basis. STS Written Comments, Sept. 22, 2022, p. 1. Furthermore, STS stated that given the increased cost of constructing a solar canopy compared to traditional ground mount systems, a bid preference greater than 40% is necessary to make the deployment of canopy/carport projects competitive with traditional ground-mount systems. Id.

SAVE and Lodestar recommended "bundling" or "stacking" bid preferences. Specifically, Lodestar noted that Year 3 SCEF had a 30% canopy adder however, even with that incentive, only 1 out of 16 bids involved canopies and it was not close to being selected. Lodestar Written Comments, Sept. 22, 2022, p. 2. Lodestar further stated that the cost of installation of canopy systems is significantly higher than traditional ground-mounted or rooftop systems and that the 30% adder is insufficient to overcome the additional costs of a canopy (i.e., steel, foundations, lighting, inefficient tilt angle of panels). Id. SAVE, not specifically commenting on the Solar Canopy bid preference, recommended bundling bid preferences, if a proposed solar project meets more than one of the bid preferences, as this would ensure that the best solar projects are constructed at the best sites and at the lowest possible cost to ratepayers. SAVE Written Comments, Sept. 22, 2022, p. 4. FCE disagreed with the increased bid preference, stating that when DEEP proposed the addition of a 30% bid preference for solar carports and canopies for the Year 3 SCEF Procurement, the Authority found the implementation of the new bid preference to be appropriate because such preference would reduce the "likelihood of solar projects being sited on farm or forest land." FCE Written Comments, Sept. 22, 2022, p. 4. FCE noted that those results can still be achieved without raising the solar carports and canopies bid preference as proposed, or even having a solar carports and canopies

bid preference to begin with. Id. Although, FCE acknowledged that other policy goals could be supported by increasing the number of solar carport and canopy projects but that the costs and benefits of these types of solar projects should be balanced. Id. FCE further expressed that the increased bid preference, coupled with the higher price cap for solar carports and canopy projects, will not deliver additional cost saving benefits to LMI (or similar) customers and will not represent a cost-effective allocation of megawatts to SCEFs. Id., pp. 4-5.

The Authority reviewed the comments from stakeholders and denies DEEP's proposal to increase the solar canopy bid preference to 40% for Year 4. The Authority agrees, in part, with FCE's assessment that an increase in the 30% solar canopy bid preference will not further SCEF's Program Objective to cost-effectively procure up to 50 megawatts. Specifically, the Authority notes that allowing a bid preference above the brownfield bid preference is likely already suboptimal from a programmatic cost-benefit perspective, regardless of the added costs of canopies and carports, as brownfield and landfill projects provide similar benefits associated with avoided siting in suboptimal areas (e.g., green fields). Consequently, the Authority intends to analyze project cost data, environmental justice deployment data, and any analysis quantifying the environmental benefits of avoiding siting in less ideal locations from brownfield, landfill, and solar canopy projects in the next annual Program review, to determine whether changes to this bid preference are warranted in future Program years. Substantial evidence, including detailed substantiation and documentation of any such data and analysis, must be provided by stakeholders in future annual review proceedings in order for the Authority to make a determination to increase the solar canopy bid preference, and also whether or not to potentially implement an adder. The Authority clarifies that such documentation must be brought forward prior to any Technical Meetings held in the annual program review proceeding and, ideally, significantly ahead of the Technical Meeting to allow for appropriate consideration by the Authority and all stakeholders. Furthermore, the current solar canopy bid preference was only recently introduced in the SCEF Year 3 Procurement; therefore, the Authority will continue to monitor its effectiveness in subsequent year reviews. As such, the Authority directs DEEP to maintain the current 30% bid preference.

3. Price Cap

Consistent with statutory requirements and the Year 3 Procurement, DEEP proposed a $155.43/MWh price cap for solar canopies and a $135/MWh price cap for all other technologies. DEEP Proposals, DEEP Year 4 Recommendations, p. 2. The EDCs and OCC supported DEEP's proposed price caps, with the EDCs specifically stating that the proposed price cap at $135/MWh has been appropriately set pursuant to the statutorily prescribed maximum Procurement Price Cap, which was based on the highest selected project from the previous year's selection. EDC's Joint Written Comments, Sept. 22, 2022, p. 3; OCC Written Comments, Sept. 22, 2022, p. 1.

Lodestar supported a separate price cap for the two EDCs, because they have different market factors that impact facility development. Lodestar Written Comments, Sept. 22, 2022, p. 6. Lodestar also stated that a price cap should be tied to the Consumer Price Index (CPI). Id. FuelCell also agreed that the price cap should align with the CPI. Id. Neither Lodestar nor FCE provide evidence that indicate there are changed circumstances that would warrant deviation from the statutory price cap requirements.

STS, while supporting the overall use of price caps, recommended not lowering the procurement price cap to $135/MWh, from $136/MWh in Year 3, stating that the current trend of rising renewable energy project costs could limit proposals if the current general price cap is lowered, and that the prevailing high inflation rate will likely impact project costs moving forward. STS Written Comments, Sept. 22, 2022, p. 4. Additionally, STS noted that given the current inflationary environment and the global supply chain issues impacting the availability of materials necessary for renewable energy projects, the carport/canopy price cap should be raised to at least $175/MWh. Id., p. 5. STS asserts that this increase provides the Authority an opportunity to gauge the impact on the number of Solar Canopy projects submitted in Year 4 of the program, and to evaluate, on the basis of those submissions, what further adjustments (either higher or lower) may be necessary to provide adequate support for these types of projects. Id. In regard to rejecting DEEP's proposed price caps altogether, SAVE was the only stakeholder who recommended eliminating the price cap methodology.

Conn. Gen. Stat. § 16-244z(a)(5) provides for a price cap not to exceed "[t]he maximum selected purchase price of energy and renewable energy certifications…for the same resources in the prior year's solicitation…unless the authority makes a determination that there are changed circumstances…" The Authority has insufficient evidence to find changed circumstances necessary to increase the price cap, as a number of factors putting both downwards (e.g., new federal incentives, alleviation of the threat of solar panel tariffs, etc.) and upwards pressure (e.g., inflation and interest rates, etc.) on potential project costs, as well as the statutory changes associated with P.A. 22-14, make it difficult to predict SCEF project costs and future solicitation bid behavior. Therefore, the Authority approves a $155.43/MWh price cap for solar canopies and $135/MWh price cap for all other technologies for use in the Year 4 Procurement for projects. In general, the Authority finds that the $135/MWh Procurement Price Cap will not inhibit project deployment as several projects in Year 3 came in under the $135/MWh price cap but will closely monitor SCEF solicitation results to ensure the Program Objectives are achieved.

In summary, the Authority appreciates the comments and recommendations from stakeholders, and approves the proposed Procurement Price Cap for Year 4. In addition, as discussed in the above subsections, the Authority approves maintaining the current bid preferences for Landfills, Brownfields, and Solar Canopies.

Year 4 Procurement Price Cap

$0.15543/kWh
(solar canopies)

$0.135/kWh
(all other projects)

Bid Preferences

Landfills or Brownfields
(20% bid preference)

Solar Canopies
(30% bid preference)

4. Agrovoltaics

The Authority requested comments on how to better amplify currently available SCEF Program resources and project consideration guidelines for agrovoltaics, so that SCEF projects could be better deployed on agricultural sites in a way that reduces applicant barriers for project developers and the Connecticut Department of Agriculture (DoAg). August 29 Notice. Ultimately, the EDCs suggested taking steps to better help project applicants understand the siting requirements for agrovoltaics such as reminding applicants of Department of Agriculture (DoAg) "siting requirements and guidelines within program materials, providing links to DoAg materials, and providing opportunities for DoAg to present at SCEF informational webinars." Id.

The Authority appreciates stakeholder input on this topic. To reduce confusion surrounding the requirements for agrovoltaics, and to help project applicants better understand the relevant steps which must be completed, the Authority directs the EDC to work with DoAg to include information relevant to agrovoltaic applicants on the SCEF Program webpages, such as the studies suggested by SAVE[14], DoAg webinars, other scientific studies, links, and/or other resources. The inclusion of such information will help ensure that projects unable to satisfy the siting requirements are not wrongly selected for the SCEF Program, to the detriment of the Program Objectives. Lastly, the inclusion of such information will also help lower applicant barriers, thereby aiding objective three (3) of the SCEF Program.

5. Capacity Maps

The Authority sought stakeholder input on the value of the EDCs' existing capacity maps, including the frequency and timing of capacity map updates, and how to better coordinate the maps with the NRES Program. Aug. 29 Notice., p. 3. Capacity maps are important for SCEF project developers because they show the amount of energy an interconnection site can handle without significant infrastructure upgrades, thereby allowing developers to formulate more accurate business proposals.

The Authority received written comments from four stakeholders on the value of the current capacity maps. DEEP stated that the capacity maps should be updated months before the EDCs request proposals for SCEF procurement, and that developers should be alerted to the specific date of the capacity map updates. DEEP Written Comments, Sept. 22, 2022, p. 3. DEEP also supported greater coordination between the updating of capacity maps for both the SCEF and NRES Programs, to the fullest extent possible. Id. SAVE stated that Eversource suddenly updated their capacity map earlier this year without alerting project developers, thereby causing areas on the map with plenty of interconnection capacity to suddenly have none left. SAVE Written Comments, Sept. 22, 2022, p. 7. As a result, solar companies that relied on the map subsequently wasted time and money developing proposals for nonviable sites. Id. SAVE urged the Authority to direct the EDCs to update their capacity maps daily or in real-time, as is the case in other states, so that solar developers have the most accurate information when developing their project proposals. Id. Additionally, OCC argued for the capacity maps to

[14] SAVE Written Comments, Sept. 22, 2022, p. 2.

"be equally accessible to SCEF and NRES participants and [to] provide up-to-date and accurate information for both programs." OCC Written Comments, Sept. 22, 2022, p. 2.

Eversource currently updates their capacity maps monthly, around the 15th of the month, while UI currently updates their capacity maps twice a year. EDC Written Comments, Sept. 22, 2022, p. 5. The EDCs also stated that they believe the current practices for capacity map updates are adequate, and that the functionality of the maps are the same for all programs. Id. Moreover, at the September 30, 2022, Technical Meeting (September Technical Meeting), UI stated, regarding hosting capacity maps, that the core information may only change every six months and that they may just be updating different elements. Tr. 09/30/2022, pp. 23-24.

The 22-08-03 NRES Decision directs changes and next steps regarding the EDCs' hosting capacity maps. The same information and changes are applicable to SCEF projects and applications. As such, the Authority clarifies that the same capacity map information should be made available to both SCEF and NRES applicants and encourages stakeholders to review the analysis included in the 22-08-03 NRES Decision.

6. Curable Errors

The Authority contracted Sustainable Energy Advantage, LLC (SEA) to conduct an independent audit of the EDCs' performance in Year 10 of the LREC/ZREC and Year 2 of the SCEF Program solicitations after a record number of bidders were disqualified in Year 9 of the LREC/ZREC procurement. PURA Correspondence**,** July 27, 2022, p. 1 (SEA Audit Report). The Authority subsequently sought to incorporate SEA's Audit Report recommendations on curable bid submissions into the solicitation process for future SCEF Program years in order to lower the number of rejected bids so that SCEF could better meet its ascribed Program Objectives, including the full deployment of fifty (50) megawatts annually and the lowering of Program barriers.

SEA's specific recommendations regarding applicable curable errors, per the audit report's guidelines, included allowing most errors to be curable within a defined cure window under the SCEF Program. SEA Audit Report, Attachment 1, p. 1. Errors which should be cured were then divided into two categories: 1) everyday human errors, such as forgetting to attach a document or misspelling a word, and 2) errors caused by miscommunication from the Program administrators. Id. Besides providing guidelines on what should constitute a curable error, the SEA Audit Report also proposed changing the current cure window for everyday human errors from three (3) business days to five (5), seven (7), or ten (10) business days, thereby giving bidders more time to resolve application errors. Id; SEA Audit Report, p. 14. Errors under the second category, conversely, were proposed in the audit report to have a cure window greater than the one created for everyday human errors, at the Authority's discretion, depending on the gravity of the miscommunication error. SEA Audit Report, Attachment 1, p. 1. Additionally, incurable errors were defined by the SEA Audit Report as errors which intentionally violate Program rules, including errors which attempt to "game" the bid solicitation. Id. Finally, SEA's Audit Report recommended that errors which fall within a grey area be deemed incurable by the individual discretion of the Program administrators, provided that such discretion fall within the Program rules and objectives. Id., p. 2.

To ensure a fair and transparent process when creating an acceptable definition and timeline for curable errors, the Authority requested input of Program stakeholders on how to best incorporate the recommendations of SEA Audit Report into the SCEF Program. Aug. 29 Notice, p. 3. Several stakeholders subsequently provided feedback to the Authority on the curable error recommendations of the SEA Audit Report. Lodestar supported a three-business day cure window, so that application errors could be resolved quickly without unnecessary delays for project developers. Lodestar Written Comments, Sept. 22, 2022, p. 8. Additionally, Lodestar argued that grey errors, specifically "willful and intentional acts," should be "clearly and narrowly defined." Id. Lodestar also believed that EDC discretion on what constitutes an incurable error should always give developers the "benefit of the doubt." Id. Moreover, OCC supported the recommendations of the SEA Audit Report, believing that the report provided "more clarity, flexibility, and consistency throughout the SCEF procurement." OCC Written Comments, Sept. 22, 2022, p. 6. OCC further stated that, after evaluating the costs and benefits of each proposal in the report, the Authority should adopt the fairest and least-cost proposal. Id.

Lastly, the EDCs noted that any guidelines for curable errors would never include all scenarios which could reasonably disqualify a bidder. EDC Written Comments, Sept. 22, 2022, p. 7. The EDCs also argued that an expanded definition for curable bids could result in delayed bid selection or low-quality bids. Id. The EDCs believed that they used their discretion under prior procurements of SCEF in beneficial ways, citing a statement from the SEA Audit Report. Id. The EDCs consequently stated that they can be trusted in defining curable errors. Id. The Authority believes that the EDCs have demonstrated a general commitment to ensuring disqualifications were in line with Program Objectives. However, in previous SCEF Program years, incurable bids were defined unpredictably within and between each company. SEA Audit Report, p. 4-7. UI had difficulty determining which applications should be rejected, thereby causing UI to become unable to utilize its remaining LREC/ZREC budget in Year 10. Id., p. 7. To ensure consistency across and within each company, and to remove unnecessary applicant barriers from the SCEF Program, the Authority adopts rules around the application of curable errors below.

Human-caused errors will consequently be defined as any error that was unintentional in nature, including and not limited to, typographical errors, forgetting to attach a required document, missing or incomplete data or form entries, submitting an ineligible or incorrect data point or form, and submitting a form that cannot be opened or read. To prevent low-quality bid submissions, the Authority will provide discretion to the EDCs to disqualify applications that contain an unusually high number of, or substantial, human-caused errors. Errors in communication will be defined as any error that was caused by incorrect, unclear, or inadequate information or communications from the EDCs. Project applicants will subsequently have to provide evidence to the EDCs as to the cause of such errors, to ensure the accuracy and reliability of the cure process. Upon acknowledgement of such error(s), the EDCs shall provide a notice of deficiency to the project applicant, with a statement describing the reasons for the deficiency, in a timely manner to the proper contact(s) of the project applicant. Upon receipt of such deficiencies, the project applicant shall have no more than five (5) business days to cure both human-caused and communication errors. The Authority finds these cure ranges are unlikely to cause significant delays to the bidding process. Additionally, such cure ranges and definitions will help further Program Objectives by increasing Program accessibility, inclusivity, and MW deployment by allowing viable projects the ability to cure

their bids. Finally, the Authority clarifies that the new rules regarding curable errors are not intended to increase the number of untimely or incomplete bids, to the detriment of the Program Objectives. The new rules seek instead to formalize and provide clarity on the curable error process, which is an existing part of the bid process.

With respect to errors that fall within a grey area, or errors which may be intentional in nature, or which may attempt to take advantage of the cure process, the Authority will grant discretion to the EDCs on bid disqualification. When applying this discretion, the EDCs shall be explicitly guided by the Program Manual and Program Objectives. Additionally, the EDCs may use more expansive definitions for human-caused and communications errors than those included above, provided that the Program Objectives are not undermined through significant cost increases or project time delays. Errors that fall in a grey area should always give applicants the benefit of the doubt regarding intent, absent a clear pattern of behavior, before a determination is made.

DEEP may follow the above guidance for curable errors outlined above at their discretion; thus, if they so choose, DEEP may continue to use its existing process to clarify Appendix B responses. However, the Authority respectfully requests that DEEP ensures that the general protocols, including timeframes, for curable errors are made explicitly clear on DEEP's SCEF Program website and during the bidders' conference.

The Authority also directs the EDCs to review the problems discussed in the Audit Report regarding a lack of uniformity or consistency between and within each company when applying cure error standards. More specifically, the Authority directs the EDCs to file for review and approval a plan to coordinate on determinations regarding curable errors and other SCEF Program administrative matters. Lastly, the Authority directs the EDCs to update the Program Manual with the guidance on curable errors provided herein.

7. Ombudsperson

Comments provided by Lodestar supported the creation of an independent ombudsperson. Lodestar Written Comments, Sept. 22, 2022, p. 8. Lodestar noted that such an approach has been utilized in other states, including Massachusetts, New York, and Rhode Island. Id., p. 7-8. An independent ombudsperson was a separate solution option proposed in the SEA Audit Report to resolve procurement issues, including the ambiguity surrounding incurable errors, by serving applicants and the EDCs. SEA Audit Report, p. 20. An independent ombudsperson, however, is not without its costs since the ombudsperson's services could increase the ratepayer cost of the SCEF Program. SEA Audit Report, p. 20.

The Authority is open to the creation of an independent ombudsperson for the SCEF Program in future Program years. The Authority is mindful that an independent ombudsperson may provide benefits to programs other than SCEF, including the NRES Program and would be able to resolve any application disputes, not just those related to incurable errors. Consequently, the Authority intends to review the costs and benefits of an independent ombudsperson in greater detail in the next annual Program review in Docket No. 23-08-04. The Authority encourages interested stakeholders to submit as

correspondence to the Authority any data-driven analysis or written argumentation to support or reject the inclusion of an independent ombudsperson in the SCEF Program.

III. OUTSTANDING MATTERS

A. OUTSTANDING MOTIONS IN DOCKET NO. 19-07-01RE01

1. Customer Verification (Motion No. 16)

On July 20, 2022, the EDCs submitted a joint motion (Motion No. 16) requesting the Authority review and approve the final customer identification and verification processes pursuant to Order No. 3 of the SCEF Enrollment Decision. Motion No. 16, p. 1. Specifically, Order No. 16 states:

> No later than August 1, 2022, the EDCs shall submit for Authority review and approval all final customer identification and verification processes, including:
>
> a. Proposed list of acceptable documentation to prove Low-Income Customer eligibility;
> b. Proposed list of acceptable documentation to prove Moderate-Income Customer eligibility;
> c. Proposed plan to verify an organization's provision of service or assistance specifically to low-income individuals, including a list of documentation that organizations may provide to inform the EDCs' process;
> d. Proposed list of acceptable documentation to prove State and Municipal Customer eligibility; and
> e. Proposed EDC-specific timelines and corresponding flowcharts for: (1) outreach campaigns, including an explanation of how and when the EDC would determine if such campaign is necessary; (2) completion of the identification and verification processes for opt-out subscribers, including when each subscriber category list will be updated; and (3) subscriber selection process, proposing an initiation timeline based on a project's in-service date, in accordance with Section II.B.3.
>
> Id.

In compliance with the Order No. 3, the EDCs submitted Attachments 1 through 4 that describe the proposed verification methods for the listed customer types in the SCEF program. Id., p. 2. As such, the low-income and moderate-income customer documentation lists were developed in collaboration with Operation Fuel, and include the documents accepted for financial hardship pursuant to the interim decision dated December 2, 2021 in Docket No. 17-12-03RE01, PURA Investigation into Distribution System Planning of the Electric Distribution Companies - Energy Affordability. Id. Additionally, the EDCs stated that the process for verifying low-income-service organizations was developed in partnership with the United Way. Id. The Authority has reviewed the verification methods proposed by the EDCs and determine they comply with Order No. 3 of the SCEF Enrollment Decision. Therefore, the Authority grants Motion No. 16.

2. Subscribers (Motion No. 17)

On July 29, 2022, the EDCs submitted a joint motion (Motion No. 17) requesting the Authority review and approve the Companies' revised SCEF Program documents pursuant to Order No. 2 of the SCEF Enrollment Decision. Motion No. 17, p. 1. Specifically, Order No. 2 provides:

> No later than August 1, 2022, the EDCs shall submit for the Authority's review and approval revised SCEF program documents, which shall include proposed language and Appendices incorporating the customer identification, verification, and enrollment processes proposed by the Companies and approved by the Authority herein. Such submission shall also include any changes authorized through Docket No. 21-08-04.
>
> Id.

The EDCs submitted Attachments 1 through 12, which include the program documents that modified all the Subscriber-related documents to incorporate the changes authorized by the Authority in its SCEF Enrollment Decision, and the legislative changes authorized in Public Act 22-14. Id. The Authority has reviewed the revised SCEF Program documents and determines they comply with Order No. 2. Therefore, the Authority grants Motion No. 17.

3. Affordable Housing Facility Eligibility (Motion No. 18)

On August 1, 2022, the EDCs submitted a joint motion (Motion No. 18) requesting the Authority review and approve the Companies' compliance with Order No. 8 of the of the SCEF Enrollment Decision. Motion No. 18, p. 1. Specifically, Order No. 8 provides:

> No later than August 1, 2022, the EDCs shall collaborate with stakeholders to develop and submit for Authority review and approval a plan to incorporate affordable housing facilities into the SCEF Program.
>
> Id.

The EDCs submitted Attachments 1 through 3, which contains the proposal for incorporating affordable housing facilities into the SCEF Program and information on the working group authorized in the SCEF Enrollment Decision to support Order No. 8 compliance. Id. As part of the proposal, the EDCs provided Attachment No. 2, Summary of the Working Group Process, that describes how the Affordable Housing working group (Working Group) members discussed how best to incorporate affordable housing facilities into the SCEF Program. Motion No. 18, Attachment 2, p. 1. Ultimately, the Working Group decided the best way to prioritize these affordable housing facilities in the SCEF Program was through a weighted approach, given the likely small number of affordable housing facilities that may meet these specific criteria compared to the large number of customers eligible in the 40% LMI category. Id., p. 2. In turn, by applying a weighting in the selection process, each affordable housing facility that met these additional criteria would receive additional 'entries' in the lottery to increase the chances of being selected for a SCEF subscription. Id.

Subsequently, on August 1, 2022, the Connecticut Green Bank (CGB) submitted written comments in response to Motion No. 18. CGB noted their role in the Working Group and offered support for EDCs affordable housing facilities plan while also proposing an additional modification. CGB Written Comments, Aug. 1, 2022, p. 1. CGB proposal included subscriber savings of the SCEF benefit to support additional public policy objectives where the landlord as the subscriber assigns the 20-year value of the subscriber savings to the meter, directing those proceeds towards the energy efficiency investment on the property. Id., p. 3.

The Authority has reviewed the EDCs' compliance with Order No. 8 and the CGB's subsequent proposal. The Authority appreciates the CGB's proactive and innovative approach to thinking about the use of subscriber credits in the SCEF Program to provide greater benefits to affordable housing tenants, which would ultimately support the important public policy objectives the SCEF Program furthers. However, the Authority notes that the EDC's affordable housing facilities plan was ultimately agreed upon by all Working Group members, including CGB. Accordingly, the Authority approves the EDCs affordable housing facilities plan and grants Motion No. 18. The Authority encourages CGB to continue to work with other stakeholders on this proposal and to present a plan during the next SCEF Program annual review.

4. SCEF Engagement Activities (Motion No. 19)

On August 1, 2022, the EDCs jointly filed a motion (Motion No. 19) requesting the Authority review and approve the Companies' compliance with Order No. 9 of the of the SCEF Enrollment Decision. Motion No. 19, p. 1. Specifically, Order No. 9 provides:

> No later than August 1, 2022, and annually thereafter, the EDCs shall provide an annual summary of their SCEF engagement activities in the appropriate Annual Review proceeding, including a description of any training sessions held with organizations regarding the SCEF Program and any lessons learned and recommended improvements.
>
> Id.

The EDCs submitted Attachment 1 describing engagement activities and stated that they continued meetings and engagement activities throughout 2022 with organizations such as Operation Fuel, The United Way, the CGB, DEEP, the Connecticut Department of Housing, OCC, the Connecticut Housing Finance Authority, and other multifamily affordable housing stakeholders in support of the development and launch of the SCEF Program for Subscribers. Id., pp. 1-2. The EDCs collaborated with Operation Fuel to develop a Memorandum of Understanding (MOU) for services related to the identification and income-verification of moderate-income customers. Id. In addition, the EDCs also collaborated with the United Way to execute a data sharing agreement to identify Low-Income Service Organizations (LISOs) eligible to participate in the SCEF Program, and to establish a verification process for LISOs that apply for participation in the SCEF Program and have not previously been verified as a LISO by the United Way. Id., p. 2. Furthermore, the EDCs stated their intention to provide training on the SCEF Program to align with the yearly Connecticut Energy Assistance Program training with Community Action Agencies. Id. The EDCs hope such trainings will coincide with the timing for SCEF Project(s) that may potentially enter service in 2022 and 2023. Id., p. 2.

The Authority reviewed the engagement activities outlined in Attachment 1 to Motion No. 19 and determines they comply with Order No. 9. Therefore, the Authority grants Motion No. 19. Further, the Authority will direct the EDCs to amend their MOU with Operation Fuel as necessary based on the direction and orders provided herein.

B. OUTSTANDING MOTIONS IN YEAR 4 SCEF (22-08-04)

1. Request for Technical Meeting (Motion No. 4)

On October 7, 2022, Connecticut Solar and Storage Association (ConnSSA) filed a motion (Motion No. 4) requesting the Authority schedule a Technical Meeting to discuss the opportunity to fully leverage the federal Inflation Reduction Act (Act), Public Law No. 117-169,[15] recently enacted by Congress to reduce SCEF Program bid prices. Motion No. 4, p. 1.

ConnSSA stated that the Act significantly enhanced the tax credits available for Projects that benefit low-income households and that the SCEF Program is intended to benefit low-income households. Id. ConnSSA further notes that if the Authority can modify the SCEF rules to qualify projects for the additional tax credits, the SCEF Program will see reduced pricing. Id.

The Authority appreciates ConnSSA's recommendation, however federal guidance in relation to the additional credits enhanced by the Act, specifically the Clean Electricity Investment Credit, have not been finalized. Further, if a project that does not receive the federal incentive bids in a lower price than one that does, ratepayers still benefit financially more from the lower cost project, regardless of whether it received the federal incentive. As such, more analysis and information is necessary before making further modifications to the bid preference. This topic can be further discussed in the next SCEF year review. Regarding the SCEF Year 4 solicitation, the Authority encourages developers to find areas of overlap between PURA's approved bid preference and project locations likely to receive federal incentives. For the reasons stated herein, the Authority hereby denies Motion No. 4.

Last, regarding the appropriate procedural vehicle for raising this issue in next year's annual review docket, ConnSSA should do so well in advance of any planned Technical Meeting(s) and through any opportunities for comments and/or presentations during Technical Meeting.

2. Year 3 and Year 4 Expansion (Motion Nos. 5 and 13)

On October 6, 2022, VCP, Pledgor 4, LLC d/b/a Verogy (Verogy) filed a motion (Motion Nos. 5 and 13) in Docket Nos. 22-08-04 and 21-08-04 respectively, requesting expansion of the SCEF Year 3 and Year 4 auctions to comply with P.A. 22-14. Motion Nos. 5 and 13, p. 1. Specifically, Verogy requested the following actions:

1. Offer Year 3 SCEF auction bidders that were declined or unselected but were otherwise qualified bidders the opportunity to execute a SCEF Tariff

[15] See Inflation Reduction Act available at: Text - H.R.5376 - 117th Congress (2021-2022): Inflation Reduction Act of 2022 | Congress.gov | Library of Congress.

> Terms Agreement. There are 29.360 MW AC of projects available in this position (see Exhibit A). Should all Available Bidders accept and execute a SCEF Tariff Terms Agreement, the unallocated SCEF MW AC amount will drop from 53.152 MW AC to 23.792 MW AC.
>
> 2. Roll over any unallocated SCEF MW AC that remain after the offer to Available Bidders, to the Year 4 SCEF auction. If one assumes all Year 3 SCEF Available Bidders accept the allocation, then 23.792 MW AC will need to roll over into the Year 4 SCEF Auction. Consequently, the Year 4 SCEF auction will be for 73.792 MW AC.
>
> Id., p. 4

Additionally, Verogy states that this process would most efficiently utilize the MW AC available in the SCEF program by giving otherwise compliant Year 3 SCEF auction participants access to MW AC that should have been available to SCEF projects pursuant to P.A. 22-14. Id.

As outlined in Section I. (E)(2) above, under the canon of statutory interpretation, legislative changes to substantive statutes apply prospectively unless the Legislature states that amendments are intended to apply retroactively. See Coley v. Camden Associations, Inc., 243 Conn. 311, 316 (1997). In reviewing the statutory changes in P.A. 22-14, the Authority concludes that the amendments do not apply retroactively to the implementation of previous SCEF program years and exclusively apply to SCEF Year 4 and future program years, as the effective date was October 1, 2022. For the reasons stated herein, the Authority denies Motion Nos. 5 and 13.

C. GREEN BANK PROPOSED MODIFICATIONS

The CGB submitted Proposed Modified Program Rules (Attachment A) for Year 4 SCEF (Proposed Program Rules), in response to the Authority's direction in the SCEF Enrollment Decision encouraging CGB to work with the EDCs, DEEP, and OCC to incorporate any redline edits that would enable the CGB's modifications, proposed in Attachment A, to be implemented in a timely fashion. CGB Correspondence, Aug. 1, 2022, p. 1. CGB worked with DEEP, OCC, the EDCs, and the Joint Committee of the Energy Efficiency Board (Joint Committee) to develop proposed program rules, which included the incorporation of the definition for "Individual Billing Meter," as well as the inclusion of additional rules relating to a "Subscriber Assignee." Id., Attachment A, Proposed Modified Program Rules, p. 3-22. Specifically, the "Subscriber Assignee" modifications align with the subscriber savings plan proposed by CGB in their written comments in response to Motion No. 18 in the SCEF Enrollment Decision. Ultimately, as outlined in Section III. (A)(3) above, the Authority did not approve CGB subscriber savings proposal in the Authority's Motion No. 18 ruling and, therefore, does not approve the "Subscriber Assignee" language in the Proposed Program Rules.

However, in CGB's proposed program rules, recommendations from the Joint Committee included support for bringing the appropriate stakeholders (e.g., Connecticut Equity and Environmental Justice Advisory Council) together in a public proceeding to discuss how the CGB's proposal might be used to support additional public policy objectives. Id., Attachment B, Memo to Joint Committee, p. 4. Additionally, the Joint Committee further noted that the subscriber savings plan would need strong community

outreach and involves potential owner-tenant problems and budget strains, but that there was interest to continue these discussions through a PURA-overseen process. Id., p. 2.

Accordingly, the Authority approves the inclusion of the definition for "Individual Billing Meter," and directs the EDCs to incorporate the new definition in the Program Manual. Further, the Authority encourages CGB to continue to work with other stakeholders, including the Joint Committee, on this proposal and to present a plan during the next SCEF Program annual review, submitting a proposal that specifically shows how public policy and SCEF Program Objectives will furthered.

D. RFP DOCUMENTATION AND EDC PROPOSED REDLINE CHANGES

On September 1, 2022, the EDCs jointly filed a motion (Motion No. 3), in Docket 22-08-04, requesting the Authority review and approve their compliance with Order No. 3, which requires the Companies to submit their SCEF Program Manual and all RFP documents and associated resources in the applicable annual review proceeding. Motion No. 3, p. 1.

The EDCs submitted Attachments 1 through 8 (Attachments), which consist of the Companies proposed minor changes to the SCEF Program Manual and RFP documents. Id. The modifications made by the EDCs are administrative in nature and incorporate changes relating to the amendments in P.A. 22-14. The Authority accepts the EDCs' proposed revisions to the SCEF Program Manual and RFP documents, subject to the modifications below.

The EDCs provided redlined versions of the following RFP documents:

1. Modified Program Requirements (SCEF Program Manual)
2. Year 4 RFP for the Shared Clean Energy Facility Program
3. Subscriber Organization Tariffs Terms Agreement
4. Eversource Subscriber Organization Rider
5. UI Subscriber Organization Rider
6. Subscriber Organization Terms and Conditions
7. Eversource Year 4 Bid Certification Form
8. UI Year 4 Bid Certification Form

The EDCs made a substantive change to the Subscriber Organization Terms & Conditions, specifically modifying Section 14.2.6, which reduces the time a Subscriber Organization fails to Deliver Energy and/or RECs from the facility to the EDC from 24 consecutive months down to 6 consecutive months. Id., pp. 1-2. The EDCs stated that this change allows the EDCs sufficient time to address systems that may have gone offline or have had inconsistent production as they pertain to the Subscribers associated with such expected production or lack thereof. Id., p. 2. The EDCs further note that any variance should be brought to PURA's attention before the 24-month window currently provided in the Terms and Conditions. Id. The Authority understands the EDCs intent at providing appropriate time to respond to Subscriber issues with providing energy and/or RECs and agrees that timeline window should be sooner than 24 months. However, reducing the 24 consecutive month window to 6 consecutive months is a drastic decrease and may not be sufficient time for the Subscriber Organization to address any issues before the EDCs report to PURA. To that effect, the Authority modifies the EDCs

proposed time frame and directs the EDCs to reduce the 24 consecutive month period to 12 consecutive months.

The Authority received comments from SAVE regarding the guidelines for performance assurance deposits, or a Development Period Security, from developers. Specifically, SAVE stated that the performance assurance deposit should not be forfeited in any circumstances as long as the solar company has acted in good faith and the solar project does not move forward for reasons beyond the control of the solar company. SAVE Written Comments, Sept. 22, 2022, p. 8. SAVE's justification for this is that there are so many forces beyond the solar companies' control that might result in a project not going forward. Id. Furthermore, at the September Technical Meeting, SAVE presented that the Development Period Security forfeiture created a chilling effect on smaller solar development companies, thus reducing competition and potentially increasing bid prices under the SCEF program. Tr. 09/30/22, pp. 62-63. As such, SAVE offered a redline edit to the Security section of the SCEF Program Manual, recommending the following updated language, which includes three additional project determinations for the return of the Development Period Security:

> The EDC shall return the Development Period Security to the bidder if at least one of the following conditions is met: (i) the Selected Project enters commercial operation in a timely fashion and begins producing energy consistent with these Program requirements; (ii) the Project's eligibility under the Tariff is terminated for failure to receive Regulatory Approval satisfactory in substance to the EDC; or the Project's eligibility under the Tariff is terminated due to a force majeure event; or the Bid is not selected under the procurement for which the Bid was submitted; the results of the EDC/ISO-NE System Impact Study indicates that grid upgrade costs would make the project economically unviable; the Connecticut Siting Council does not approve the Project; or the Connecticut Department of Energy and Environmental Protection does not grant authorization for the Project under the General (Stormwater) Permit.
>
> Id., p. 70; SAVE Presentation, slide 4.

The EDCs opposed SAVE's suggested modification, stating that such modifications would undermine the integrity of the SCEF program by effectively placing all the risk on customers while eliminating the risk for developers. EDCs Joint Brief, Oct. 12, 2022, pp. 5-6. Further, the EDCs noted that the SCEF projects are designed to benefit subscribers who otherwise do not have access to other renewable energy programs for various reasons, and such subscribers are relying upon these projects to be built to partake in those benefits. Id. In summary, the EDCs described that the proposal by SAVE would be counterproductive to the first two objectives of the SCEF Program and that SAVE did not provide a basis for how it would be determined that an interconnection upgrade makes a project economically unviable which introduces unnecessary subjectivity into the decision-making process. Id., p. 6. However, the EDCs are in support of making the three additional project determinations, recommended by SAVE, for the return of Development Period Security requirements to be completed prior to bid submission and would be open to further discussions on this matter. Id., pp. 6-7. Ultimately, the Authority concurs with the EDCs that SAVE's suggested modifications generally shift the project development risk away from developers to ratepayers and/or

the state's policy goals; thus, the Authority declines to incorporate SAVE's suggested modifications at this time.

The Authority approves the EDCs' revisions to the SCEF Program Manual and RFP documents with the additional direction and orders provided throughout this Decision. Therefore, the Authority grants Motion No. 3 with modification and directs the EDCs to update the SCEF Program Manual to align with the guidance outlined in this Decision.

IV. SUMMARY OF APPROVED MOTIONS

In addition to Motion Nos. 16 through 19, addressed above in Section III. (A), the Authority has ruled on the following Motions, outlined in Table 2 below, which relate to Orders in the SCEF Enrollment Decision and ultimately align with the modifications proposed in this Decision:

Table 2: Approved Motions

Motion No.	Description	Disposition
12	EDCs Joint Motion filing for review and approval of Order No. 6, which includes agreements and/or MOUs with Operation Fuel to provide customer enrollment and verification services as directed herein, including a proposed budget.	Granted
13	EDCs Joint Motion filing for review and approval of Order No. 7, which includes a data sharing agreement with the Connecticut United Way to share Low-Income Service Organization (LISO) information.	Granted
14	EDCs Joint Motion filing for review and approval of Order No. 4, which includes all proposed communications to selected SCEF Subscribers	Granted
15	EDCs Joint Motion filing for review and approval of Order No. 5, which includes a non-feasible solar form. Such form shall be publicly available to customers no less than three months prior to each EDC's first SCEF project in-service date.	Granted

V. CONCLUSION AND ORDERS

A. CONCLUSION

In this Decision, the Authority authorizes changes to the SCEF Program so that the Year 4 Procurement may better serve the SCEF Program Objectives. As such, the Authority provides additional direction and clarification for stakeholders herein.

Additionally, the Authority approves, with modification, the Bid Preferences and Procurement Price Cap for the Year 4 Procurement.

B. EXISTING AND NEW ORDERS

For the following Orders, the Company shall file an electronic version through the Authority's website at www.ct.gov/pura. Submissions filed in compliance with the Authority's Orders must be identified by all three of the following: Docket Number, Title and Order Number. Compliance with orders shall commence and continue as indicated in each specific Order or until the Company requests and the Authority approves that the Company's compliance is no longer required after a certain date. All Orders requiring Authority review and approval shall be submitted as a motion. Furthermore, Orders shall be filed in their respective dockets, where the Order was established, as well as in the applicable SCEF Annual Review proceeding (i.e., Docket No. 22-08-04, 23-08-04, etc.).

The below standing orders are a summation of prior orders related to the SCEF Program that continue to apply. In some instances, the Authority has amended those standing orders with redline edits. The below new orders apply on a going forward basis.

1. Standing Orders

1. Reference Docket No. 19-07-01 Final Decision, Dec. 18, 2019, Order No. 3, p. 22: No later than ninety (90) days after the issuance of this Decision [19-07-01 Final Decision], and semi-annually thereafter until otherwise directed by the Authority, the EDCs shall provide a detailed cost estimate for the SCEF implementation costs, and updates to the forecasted implementation costs and ongoing program administration.

2. Reference Docket No. 19-07-01 Final Decision, Dec. 18, 2019, Order No. 9, pp. 23-24: No later than November 30, 2022, and annually thereafter, each EDC shall review SCEF subscriptions in the aggregate for the preceding year and report to the Authority on the status of the aggregate SCEF subscriptions by Customer type, specifically providing:

    a. Annual aggregate SCEF production;
    b. Annual aggregate SCEF Subscribed Energy by Customer eligibility type, including opt-in Subscribers;
    c. Information on each Subscriber who was a Subscriber in the preceding year, including the Subscriber's meter address, customer class, date of entry and exit, and Subscription kWhs, as applicable;
    d. The number of residential Subscribers and corresponding Subscription kWhs in the preceding year that were subscribed by way of physical written documentation from a rooftop solar installer that demonstrates they are unable to have solar panels installed on their roof, including any associated documentation;
    e. The number of Subscribers and corresponding Subscription kWhs in the preceding year that are in excess of the load covered by net metering, virtual net metering, LREC/ZREC contracts, or PA 18-50 tariffs other than those in this Program, for such Subscriber;

f. All marketing materials used to recruit opt-in Subscribers in the preceding year, including, but not limited to, the website used by the EDC; and
g. The number of Subscriptions, and kWhs associated with any such Subscriptions, which were: (1) transferred to another location when a Subscriber moved; (2) terminated; or (3) resized in the preceding year.

3. Reference Docket No. 19-07-01 Final Decision, Dec. 18, 2019, Order No. 10, p. 24: No later than November 30, 2022, and annually thereafter, each EDC shall provide an aggregate list of eligible LMI customers readily identifiable in the EDC's billing system, by number of customers and annual electricity consumption, not currently subscribed through the SCEF program.

4. Reference Docket No. 19-07-01 Final Decision, Dec. 18, 2019, Order No. 11, p. 24: The EDCs shall seek recovery of the costs and revenues of the Modified SCEF Program Requirements in their annual RAM proceeding through the NBFMCC charge, in accordance with the requirements in Section Q., Cost Recovery for the EDCs, unless and until recovery of such costs is authorized by the Authority in an alternative manner pursuant to the requirements of Conn. Gen. Stat. § 16a-3m.

5. Reference Docket No. 19-07-01RE01 Final Decision, Sept. 15, 2021, Order No. 9, p. 22: No later than August 1, 2022, and annually thereafter, the EDCs shall provide an annual summary of their SCEF engagement activities in the appropriate Annual Review proceeding, including a description of any training sessions held with organizations regarding the SCEF Program and any lessons learned and recommended improvements.

6. Reference Docket No. 19-07-01RE01 Final Decision, Sept. 15, 2021, Order No. 10, p. 22: No later than November 30, 2022, and annually thereafter, each EDC shall review SCEF subscriptions in the aggregate for the preceding year and report to the Authority on the status of the aggregate SCEF energy and subscriptions allocated to customers in EJ communities and in municipalities with SCEFs sited on landfills or brownfields with its filing provided in compliance with Order No. 9 of the SCEF Decision.

7. Reference Docket No. 19-07-01RE01 Final Decision, Sept. 15, 2021, Order No. 11, p. 23: The EDCs shall provide as compliance in this docket [19-07-01RE01] and the appropriate annual SCEF review docket information on any webinars and public presentations or trainings on the SCEF program two weeks before the day of the event. The EDCs may provide such information closer to the event, if two weeks is impossible or impractical.

8. Reference Docket No. 19-07-01RE02 Final Decision, April 28, 2021, Order No. 3, pp. 17-18: For program Year 2, and all subsequent program years, each EDC shall inform the Authority, on the first day of issuance, that disqualified bidders and winning bidders have been notified. The EDCs shall inform the Authority via a sample notification provided to disqualified bidders (e.g., an anonymized email sent to disqualified bidders) and winning bidders (e.g., an anonymized email sent to winning bidders) as a compliance filing in Docket No. 19-07-01. For clarity, the EDCs shall provide one notification on the first day disqualified bidders are notified and another notification on the day that winning bidders are notified.

9. Reference Docket No. 19-07-01RE02 Final Decision, April 28, 2021, Order No. 4, p. 18: For program Year 2, and all subsequent program years, each EDC shall continue the practice of submitting the selected SCEF bids as a motion in Docket No. 19- 07-01 for the Authority's review and approval. The public summary shall be sorted by evaluated Bid price(s), and shall include for each Bid: the Bid/Project ID, address; Subscriber Organization name; Bid status (disqualified, selected, withdrawn, etc.); as-Bid project size in MW; expected annual production in kWh; Y/N for each Bid Preference considered during the solicitation(s); Bid price(s); evaluated Bid price(s) if Bid preferences are applied; projected annual amount to be paid to Subscriber Organization; the projected annual amount to be paid to Subscribers; estimated in-service date; fuel type (e.g., solar, fuel cell, etc.); and customer class/tariff (e.g., rate 27, rate 30, etc.).

10. Reference Docket No. 19-07-01RE02 Final Decision, April 28, 2021, Order No. 5, p. 18: For program Year 2, and all subsequent program years, each EDC shall provide a narrative summary of the SCEF program solicitation in its motion filed in accordance with Order No. 4 seeking approval of the selected SCEF bids (Summary Report), providing an overview of the key data and metrics. The Summary Report shall be similar in form to the LREC/ZREC Procurement Plan submitted for the LREC/ZREC program.[16] The Summary Report shall also include a section in the narrative summary that clearly articulates how any disqualified bids met the following criteria: 1) there is a violation of clear program rules; 2) disqualification is not in conflict with the objectives of the program; and 3) disqualification does not represent an unnecessary barrier to entry. Both companies shall use the same format and include the same type of information and data in their Summary Report. Both companies shall also post both the Summary Report and public summary data, in Excel, to their respective websites.

11. Reference Docket No. 19-07-01RE02 Final Decision, April 28, 2021, Order No. 6, p. 18: For program Year 2, and all subsequent program years, each EDC shall file a composite list of the most up-to-date information and data for the most recent and all previous SCEF program solicitations (Annual SCEF Summary Data), not less than 60 days after the Authority's approval of the selected bids. Such report shall include all of the information included in the public summary data filing listed above for each SCEF bid received to-date, as well as an accounting of: all unallocated megawatts; all allocated, but unused megawatts; and total in-service megawatts. The EDCs shall use the same format in providing the Annual SCEF Summary Data, which shall be submitted in an unlocked Excel spreadsheet and concurrently posted to the company's website.

12. Reference Docket No. 19-07-01RE02 Final Decision, April 28, 2021, Order No. 7, p. 18: On a going forward basis, all SCEF bid documents shall be sent to the relevant EDC and DEEP as outlined in Section III.B.1 [of the 19-07-01RE02 Final Decision] to ensure that both the EDCs and DEEP have all of the requisite information to complete their respective reviews. In conducting such reviews, both

[16] See, e.g., Docket No. 11-12-06, UI Compliance Filing Order No. 5, Year 9 Final Procurement Plan, Dec. 31, 2020, Compliance Filings for 11-12-06 (state.ct.us)

DEEP and the EDCs shall consider a bid complete if either DEEP or an EDC is in possession of the required documentation.

13. Reference Docket No. 21-08-04 Final Decision, November 17, 2021, Order No. 2, p. 19: No later than September 1, 2022, and annually thereafter as applicable, the EDCs shall jointly file the current SCEF Program Requirements and all RFP documents in the applicable Annual Review proceeding (i.e., Docket No. 22-08-04, 23-08-04, etc.), and proposing modifications, as necessary and appropriate, that will allow the SCEF Program to better meet the Program Objectives.

2. New Orders

14. No later than December 30, 2022, the EDCs shall jointly file, for Authority review and approval, final, clean versions of the Year 4 SCEF Program Manual, including Appendix B, and the RFP documents, as approved or modified herein. The EDCs shall conduct the Year 4 SCEF procurement in accordance with the final, approved documents and the Program Objectives.

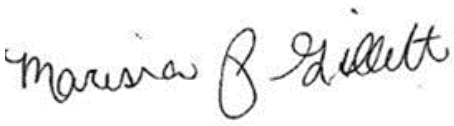
15. No later than January 6, 2023, the EDCs shall file, for review and approval, a proposed plan for better coordination within and between EDCs outlining determinations regarding curable errors and other SCEF Program administrative matters summarized in Section II. (C)(6).

16. No later than February 1, 2023, the EDCs shall jointly submit an amended MOU with Operation Fuel, should the existing MOU require amending based on the guidance for moderate-income customers as discussed in Section I. (E)(1).

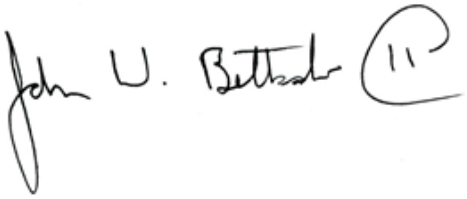
17. No later than September 1, 2023, DEEP shall file its recommended Bid Preferences and Procurement Price Cap, proposed revisions to the SCEF Program Manual, as necessary and appropriate, and proposed changes to Appendix B – Submittal to DEEP.

DOCKET NO. 22-08-04 ANNUAL SHARED CLEAN ENERGY FACILITY PROGRAM REVIEW – YEAR 4

This Decision is adopted by the following Commissioners:



Marissa P. Gillett



John W. Betkoski, III

Michael A. Caron

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

December 7, 2022

Jeffrey R. Gaudiosi, Esq.
Executive Secretary
Public Utilities Regulatory Authority

Date

Appendix A – List of Participants

Participant	Representing
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December 5, 2022

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
ghgrfund@epa.gov

SUBJECT: Public Comments from the Connecticut Green Bank – Request for Information: Greenhouse Gas Reduction Fund – Docket ID No. EPA-HQ-OA-2022-0859

Dear Administrator Regan:

The Connecticut Green Bank ("Green Bank") values the U.S. Environmental Protection Agency's ("EPA") Request for Information regarding the Greenhouse Gas Reduction Fund ("RFI GHGRF"). The RFI GHGRF invites public comment on the design and implementation of the Greenhouse Gas Reduction Fund ("GHGRF"). The fund was created to deploy competitive grants that mobilize financing and leverage private capital for clean energy and climate projects that reduce or avoid greenhouse gas emissions, especially in low-income and disadvantaged communities. These are the public comments of the Green Bank, a quasi-public entity[1] of the State of Connecticut.

As the nation's first state-level green bank, the 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.

For a more complete overview of the Green Bank, and its solutions – see Attachment A.

[1] The Connecticut Green Bank is hereby established and created as a body politic and corporate, constituting a public instrumentality and political subdivision of the state of Connecticut established and created for the performance of an essential public and governmental function. The Connecticut Green Bank shall not be construed to be a department, institution or agency of the state.

The Green Bank applauds Democratic Congressional leadership and staff, specifically Senator Sanders,[2] and Congresswoman Dingell, Senator Markey, and Senator Van Hollen,[3] for working with the White House[4] team to advance the $27 billion GHGRF as part of the Inflation Reduction Act ("IRA"). The Green Bank is gratified that Connecticut's Congressional delegation, and specifically Senators Murphy and Blumenthal,[5] and Representatives Himes and DeLauro,[6] who have been instrumental in advancing, for nearly a decade, the national debate at the federal level on a climate bank. And lastly, the Green Bank salutes Reed Hundt and the Coalition for Green Capital for their work with the Connecticut General Assembly ("CGA") in 2011 to pass a nearly unanimous bipartisan bill creating the nation's first state-level green bank;[7] for assisting other state and local governments in the creation of their green banks; and for their nearly 15 years of leadership advocating for a national climate bank.

Background

There are numerous public policies in Connecticut that support the Biden Administration's public policies, including:

- **GHG Reduction Targets** – Public Act 08-98 "An Act Concerning Connecticut Global Warming Solutions," established GHG emission reduction targets for 2010, 2020, 2030,[8] [2040][9] and 2050. Connecticut's GHG emission reduction target for 2030 is consistent with President Biden's 50-52% reduction from 2005 levels by 2030.

- **Resilience and Vulnerable Communities** – Public Act 20-05 "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," established definitions for resilience[10] and vulnerable communities,[11, 12] that are consistent with President Biden's Justice 40 efforts to increase resilience of those populations disproportionately impacted by the effects of climate change.

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[2] Sec. 134(a)(1)

[3] Sec. 134(a)(2-3)

[4] https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-biden-administration-outlines-key-resources-to-invest-in-coal-and-power-plant-community-economic-revitalization/

[5] Sponsor and/or Co-Sponsor under Green Bank Act of 2014 (S.2271), Green Bank Act of 2016 (S.3382), Green Bank Act of 2017 (S.1406), National Green Bank Act of 2019, National Climate Bank Act of 2021 (S.283), and National Green Bank Act of 2021 (S.1208)

[6] Sponsor and/or Co-Sponsor under Green Bank Act of 2014 (H.R.4522), Green Bank Act of 2016 (H.R.5802), Green Bank Act of 2017 (H.R.2995), National Green Bank Act of 2019 (H.R.3423), and National Green Bank Act of 2021 (H.R.2656)

[7] https://www.cga.ct.gov/current/pub/chap_283.htm#sec_16-245n

[8] Through Public Act 18-82, "An Act Concerning Climate Change Planning and Resiliency," a 45% reduction of GHG emissions from 2001 levels by 2030 was established – click here.

[9] Through Public Act 22-5, "An Act Concerning Climate Change Mitigation," a 100% zero carbon electric sector by 2040 was established – click here.

[10] "Resilience" means the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from deliberate attacks, accidents or naturally occurring threats or incidents, including, but not limited to, threats or incidents associated with the impacts of climate change.

[11] "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.

[12] Connecticut's analog to the U.S. Department of Energy's "disadvantaged communities" definition

- **Just Transition Requirements** – Public Act 21-43 "An Act Concerning a Just-Transition to Climate-Protective Energy Production and Community Investment," established requirements for Community Benefit Agreements ("CBAs") for certain renewable energy projects that are consistent with President Biden's Just Transition efforts, including workforce development and prevailing wages.

- **Renewable Portfolio Standards** – Public Act 18-50 "An Act Concerning Connecticut's Energy Future," builds on the Renewable Portfolio Standard ("RPS") and established a 40% by 2030 target.

- **Weatherization** – Public Act 11-80 "An Act Concerning the Establishment of the Department of Energy and Environmental Protection ("DEEP") and Planning for Connecticut's Energy Future," included a weatherization target of eighty percent of the state's residential units by 2030.

- **Zero Emission Buses** – Public Act 22-25 "An Act Concerning the Connecticut Clean Air Act," established a 100% zero-emission target for school buses in environmental justice communities by 2030, all school districts by 2040, and at least 30% of transit buses purchased or leased by the state must be zero-emission by 2030.

- **Green Bank** – Public Act 11-80 established the nation's first state-level green bank – Connecticut Green Bank. The Green Bank over the last decade has pioneered the green bank model[13] with its mission to "confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, equitable, and healthy communities" and vision of "a planet protected by the love of humanity".

  For an overview of the green bank model – see Attachment B.

The Green Bank shares EPA's goals to reduce or avoid GHG emissions and air pollution, especially in low-income and disadvantaged communities by investing public funds to mobilize and leverage private investment in clean energy and climate projects.

[13] In 2017, the Connecticut Green Bank received the Innovations in American Government Award from the Harvard Kennedy School Ash Center for Democratic Governance and Innovation for their "Sparking the Green Bank Movement" nomination.

A Vision for a National Climate Bank

The GHGRF presents a generational opportunity to establish a durable and expansive clean energy and climate financial platform – via a national climate bank ("NCB") – that is built to be financially strong and sustainable through the 2030s and 2040s. Having capital available through a NCB to support work through upcoming decades will be essential to fully transition our country to a carbon-neutral economy by 2050. To be maximally effective, and to achieve both environmental as well as energy justice goals for low-income and disadvantaged communities, the NCB must *ab initio* demonstrate a strong, transparent, representative, and accessible governance structure with board and organizational leadership which represents the diversity of the populations it will serve.

To succeed, the NCB must have a strong, transparent, representative, and accessible governance structure to assure States, minority-owned institutions, and disadvantaged communities that essential balance is maintained to protect, preserve, and enhance over time equitable funding disbursement among regions, states, and communities with an emphasis on frontline, low-income and environmental justice communities that have borne the brunt of our carbon intensive economy.

States, minority-owned institutions, and disadvantaged communities need to have direct input into funding prioritization policies to ensure equitable funding disbursement among regions, states, and communities. Such a structure will engender the trust and confidence of a wide cross-section of market participants and social actors that will be needed to reach deeply into low-income, low-wealth communities where so much environmental and energy injustice exists and persists. Resting upon a durable capital base and a strong and representative governance and diverse organizational leadership structure, the NCB will be an unparalleled hub for leveraging, deploying, and recycling capital; a sustainable source of grant funding; and a center for technical resources and assistance.

Current actors are undercapitalized.

The overwhelming proportion of State, community, and local capital actors in the clean energy finance space (green banks, Community Development Financial Institutions ("CDFI") and Community Development Credit Unions ("CDCU")) are undercapitalized entities that operate independently of each other throughout the United States, although many collaborate via trade bodies and networks such as the American Green Bank Consortium[14], Opportunity Finance Network[15], and Inclusiv[16]. With the exception of green banks, clean energy and climate finance is not the key focus of their investment activities, although some CDFIs (such as Reinvestment Fund) and credit unions (such as Clean Energy Federal Credit Union) have a substantial focus on investments directed at clean energy, climate, and sustainability as well as social equity. In short – capital, liquidity, and access to capital markets (a key barrier to scale at present) are urgently needed.

The NCB would facilitate the participation of private-sector participants.

The NCB would solve the perennial issues faced by an ecosystem of state and local community actors that have been deprived of access to needed investment capital, liquidity for originated transactions, secondary markets access and funding for education, market-building, community engagement and technical assistance. The NCB would immediately work as the principal intermediary among these state, local and community entities, organizations and enterprises and vast pools of private-sector investment capital. Included would be Wall Street and global banks, private equity, institutional investors such as pension funds, endowments, insurance companies and family offices, and public and private capital

[14] https://greenbankconsortium.org/
[15] https://www.ofn.org/
[16] https://inclusiv.org/

markets. All would be attracted to the NCB's clean energy, climate, and sustainability purposes, substantial capital base, market reach, collaboration with an array of green finance entities (i.e., green banks, CDFIs, CDCUs, Minority Depository Institutions ("MDI"), etc.) and anticipated AA/AAA credit rating. This substantial capital base and anticipated credit rating would allay concerns from the traditional financial community, investors and capital markets participants around issuer risk, liquidity risk and operational risk. At the same time, in furtherance of the goals of the GHGRF to promote direct investment in projects that maximize emissions reduction and spur substantial economic development, a substantially capitalized NCB will be capable of co-investment with institutional private capital for larger projects of importance regionally or nationally.

Leveraging private markets through a NCB would expand the scope of impact.
The climate challenge isn't going to be solved with $27 billion – and it will take many years to achieve the transition to a carbon-neutral economy. A key benefit of the NCB will be the ability to scale its balance sheet which will increase the amount of capital to be deployed beyond its initial grant from EPA. A study by the Coalition for Green Capital suggests balance sheet leverage of between 3 and 4 to one is a reasonable expectation for what the NCB could achieve.[17] A review of credit ratings of certain development banks with AA (or better) credit ratings suggests a similar balance sheet leverage is attainable. Even at the low end of this scale, for every $1 billion of grant capital $3 billion could be made available to an array of green financing institutions such as green banks, CDFIs, CDCUs, MDIs, etc. These entities, in turn, have their own capacity to leverage their balance sheets – on the scale of 3-10x (with the higher end attributable to capital used by depository institutions like credit unions or green banks using such funds for loan loss reserves).

This translates into $1 billion of grant capital being transformed into $30 billion (or more) of capital deployed at the community level ($1 billion **X** 3x NCB leverage **X** 10x entity leverage). Depending upon how quickly this capital "recycles" (i.e., loans repaid and reinvested) – the ability to fund transactions over a 10-year period could be doubled (or more), which could result in more than $50 billion of funded activity over the next decade for every $1 billion of original EPA grant (assuming cash flows from a typical 10-year loan is reinvested in new loans).

More financing available for more projects would unlock considerable social benefits. The recently released study by the Regional Greenhouse Gas Initiative ("RGGI") concludes that the benefits of programs funded in 2020 by $196 million in RGGI investments are projected to avoid the release of 6.6 million short tons of carbon emissions while returning an estimated $1.9 billion in lifetime energy bill savings – a 10:1 benefit.[18] Using the RGGI experience as a benchmark together with NCB and entity leverage – a $1 billion investment in the NCB could very well translate into more than half a trillion dollars of lifetime energy savings for residential and business energy users providing for significant inflation reduction. The scale effects of the NCB together with leverage from green banks, CDFIs, CDCUs and MDIs, etc., are indisputable and must be realized.

The NCB would provide the flexibility and reliability needed for long-term impact.
With the ability to scale its balance sheet and achieve a high credit rating, the NCB will be able to issue commitments over a series of years to an array of state, local and community institutions and organizations. This will provide much needed surety for lending institutions that they will be able to rely on the funding commitments being made available as and when needed. In the existing, poorly capitalized system of existing clean energy, climate and sustainability financing institutions, entities

[17] http://coalitionforgreencapital.com/wp-content/uploads/2019/09/1T-investment-white-paper.pdf
[18] https://www.rggi.org/sites/default/files/Uploads/Proceeds/RGGI_Proceeds_Report_2020.pdf

often must secure more capital than they can reasonably deploy over a given period of time to avoid the risk of not being able to reliably source incremental funding as needed. This will especially be true of entities that will be established to participate in the GHGRF in the years to come. While these new entities may offer valuable, creative ways to deliver benefits, it will take time to get staffing in place, establish solid governance, processes and procedures, develop a pipeline of deal flow, that ultimately will result in investments in communities. The NCB would solve this dilemma and grossly inefficient practice of capital sourcing by providing "capital as a service." The NCB will deliver capital on demand – as and when needed by these local market building and capital deployment organizations.

Providing capital as a service would unlock several benefits:

(1) The entities needing the capital can devote maximum attention to solving the climate challenge – not solving the capital challenge. The Green Bank has first-hand experience of several market actors being strung along for months on end, spending tens of thousands of dollars chasing sorely needed capital, only to end up with high-priced capital, burdened with a bevy of fees that include charges for sourcing the capital, more fees for not using the capital, and even fees for prepaying capital borrowed. The NCB would put an end to this grossly inefficient and punitive practice of capital procurement.

(2) Owing to the capital strength of the NCB – these entities will no longer need to "hoard cash" fearing capital won't be available when needed. These entities will apply for capital on a rolling basis and will have their capital allocations paid out on a schedule that lines up with their ability to invest and deploy. Should the entity have greater success – the NCB would step up to allocate more capital. Should the entity fail to need its capital allocation or deploy more slowly, the NCB could easily adjust the deployment schedule and reallocate the capital released to other entities that are ahead of schedule or that have identified incremental needs. It will be an efficient and dynamic process of capital investment which is not dissimilar to the way traditional banks all over the country operate for their borrowing customers.

The NCB would ensure that funding is available for the critical decades to come.
The climate challenge will take many years to resolve and future federal support for funding our country's transition to a carbon neutral economy is uncertain. Any initial grant sought from EPA for an NCB must demonstrate that through its leverage, direct investment, and indirect investment activities – earning a wide range of returns on its investments – that it is capable of being financially sustainable – throughout the 2020s, the 2030s and into the 2040s. The successful NCB candidate must present a credible program for such sustainable operations. It must demonstrate that it has the experienced staff to manage operational and credit risks, and a robust system of financial controls and risk management. The NCB's ability to withstand existential exposure to borrower defaults must be incontestable.

The NCB must also be capable of managing capital grants and loans over a multi-year period and to provide funding and technical assistance to establish new public, quasi-public, not-for-profit, or nonprofit entities that provide financial assistance to qualified projects, the NCB must have a program design that allows funding for innovation and new business models. The NCB's capacity to fund capital and grant requests on a continuous and uninterrupted basis must be clear and substantiated.

The Green Bank provides the following public comments in response to the RFI GHGRF for Sec. 134.

Section 1: Low-Income and Disadvantaged Communities

1. **What should EPA consider when defining "low income" and "disadvantaged" communities for purposes of this program? What elements from existing definitions, criteria, screening tools, etc., – in federal programs or otherwise – should EPA consider when prioritizing low-income and disadvantaged communities for greenhouse gas and other air pollution reducing projects?**

   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 has several recommendations for EPA's consideration in defining "low income" and "disadvantaged" communities, including aligning to appropriate federal and state definitions and non-locational community definitions.

   Federal and State 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)[19] 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"[20] (CGS 32-9p).

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

[20] "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

- **Vulnerable Communities** – the definition of *vulnerable communities* (Public Act 20-05)[21, 22] 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 ("CRA") of 1977 and allows 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 as described above 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.

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 quantify the impact of potential or historic 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 DACs using DOE's definitions align with historic industrial cities with aging infrastructure (e.g. Bridgeport, Harford, Waterbury) and compounding environmental impact on natural resources (e.g. air quality,

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.

[21] "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.

[22] "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.

emissions, water quality). 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.

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.

Key Takeaway:

- EPA should look to existing state definitions, like Connecticut's definitions of *Environmental Justice Community* and *Vulnerable Community*, but also look to other federal agencies, such as the DOE's definition of *Disadvantaged Communities*.

2. What kinds of technical and/or financial assistance should the Greenhouse Gas Reduction Fund grants facilitate to ensure that low-income and disadvantaged communities can participate in and benefit from the program?

Response

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

See the Green Bank's response to Section 4 (i.e., Eligible Recipients) and Question 5 (i.e., technical and financial assistance grants).

3. What kinds of technical and/or financial assistance should the Greenhouse Gas Reduction Fund grants facilitate to support and/or prioritize businesses owned or led by members of low-income or disadvantaged communities?

Response

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

Although not an area of expertise, the Green Bank proposes several things for EPA's consideration in providing technical and/or financial assistance to support and/or prioritize businesses owned or led by members of low-income or disadvantaged communities, including prioritizing supplier diversity, expanding the scope of existing workforce training initiatives, and providing small business financing and working capital for such businesses.

Prioritizing Supplier Diversity

Connecticut has a Supplier Diversity Program that was established to ensure that women and minority-owned small businesses have an opportunity to bid on a portion of the State's purchases. The program requires agencies and political subdivisions (e.g., quasi-public agencies) to set aside 25% of their annual budgets for construction, housing rehabilitation, and purchasing of goods and

services,[23] to be awarded to certified small businesses, with 25% of this amount to be awarded to certified minority business enterprises. The Green Bank has followed such practices that were once compliance and now voluntary – see Table 1.[24]

Table 1. Small and Minority Owner Business Enterprise Procurement

	Goal ($MM's)	Actual ($MM's)	Percentage
Small Business Procurement	$3.6	$4.4	120%
Minority Business Enterprise Procurement	$0.9	$1.0	105%

Alongside government procurement standards, CBAs can also be a supplier diversity mechanism to prioritize businesses owned or led by members of low-income or disadvantaged communities. As a major component of President Biden's Justice 40 Initiative and Just Transition, CBAs could be instituted to ensure such prioritization.

Expanding Scope of Existing Workforce Development Programs

Connecticut's Office of Workforce Strategy ("OWS") was awarded $23.9 MM from the American Rescue Plan ("ARP") Good Jobs Challenge grants from the U.S. Department of Commerce to support the creation of the Strengthening Sectoral Partnerships Initiative. The initiative provides resources to support ten (10) Regional Sector Partnerships ("RSPs") across Connecticut to train and place more than 2,000 people – particularly from historically-underserved communities – in high-demand jobs in four priority sector areas, including manufacturing, healthcare, information technology, bioscience. OWS subsequently launched a $70.0 MM job training program to fill more than 6,000 skilled jobs in businesses around the state that faced ongoing challenges hiring new workers by creating CareerConneCT through ARP. Several of the awardees were within the clean energy sector.[25]

The Green Bank acknowledges the importance of workforce development (e.g., apprenticeship programs) and prevailing wages as not only consistent with climate change policy in Connecticut (e.g., Public Act 21-43), but also future requirements under Section 48 of the Investment Tax Credit in order for projects to receive the full 30%.

Small Business Financing and Working Capital

Through a partnership with Eversource Energy[26] and Amalgamated Bank,[27] the Green Bank supports the Small Business Energy Advantage ("SBEA") program – an on-bill, zero-percent interest, revolving fund 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) pursuing energy efficiency. SBEA provides financing for up to 7 years for up to $1.0 MM per business customer. The Connecticut Energy Efficiency Fund[28] provides funds for credit enhancements (i.e., interest rate buydown and loan guarantee). Over the past four (4) years, SBEA, through utility managed installation contractors, has provided over 6,000 projects with on-bill financings totaling

[23] Following approved exemptions from the Department of Administrative Services

[24] Annual Comprehensive Financial Report for FY22 of the Connecticut Green Bank (pp. 124)

[25] Northwest Regional Workforce Investment Board, CT Building Trades Training Institute, and Efficiency for All to expand existing and develop new programs in energy efficiency, solar, offshore wind, energy management, and seeking unionized building trades and registered apprenticeships.

[26] www.eversource.com

[27] www.amalgamatedbank.com

[28] Statutorily established fund replenished by a small recurring charge on electric and gas utility ratepayer bills.

$79.3 MM (of which 80-90% is financed by Amalgamated Bank and 10-20% is from the Green Bank) with an estimated 2,035.6 GWh of energy savings over the life of the measures.

In addition to SBEA, through the Green Bank's Capital Solutions program (i.e., an open RFP for project developers), a construction loan is being provided to a small business contractor performing the energy efficiency work for a large government project being supported by the SBEA program. By aligning public policy objectives with local incentives, the Green Bank is able to apply the tools of the green bank model, to provide small business contractors with the capital they need to develop and deploy clean energy projects for small business end-use customers.

Recommendations

Increasing technical and financial assistance for such supplier diversity initiatives (e.g., CBA), workforce development programs, and access to low-cost capital, would further prioritize businesses owned or led by members of low-income or disadvantaged communities.

If a National Climate Bank was established, it could facilitate sharing of best practices across the diverse participating institutions.

Key Takeaways:

- Requiring supplier diversity through mechanisms such as Community Benefit Agreements can ensure that projects created through the GHGRF prioritize businesses owned or led by members of low-income or disadvantaged communities.
- Expanding existing workforce development programs will not only support members of low-income or disadvantaged communities, but also will allow eligible projects to maximize their Investment Tax Credit value.
- The Green Bank model can enable financing for projects that directly benefit minority-owned businesses, including capital for small businesses seeking to benefit from and/or install projects.

Section 2: Program Design

1. What should EPA consider in the design of the program to ensure Greenhouse Gas Reduction Fund grants facilitate high private-sector leverage (i.e., each dollar of federal funding mobilizes additional private 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 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, EPA's program should appreciate that:

(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.

These considerations are explored in depth below.

Defining and Measuring Leverage

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[29].) 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.[30] In Connecticut, the Green Bank has also leveraged our funding through green bond issuances in the public markets by securitizing future revenue streams

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

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.[31]

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.

However, 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. In these cases, how each dollar of federal funding mobilizes additional private funding could be far less clear, yet the activities undertaken as important as the financing activity associated with ultimate deployment of GHG reduction measures.

EPA should carefully weigh these differences and provide room for a variety of activities, a range of private-sector leverage outcomes, and suitable methods to measure and track private-sector leverage against outcome goals for the reduction of GHGs and other forms of air pollution.

Variations in Leverage

Across a wide swath of financial institutions that participate in the green financing space, there are considerable disparities in observed levels of leverage. These disparities can be due to a variety of factors including:

- The mix of financial products underwritten by these organizations.
- The type of institution including green banks, CDFI loan funds, CDCUs, MDIs, etc.
- The size of institutions. Smaller CDFI loan funds generally leverage 2-3x or less while larger institutions generally leverage ratios of 3-4x or more. Institutions with a depository base (e.g., CDCUs) generally have the highest leverage ratios (~$10 in deposits for $1 of capital).[32] Green banks that have a growing portfolio of transactions or a steady revenue stream (e.g., system benefit charges, RGGI funds, etc.) will have a higher leverage (2-3x their capital base and 4-7x contributed public capital) than entities like some green banks where the capital can be more static or contributed to the institution on an inconsistent basis (i.e., closer to 1x the capital base has been typical).

Leverage and "Non-Financial" Actors

Entities such as States, municipalities, and Tribal governments (identified in the GHGRF under Sec. 134(a)(1)), don't usually consider private-sector leverage as a metric of success, although it is increasingly common for state and local governments to address the benefits of "public private partnerships". More recently, several states and municipalities have established or designated green banks as mechanisms used to leverage the impact of scarce public dollars with private-sector investment. Connecticut's green bank tracks private-sector to public dollars leverage and notes this ratio approximates 7:1 across all activities spanning its organizational lifetime (i.e., 11 years). Michigan Saves, the designated green bank for Michigan, attains leverage of 20:1 for its residential

[31] https://www.ctgreenbank.com/cgb-sells-38m-in-shrecs/

[32] https://www.cdfifund.gov/sites/cdfi/files/documents/carsey-report-pr-042512.pdf

loan program. Other green banks range generally from 2:1 to 3:1 or so depending upon their portfolio's mix of business, maturity of the organization and capital structure and funding sources.

As with the range of leverage ratios cited above for CDFIs and credit unions, EPA will find considerable disparity in attained leverage ratios, and most States, municipalities and Tribal governments have yet to establish green banks. Even where green banks exist, States, municipalities and Tribal governments may ultimately target most or all funds applied for towards incentives, education, capacity and market building activities (though many may emphasize the need to leverage these funds with the private-sector). Used in this way – some outcomes, such as with incentives, can often be clearly tracked, but outcomes due to education, capacity and market building activities can be inherently difficult to quantify.

In considering the concept of private-sector leverage, EPA should afford states broad latitude to support established state and federal equity goals as well as existing climate strategies, adapt to market differences among states, regions, and communities, and further unlock financing and private capital for project types and communities experiencing barriers not addressable by financing alone.

De novo indirect recipients

EPA faces the challenge of a limited time frame for disbursement of GHGRF grants while being directed in statute to (emphasis added):

> "…*provide funding and technical assistance to establish new or support existing public, quasi-public, not-for-profit, or nonprofit entities that provide financial assistance to qualified projects*…"

As new institutions form in response to the availability of the GHGRF, it will be challenging for EPA to navigate how to assess these new institutions against existing ones on the basis of leverage. Innovative models which could be more effective in deploying capital to and achieving climate justice goals in low-income and disadvantaged communities are likely to appear over the next few years as the benefits of potential funding for these activities are increasingly appreciated by the marketplace.

Recommendations

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.

As discussed, a National Climate Bank would address many of the concerns of quantifying and evaluating the leverage of disparate institutions. It would also have an amplifying effect of crowding in additional capital at the national level, thus increasing leverage ratios, potentially up to 30x.

Key Takeaways:

- Leverage is an essential criteria for awards, however:
  - It is not straightforward to assess: recipient organizations may rightly pursue activities, such as capacity building or technical assistance, that do not directly attract private capital.
  - Different types of institutions may have disparate leverage profiles and prioritizing leverage as a criteria could inherently skew towards certain types of recipients.
  - Non-financial actors such as States, municipalities, and Tribal Governments, as identified in GHGRF under Sec. 134(a)(1), do not typically consider leverage and have diverse experience with green banking.
  - New entrants spurred by the creation of the GHGRF may offer valuable methods to achieve decarbonization goals but will not have a clear leverage history to evaluate.
- Leverage should be considered as one of many criteria including: demonstrated ability of an organization to reach and serve their designated market area; and deploy capital into GHG and air pollution reducing activities.

2. What should EPA consider in the design of the program to ensure Greenhouse Gas Reduction Fund grants facilitate additionality (i.e., federal funding invests in projects that would have otherwise lacked access to financing)?

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 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.

Key Takeaway:

- While the Green Bank supports an additionality policy, it can be challenging to demonstrate and should be part of a holistic approach to distributing funding.

3. What should EPA consider in the design of the program to ensure that revenue from financial assistance provided using Greenhouse Gas Reduction Fund grants is recycled to ensure continued operability?

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 Green Bank has first-hand experience in the burdens of ongoing reporting responsibility for American Recovery and Reinvestment Act ("ARRA") funds. The Green Bank has accounted for these funds for more than 12 years (and will continue accounting for several hundred thousand dollars of ARRA funds that remain). As we are well capitalized with a robust staff devoted to accounting and data management, this burden is manageable. But grantees with far less robust systems may face an undue burden in evidencing recyclability of GHGRF grants. A National Climate Bank could provide some of the accounting infrastructure that these smaller, less capable organizations can't independently manage, facilitating proper reporting to EPA's requirements. EPA might consider that grant awards (or sub-grant awards) below a particular break point be required to provide suitable evidence of initial use or investment of federal funds toward qualified projects while exempting such grant recipients (or subrecipients) below such breakpoint from ongoing reporting of recycling. As for large awardees, ongoing evidence of the recycling of grant funds should be required for the duration of the grant agreement.

If a National Climate Bank was established, it could ensure the continued operability of funds throughout the decades to come as explained above under: "A Vision for a National Climate Bank."

Key Takeaway:

- While the Green Bank supports a policy of recycling grants to ensure continued operability, smaller grantees may find the associated accounting and reporting requirements overly burdensome. Larger awardees should be required to provide ongoing evidence of recycling grant funds.

4. What should EPA consider in the design of the program to enable Greenhouse Gas Reduction Fund grants to facilitate broad private market capital formation for greenhouse gas and air pollution reducing projects? How could Greenhouse Gas Reduction Fund grants help prove the "bankability" of financial structures that could then be replicated by private sector financial institutions?

Response

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

For a portion of the response, see the Green Bank's response below to Section 2 (i.e., Program Design) and Question 6 (i.e., federal government program design features) focusing on credit enhancements have pertinent points here.

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 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 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 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.

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 an installer 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.

For details on the Green Bank's efforts to advance distributed technologies on residential rooftops through administering a pay for performance incentive program and green bond issuance – see Attachment C.

Key Takeaway:

- A variety of financial interventions are needed when looking to address financing gaps in clean energy. Partnering with and including private sector players in transactions that are targeted to address specific gaps is an effective tool in terms of educating the private sector and demonstrating bankability.

5. Are there best practices in program design that EPA should consider to reduce burdens on applicants, grantees, and/or subrecipients (including borrowers)?

Response

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

The Green Bank proposes several things for EPA's consideration in best practice program design to reduce burdens on not only applicants, grantees, and/or subrecipients, but also EPA's administration of the GHGRF, including states climate change application and equitable, competitive distribution of funds.

States Climate Change Application

EPA should allow a State to apply on behalf of a number of States, to reduce the administrative burden on EPA and State applicants, grantees, and subrecipients. For example, the Green Bank could be an applicant on behalf of a number of other States (and Territories). Such partnering states would each have demonstrated climate change and public policy alignment with the GHGRF (see "Background" section above), along with programmatic and allocation structures in support of such policies, which would ease the collective administrative burden on all parties.

Equitable Competitive Distribution of Funds

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 State Revolving Funds ("SRF") and Water Infrastructure Finance and Innovation Act ("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.[33] 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.[34] 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, or the EPA could establish a floor allocation (e.g., $100 MM) for smaller states (e.g., Connecticut, Hawaii, Puerto Rico, Rhode Island), 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

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

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**.

Key Takeaway:

- EPA should follow best practices established in the allocation of both the SRF and WIFIA to create an equitable, competitive distribution of funds.

6. What, if any, common federal grant program design features should EPA consider or avoid in order to maximize the ability of eligible recipients and/or indirect recipients to leverage and recycle Greenhouse Gas Reduction Fund 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.

The Green Bank proposes several common federal grant program features for EPA's consideration to maximize the ability to leverage and recycle grants, including the "best practices" and "lessons learned" from the American Recovery and Reinvestment Act ("ARRA").

Best Practices

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:[35]

- **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.

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

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 from "lessons learned" (e.g., Solar for All), led to significant investment and projects directed at vulnerable communities – see Table 2.

[35] 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.

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
Smart-E Loan[36]	$75.1	$41.3	34%	3,689	2,627	42%
CT Solar Loan	$6.7	$2.4	26%	197	82	29%
CT Solar Lease[37]	$30.2	$16.1	35%	746	443	37%
Solar for All[38]	$27.9	$90.5	76%	929	3,363	78%

Lessons Learned

One of the many benefits 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 importance of a just transition and the need for CBAs, the Green Bank would suggest that EPA 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.

Key Takeaways:

- Loan loss reserves and interest rate buydowns (such as those enabled by the American Recovery and Reinvestment Act or "ARRA") have led to significant investment and projects directed at vulnerable communities.
- Creating categorical exemptions for projects with construction costs less than $5 MM from existing federal standards that may be overly prescriptive (as done through ARRA) can accelerate financing activity and provide easier and more affordable access to low-income customers and DACs.

7. What should EPA consider in the design of the program, in addition to prevailing wage requirements in section 314 of the Clean Air Act, to encourage grantees and subrecipients to fund projects that create high quality jobs and adhere to best practices for labor standards, consistent with guidance such as Executive Order 14063 on the Use of Project Labor Agreements and the Department of Labor's Good Jobs Principles?

Response

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

EPA should incorporate and prioritize the creation of quality jobs within grantees and subrecipients projects. There is a need across the nation, and specifically within Connecticut, for quality jobs that support a thriving and growing middle-class. This must include jobs that build professional skills, trades, and access to wealth building in a field that will shape the Nation's climate future. One way

[36] Annual Comprehensive Financial Report for FY22 (270) – click here
[37] Ibid (354)
[38] Annual Comprehensive Financial Report for FY21 (266) – click here

that EPA can support this through the GHGRF is to link certification, trades, and higher education to the project opportunities to invest in building the workforce we, as a nation, will need.

There are several ways to shape the future workforce from partnerships with State community colleges and universities to supporting labor transition and re-training programs. Connecticut has taken steps to ensure that our transition to a clean-energy economy will benefit our workforce as well. For instance, the Connecticut State Building Trades Training Institute ("BTTI") is a state-wide apprentice readiness program that prepares individuals that are interested in careers in state-certified apprentice programs within the unionized construction industry. The BTTI was launched in September of 2022 and provides workforce development in eight communities across Connecticut. Two communities have already successfully graduated cohorts, while the remaining six are preparing for their first trainees. The graduates from this program have either enrolled in Building Trades Apprentice Programs or are in the process of applying to the unions Joint Apprentice Training Committees. Once enrolled into one of these programs, the apprentice will be trained in all of the facets of the trade which includes many hours of training in the renewable energy field.

Key Takeaway:

- EPA should work with State community colleges, universities, and training/apprenticeship programs to support the creation of quality jobs within grantees and subrecipients projects.

8. **What should EPA consider when developing program guidance and policies, such as the appropriate collection of data, to ensure that greenhouse gas and air pollution reduction projects funded by grantees and subrecipients comply with the requirements of Title VI of the Civil Rights Act, which prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance?**

Response

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

EPA should seek to capture as much data as possible with regards to the ultimate borrowers and their use of funds. EPA should require recipients to collect this information and house it securely to protect Personal Identifiable Information ("PII"). Regularly auditing this data and looking for areas that are being underserved should be a fundamental part of any program.

However, EPA should go beyond just auditing data and identifying problems. They should look to recipients to specifically target communities of color. Lack of minority-owned businesses and contractors of color are recognized issues in many areas when it comes to clean energy installation and having additional owners and contractors in general, especially those who look like the communities that we are trying to reach, will be essential in combatting climate change. EPA should value recipients who are actively engaged with workforce development especially in communities of color.

Key Takeaway:

- EPA should track information, including demographic and socioeconomic profiles of the ultimate borrowers, and their use of funds, as well as data about the workforce providing the construction and operational support of GHG reducing projects.

9. **What should EPA consider when developing program policies and guidance to ensure that greenhouse gas and air pollution reduction projects funded by grantees and subrecipients comply with the requirements of the Build America, Buy America Act that requires domestic procurement of iron, steel, manufactured products, and construction material?**

Response

The Green Bank has no constructive response to this question except to note the following:

- **Tax Credit Adders** – within the IRA are "domestic content" provisions that provide for additional tax credits that should help enable market forces; and

- **Community-Based Campaigns** – the Green Bank has experience supporting community-based campaigns (e.g., Solarize Connecticut), including through the DOE's SunShot Initiative, that provided participating households with the option to pay more for hardware "Made in America".

These are two examples of existing processes within the GHG reduction industry that could be considered when developing program policies and guidance around American-made hardware.

Key Takeaway:

- EPA should investigate other processes in the GHG reduction industry that prioritize American-made products such as the IRA Tax Credit Adders and Community-Based Campaigns such as Solarize.

10. **What federal, state and/or local programs, including other programs included in the Inflation Reduction Act and the Infrastructure Investment and Jobs Act or "Bipartisan Infrastructure Law," could EPA consider when designing the Greenhouse Gas Reduction Fund? How could such programs complement the funding available through the Greenhouse Gas Reduction Fund?**

Response

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

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 IRA, the BIL, or ARP. 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

50-52% 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.

Key Takeaway:

- 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 federal, state, and/or local investment in qualified projects.

11. Is guidance specific to Tribal and/or Territorial governments necessary to implement the program? If so, what specific issues should such guidance address?

Response

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

Guidance specific to Tribal and/or Territorial governments (e.g., Puerto Rico) is necessary to implement the program. The following are some specific issues the guidance should address:

- **Clarify Treatment Under IRA** – as clarity is being sought in Question #10 above, with respect to GHGRF alignment to the IRA, EPA should consult with Treasury to be clear about all of the credits, direct payment, transferability and other benefits available under the IRA (e.g., 25C, 25D, 45, 45L, 45Y, 48, 48C, 48E, and others), and communicate which ones (if not all) of them are appropriate for Tribal and/or Territorial governments to rely on to finance such projects within their jurisdiction.

- **Increase Awareness of GHGRF** – EPA should increase its efforts to raise awareness about the GHGRF to Tribal and/or Territorial governments. For example, the Green Bank recently participated in the Solar and Energy Storage Association of Puerto Rico's annual summit[39] and met with the Board of Directors of the Puerto Rico Green Energy Trust (a.k.a. Puerto Rico Green Bank). In order to raise awareness about the opportunities presented by the GHGRF, the Green Bank spoke about its importance to Puerto Rico's efforts, especially rooftop solar and battery storage for low-income and disadvantaged communities.

These are a few suggestions for EPA's consideration to provide additional support to Tribes and/or Territorial governments in order to mobilize more public and private investment in and deployment of "qualified projects" to benefit these communities.

If the Green Bank can be of assistance, please let us know.

[39] https://www.sesapr.org/summit from November 1-3, 2022

If a National Climate Bank was established, it could assume the responsibilities of ensuring that Tribal and Territorial governments were aware of the GHGRF and provide assistance as needed to develop financing programs for these entities.

Key Takeaways:

- EPA should clarify treatment of Tribal and Territorial governments under the Inflation Reduction Act.
- EPA should dedicate resources to increase awareness of and encourage participation in the GHGRF in Tribal and Territorial governments.

Section 3: Eligible Projects

1. **What types of projects should EPA prioritize under sections 134(a)(1)-(3), consistent with the statutory definition of "qualified projects" and "zero emissions technology" as well as the statute's direct and indirect investment provisions? Please describe how prioritizing such projects would:**

    a. **maximize greenhouse gas emission and air pollution reductions;**
    b. **deliver benefits to low-income and disadvantaged communities;**
    c. **enable investment in projects that would otherwise lack access to capital or financing;**
    d. **recycle repayments and other revenue received from financial assistance provided using the grant funds to ensure continued operability; and**
    e. **facilitate increased private sector investment.**

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"[40] and "zero emissions technology,"[41] the Green Bank would suggest that EPA look to the Clean Energy and Sustainability Accelerator ("Accelerator") passed out of the House of Representatives,[42] National Climate Bank Act introduced in the Senate,[43] 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 cells[44])
- 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 applications[45]
- Agriculture and forestry projects that reduce net greenhouse gas emissions

[40] 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.

[41] 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.

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

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

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

[45] 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.

- Clean transportation (e.g., battery electric vehicles, plug-in hybrid electric vehicles, hydrogen vehicles, other zero emissions fueled vehicles)
- Related vehicle charging and fueling infrastructure[46]
- Climate resilient infrastructure

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

- 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"[47] to include "environmental infrastructure"[48] through the passage of Public Act 21-115.[49] 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.

[46] 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/

[47] "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.

[48] "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).

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

- **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.

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,[50] parks and recreation,[51] and agriculture[52] 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.

Key Takeaways:

- EPA should consider all qualified projects outlined within the Clean Energy and Sustainability Accelerator passed out of the House of Representatives, as well as measures within the National Climate Bank Act introduced by the Senate.
- EPA should allow GHGRF to be used to support preexisting health and safety concerns that may otherwise be a barrier to deployment of clean energy, especially in low-income and disadvantaged communities.
- EPA should consider environmental infrastructure projects as qualified projects so long as they are reducing GHG emissions or air pollution.

[50] Land Conservation Primer – click here
[51] Parks and Recreation Primer – click here
[52] Agriculture Primer – click here

2. **Please describe what forms of financial assistance (e.g. subgrants, loans, or other forms of financial assistance) are necessary to fill financing gaps, enable investment, and accelerate deployment of such projects.**

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 the experience of the Connecticut 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. 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 - 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 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 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 in Section 2, Question 1, 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.

If a National Climate Bank was established, it could provide both technical assistance to local entities interested in establishing one or all of these tools, as required by the need in their specific geography.

Key Takeaways:

- There are a diverse set of financing tools that can support the transition to a green economy and selecting the appropriate tool is specific to the need of each geography/market.

3. Beyond financial assistance for project financing what other supports – such as technical assistance -- are necessary to accelerate deployment of such projects?

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 the experience of the Green Bank, there are forms of assistance beyond project financing that are needed to accelerate deployment of clean energy projects. This assistance generally centers around project opportunity assessment, project acquisition and market development. First, there will be the need to design and implement community focused campaigns that increase the awareness of energy efficiency and distributed generation. These campaigns will need staff and marketing assets that will potentially need some financial support to develop, although the cost of this should be recovered through financing activities in the long term. In some areas, with some technologies, there will be a need to support workforce development to meet the demand for qualified contractors to do the required installations. When evaluating initial investments in customer acquisition and administration, the Green Bank has typically looked at the interest generated by assets and determine if those will cover the initial expenses over the life of the financing activity. For example, if we are looking to launch a new program that will necessitate an initial expense of $200,000 for marketing and setup, then approximately $4 million must be lent over a 10-year term at 1% interest rate, to achieve a present value of interest income equivalent to the marketing and setup expenses.

Technical assistance will like be required for particular project types (e.g. more complex building energy efficiency in the multifamily, commercial, industrial and institutional sectors). Building owners will need technical assistance to identify and plan for projects before they come to the traditional first stage of development. Where possible, the costs for technical assistance provided in identifying projects should be recouped through subsequent financing for resulting projects.

Key Takeaway:

- To establish successful programs will likely require funding for project opportunity assessment, project acquisition, market development, and technical assistance. The cost of this support should be recovered through financing activities (i.e., interest income) in the long term.

Section 4: Eligible Recipients

1. **Who could be eligible entities and/or indirect recipients under the Greenhouse Gas Reduction Fund consistent with statutory requirements specified in section 134 of the Clean Air Act? Please provide a description of these types of entities and references regarding the total capital deployed by such entities into greenhouse gas and air pollution reducing projects.**

   Response
   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. The suggestion earlier in this RFI response 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.

   For Sec. 134(a)(1), the statute is clear, but the Green Bank suggests that States be given preference over a substantial amount of the funds, with the balance allocated to Tribal governments and municipalities (particularly those municipalities with acute environmental and energy justice issues to address and where the impact from such grants would be substantial). Given that States, municipalities, and Tribal governments are *not* permitted to apply for grants available under Sec. 134(a)(2), and Sec. 134(a)(3), we would recommend "eligible recipients" be ascribed a lower priority here as these entities have exclusive access to grants pursuant to Sec. 134(a)(2) and Sec. 134(a)(3) without competition from States, municipalities, and Tribal governments.

Key Takeaways:
- EPA should consider proposals for a national climate bank funded via grants provided under Sec. 134(a)(2), and Sec. 134(a)(3) to provide ongoing access to financial and technical assistance for a wide range of applicants over many years to come.
- For grants provided under Sec.134(a)(1), EPA should prioritize States, Tribal governments, and municipalities with acute environmental and energy justice issues and policies consistent with the GHGRF.

2. **What types of entities (as eligible recipients and/or indirect recipients) could enable Greenhouse Gas Reduction Fund grants to support investment and deployment of greenhouse gas and air pollution reducing projects in low-income and disadvantaged communities?**

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

Public Policy Created Green Banks

An "eligible recipient"[53] and/or "indirect recipient,"[54] 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 CGA with the mission to "confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities". 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 3.[55]

Table 3. 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 4.[56]

Table 4. 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

Key Takeaway:

- Statutorily created state and/or local green banks are entities in direct congruence with the GHGRF with a focus to increase and accelerate investment in low-income and disadvantaged communities.

[53] 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.

[54] Undefined under Sec. 134

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

[56] Ibid (147-149)

3. **What types of entities (as eligible recipients and/or indirect recipients) could be created to enable Greenhouse Gas Reduction Fund grants to support investment in and deployment of greenhouse gas and air pollution reducing projects in communities where capacity to finance and deploy such projects does not currently exist?**

Response

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

EPA should prioritize applicants that can leverage their existing capabilities and experience with green financing to reach communities to deploy funds. While there are a wide variety of existing organizations operating today that have such a track record, there are parts of the country without established green financing or community financial institutions. For some of these uncovered areas, it may appropriate to expand the coverage of existing entities but for others, it is likely that new community lenders and Green Banks will need to be formed. These new green banks can either be the creations and instruments of states and municipalities or other mission-aligned entities and will take a broad view on green financing gaps in the geographies they operate. They will be best poised to identify these geographic-specific gaps and to address them. As the Connecticut Green Bank, and other Green Banks have demonstrated, we are adept at identifying market gaps (i.e. low-income solar adoption) and partnering with organizations who can address those gaps.

The new green banks will also need to recruit community lenders, developers, and contractors among others to address those gaps. There will also potentially be a need for additional community-focused financial institutions such as CDFI's to be created to reach communities where no such organization works or where one does not have the capacity to do the necessary type of lending.

If a National Climate Bank was established, it could provide the technical and financial support to both expand the reach of existing organizations, and to establish new entities to address geographic-specific gaps.

Key Takeaway:

- EPA should prioritize existing entities, such as green banks, and expand their coverage where applicable.
- In areas that are not currently served by a green financing institution, EPA should support the development of new entities to address geographic-specific needs.

4. **How could EPA ensure the responsible implementation of the Greenhouse Gas Reduction Fund grants by new entities without a track record?**

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 Environmental Protection Agency should seek to acquire as much data as possible as frequently as possible without creating an undue burden on recipients so that they can monitor the progress of funds being deployed. In the agreements with recipients and subrecipients, EPA should set targets and milestones regarding volume and impact. There should be strong claw back provisions that allow EPA to take back funds should milestones not be met. EPA should request that the recipients have in place within 180 days a data collection and evaluation plan that addresses the following:

- Which data that is to be collected, its sources, controls, and privacy safeguards
- Frequency of data collection
- An evaluation framework that speaks to how the recipients' activities are creating additionality and impact
- Impact methodologies that will be used to quantify societal impacts resulting from the recipient's activities

EPA should also look for the recipients to budget for and engage with established evaluation, measurement, and verification ("EM&V") consultants with longstanding experience in this space.

When evaluating recipients with no track records, EPA should look for specific skillsets and experience amongst the recipient's staff. Having the following skills will position and organization to deploy funds quickly and efficiently:

- Program Design & Administration – effectively build, implement, and manage a program/product in the clean energy and community lending spaces
- Deal Origination – source transactions and projects to finance
- Underwriting – verify and review of the financials of a project or loan application.
- Structuring – arrange and execute transactions, preferably demonstrate the inclusion of multiple parties
- Portfolio Risk Management – ongoing monitoring and controls of a group of loans to minimize defaults and losses
- Asset Management – ongoing monitoring of the physical and financial performance of assets owned or supported by the organization with the view of minimizing losses and maximizing returns
- Liability Management/Capital Markets – ongoing review of invested assets with the perspective of identifying opportunities to sell investments to recapitalize a balance sheet to do more lending and securitize income streams in the capital markets
- Loan Servicing – collect and monitor of individual loans and handle of resulting workouts and restructurings.
- Other Support functions:
    - Marketing/Outreach – management of the organization's brand, the public's awareness of the brand and its products as well as how potential deals are brought into the organization
    - Community Engagement – working together with target populations in the community to further support marketing and outreach efforts but with a more community driven approach that addresses community specific needs and barriers
    - Policy – advocation at local, state, and federal levels for policy solutions that will enhance the speed of deployment of clean energy
    - Legal – legal advice for loan documentation, closings, and collections as well as support for activities in the secondary markets such as securitization
    - Compliance – the monitoring and fulfillment of contractual obligations as both a lender and as a borrower
    - EM&V/Data – ensuring that the data on each loan is collected and handling any impact reporting and evaluation on programs
    - Finance, Accounting, and Administration – The management of the accounting for these financing activities as well as the cash management for them, both of which are specific to the clean energy space

Key Takeaways:

- All entities (new or existing) should be subject to data and reporting requirements.
- New entities should demonstrate staff expertise in all areas critical to establishing and maintaining financing products and programs and in terms of their ability to partner with the community.

5. What kinds of technical and/or financial assistance could Greenhouse Gas Reduction Fund grants facilitate to maximize investment in and deployment of greenhouse gas and air pollution reducing projects by existing and/or new eligible recipients and/or indirect 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.

As discussed in Section 3, Question 3, it is likely that many forms of assistance will be required to successfully support the deployment of the GHGRF. Existing and/or new "eligible recipients" and/or "indirect recipients" of GHGRF grants could provide a variety of technical and/or financial assistance to maximize investment in and deployment of GHG and air pollution reducing projects, including to ensure that low-income and disadvantaged communities can participate in and benefit from the GHGRF.

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").[57] NREL is doing something similar with PR100 in Puerto Rico.[58]

- **Communities LEAP**[59] – 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-

[57] https://www.nrel.gov/analysis/los-angeles-100-percent-renewable-study.html

[58] https://www.nrel.gov/news/program/2022/doe-launches-study-to-consider-equitable-pathways-to-power-puerto-rico-with-100-renewable-energy.html

[59] 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.

based marketing campaigns (e.g., Solarize,[60] Solar for All[61]), 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 maximize investment in and deployment of GHG and air pollution reducing projects, especially in low-income and disadvantaged communities.

Financial Assistance

In addition to the financial assistance examples learned from ARRA as noted above, there is also 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**[62]– 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** [63]– 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.

Such financial assistance should be encouraged and scaled up through funding from the GHGRF, which will not only maximize investment in and deployment of GHG and air pollution reducing projects, especially in low-income and disadvantaged communities, but also provide useful workforce development and credentials to support the advancement of people of color within financial services.

Key Takeaways:

- Several DOE programs, such as the National Labs, Communities LEAP, and the SunShot Initiative, have created technical assistance programs that have been immensely supportive of clean energy financing initiatives.
- Financial education assistance programs can support the development of a skilled green financing workforce to deliver the impact envisioned in the GHGRF.

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[60] https://cbey.yale.edu/sites/default/files/2019-09/Solarize%20Your%20Community%20Rev1%20Dig.pdf
[61] https://www.ctgreenbank.com/solarforall/
[62] https://cbey.yale.edu/financing-and-deploying-clean-energy-certificate-program/about-the-certificate
[63] https://inclusiv.org/inclusiv-center-for-resiliency-and-clean-energy-free-solar-lending-professional-training-certificate/

Section 5: Oversight and Reporting

1. What types of governance structures, reporting requirements and audit requirements (consistent with applicable federal regulations) should EPA consider requiring of direct and indirect recipients of Greenhouse Gas Reduction Fund grants to ensure the responsible implementation and oversight of grantee/subrecipient operations and financial assistance activities?

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 governance structures, reporting requirements, 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.

Governance Structures

In terms of governance structure, pursuant to CGS 16-245n, the powers of the Green Bank are vested in and exercised by a Board of Directors that is comprised of twelve (12) voting and one non-voting members[64] each with the knowledge and expertise in matters related to the purpose of the organization – see Table 5.

Table 5. Governance Structure of the Green Bank

Position	Status	Appointer
Commissioner of DECD (or designee)	Ex Officio	Governor
Commissioner of DEEP (or designee)	Ex Officio	Governor
Secretary of OPM (or designee)	Ex Officio	Governor
State Treasurer (or designee)	Ex Officio	Treasurer
Finance of Renewable Energy	Appointed	Governor
Finance of Renewable Energy	Appointed	Governor
Labor Organization	Appointed	Governor
R&D or Manufacturing	Appointed	Governor
Investment Fund Management	Appointed	Minority Leader of the House
Environmental Organization	Appointed	President Pro Tempore of the Senate
Finance or Deployment of Renewable Energy	Appointed	Minority Leader of the Senate
Residential or Low Income	Appointed	Speaker of the House
President of the Green Bank	Ex Officio	Board of Directors

[64] President and CEO of the Green Bank

The Board of Directors of the Green Bank is governed through statute, as well as an Ethics Statement,[65] Ethical Conduct Policy,[66] Resolution of Purpose,[67] Bylaws,[68] Operating Procedures,[69] and Comprehensive Plan,[70] all of which are provided publicly on the governance section of its website.[71]

The Board of Directors also has four (4) committees, including:

- Audit, Compliance, and Governance Committee
- Budget, Operations, and Compensation Committee
- Deployment (Investment) Committee
- Joint Committee[72]

The Board of Directors and Committee meetings are noticed to the Secretary of State,[73] open to the public, recorded and made available following the meeting, and meeting materials are accessible online.[74] For recipients of large amounts of funds through the GHGRF, either directly or indirectly, such accountability and transparency with governance should be the baseline.

Reporting and Auditing Requirements

The Green Bank also adheres to the highest standard of reporting and auditing, ensuring public transparency,[75] including, but not limited to:

- **Annual Reports** – issued by the Green Bank to the DEEP, committees of cognizance of the CGA,[76] and local elected officials in cities and towns throughout Connecticut.[77]

- **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.[78]

- **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,

[65] https://www.ctgreenbank.com/wp-content/uploads/2017/02/Green-Bank_Ethics-Statement-CLEAN-REVISED-102214.pdf
[66] https://www.ctgreenbank.com/wp-content/uploads/2022/09/Green-Bank_Ethical-Conduct-Policy_BOD_102221.pdf
[67] https://www.ctgreenbank.com/wp-content/uploads/2021/11/5ai_Green-Bank-Resolution-of-Purpose-CLEAN-REVISED.pdf
[68] https://www.ctgreenbank.com/wp-content/uploads/2021/11/5ai_Green-Bank_Revised-Bylaws_CLEAN.pdf
[69] https://www.ctgreenbank.com/wp-content/uploads/2022/09/5ai_Green-Bank-Operating-Procedures-10-22-2021.pdf
[70] https://www.ctgreenbank.com/wp-content/uploads/2022/08/Comprehensive-Plan_FY-2023_FINAL_080122-1.pdf
[71] https://www.ctgreenbank.com/about-us/governance/
[72] Members of the Green Bank Board of Directors and the Energy Efficiency Board (i.e., utility-administered incentive programs) for the purposes of coordination of programs and activities consistent with respective strategic plans to reduce long-term costs, environmental impacts, and security risks of energy in the state.
[73] https://portal.ct.gov/SOTS/Legislative-Services/Public-Meeting-Notice-Calendar
[74] https://www.ctgreenbank.com/about-us/governance/
[75] https://www.ctgreenbank.com/strategy-impact/reporting-transparency/
[76] Energy and Technology, Commerce, Environment, Banking Committees
[77] For example, FY21 Annual Report – click here
[78] For example, FY22 Annual Comprehensive Financial Report – click here

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.[79]

- **Open Connecticut – Payroll** – centralizes state financial information on payroll to make it easier to follow state dollars expended on operations and compensation.[80]

- **Open Connecticut – Checkbook** – centralizes state financial information on transactions or expenditures to make it easier to follow state dollars for goods or services.[81]

And lastly, the Green Bank, as a quasi-public entity of Connecticut, adheres to the Connecticut Freedom of Information Act.[82]

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.

Key Takeaway:

- Given the magnitude of the public funds, especially for those direct or indirect recipients that receive a large amount of funds (e.g., $25 MM or more), the highest standards for governance structures, reporting requirements, and audit requirements must be considered by EPA. The Connecticut Green Bank has such protocols and can be looked to as a go-by for the level of review and oversight prudent for entities that are allocated funds through the GHGRF.

2. Are there any compliance requirements in addition to those provided for in Federal statutes or regulations (e.g., requirements related to administering federal grant funds) that EPA should consider when designing the program?

Response

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

Recipients of funds have a responsibility to ensure that personal identifiable information ("PII") collected as part of these activities is kept confidential and that there are appropriate controls in place. The Green Bank recommends that EPA require all recipients to have in place completed a Systems and Organization type II ("SOC2") audit every 12 to 18 months. Recipients should demonstrate ongoing certification while they are in possession of these funds.

Key Takeaway:

- EPA should require all recipients to complete a Systems and Organization Type II (SOC2) audit every 12 to 18 months with no gaps in certification to ensure that personal identifiable information collected as part of these activities is kept confidential.

[79] For example, State of Connecticut Auditors' Report for FY19 and FY20 – click here
[80] https://openquasi.ct.gov/payroll
[81] https://openquasi.ct.gov/checkbook
[82] https://portal.ct.gov/FOI/Quick-Links/The-FOI-Act

3. What metrics and indicators should EPA use to track relevant program outcomes including, but not limited to, (a) reductions in greenhouse gas emissions or air pollution, (b) allocation of benefits to low-income and disadvantaged communities, (c) private sector leverage and project additionality, (d) number of greenhouse gas and air pollution reduction projects funded and (f) distribution of projects at the national, regional, state and local levels?

Response

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

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[83] 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 E.

Reductions in Greenhouse Gas Emissions or Air Pollution

Working in consultation with EPA and DEEP, the Green Bank devised a methodology[84] that takes the reduction in consumption of energy and increase in production of renewable energy, to reasonably estimate the air emission (i.e., CO_2, NO_x, SO_2, and $PM_{2.5}$) avoidances resulting from clean energy deployment. The methodology uses EPA's Avoided Emissions and Generation Tool ("AVERT").

Allocation of Benefits to Low-Income and Disadvantaged Communities

With the passage of Public Act 20-05, and its inclusion of "vulnerable communities," along with the goal from the Board of Directors of the Green Bank to ensure that no less than 40 percent of investment and benefits from its programs be directed at vulnerable communities, the Green Bank established a methodology for measuring equity.[85] In addition to equity, the Green Bank developed in consultation with NREL, an energy burden reduction methodology resulting from the projects it has financed through its products and programs using actual production data, contracts, and utility

[83] Evaluation Framework – click here

[84] https://www.ctgreenbank.com/wp-content/uploads/2018/01/CGB-Eval-IMPACT-091917-Bv2.pdf

[85] https://www.ctgreenbank.com/wp-content/uploads/2021/10/Equity_Investment_in_Vulnerable_Communities.pdf

rates.[86] It is worth noting that defining "benefits" to low-income and disadvantaged communities may still be an area for exploration. Today, many clean energy and greenhouse gas reduction projects reduce energy burden to these customers. However, the Green Bank recommends that EPA consider a more holistic view of benefits, including building resiliency, workforce development initiatives, etc.

Private Sector Leverage and Project Additionality

Leveraging limited public funds to mobilize multiples of private sector investment, is a fundamental principle of green banks. As a result of providing families and businesses with the capital that they need to finance clean energy, they are able to realize its benefits. In consultation with the Department of Economic and Community Development ("DECD") and Department of Revenue Services ("DRS"), investment in clean energy deployment creates jobs in our communities[87] and raises tax revenues from sales, individual, and corporate taxes,[88] respectively.

Public Health Benefits Generated

In addition to the methodology to estimate air emissions, in consultation with EPA, DEEP, and Department of Public Health ("DPH"), using EPA's Co-Benefit Risk Assessment ("COBRA") tool, the green bank developed a methodology to estimate the public health benefits resulting from cleaner air from energy efficiency and renewable energy projects.[89]

Distribution of Projects at the National, Regional, State and Local Levels

While the Green Bank's focus is within Connecticut, it does make the information on the distribution of projects, and the associated benefits, available online through its Mapping Analysis of Your Area ("MAYA") tool.[90, 91] MAYA provides project level data and benefits (i.e., all of the above impact metrics) at the local level, including:

- Municipal
- County
- State Legislature
- Congressional
- Census Tract

These are the metrics and indicators the Green Bank has developed over the years in consultation with a number of state (e.g., DEEP, DECD, DPH, DRS) and federal (e.g., DOE, EPA) government partners.

It is critically important that recipients receiving funds from the GHGRF collect and analyze data on the social and environmental impacts resulting from investments to continuously and effectively communicate benefits to politicians, citizens, and key stakeholders. The Green Bank would emphasize that EPA require that such data must be collected at the project level for all recipients of funds through the GHGRF and made publicly available since taxpayer resources are being used.

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[86] https://www.ctgreenbank.com/wp-content/uploads/2021/09/CGB-Eval-Solar-Methodology-combined-6-8-2021-final.pdf
[87] https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf
[88] https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf
[89] https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB-Eval-PUBLICHEALTH-1-25-18-new.pdf
[90] https://www.ctgreenbank.com/maya/
[91] MAYA is named after the poet Maya Angelou, who is an inspiration for the Green Bank's vision statement of "…a planet protected by the love of humanity".

The following are the key pieces of data that are essential to collect to estimate E^4 impact – see Table 6.

Table 6. Data Collection to Compute Success and Impact

	Economy	Energy	Environment	Equity
Installed Cost	x			x
Project Type	x	x	x	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), the 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 type of clean energy project (e.g., energy efficiency, solar PV), the energy burden reduction can be calculated depending upon the rate structure.

- **Environment** – based on the estimated production and/or savings of such systems, and type of project, using tools developed by 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 various clean energy projects.

Data Availability and Accessibility

Given the use of public funds through the GHGRF, all recipients of such funds should provide to the United States Government ("USG") all the information, including loan performance data. For example, the Green Bank has provided to the DOE, loan and incentive performance data for residential single-family energy efficiency loans, solar PV leases for low- to moderate-income families, and rooftop solar incentives for scientific research purposes.[92, 93, 94] Research can emphasize how carefully designed and administered financing programs supported by federal funds can 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 public policy goals related to equitable access to capital such as Justice 40 and the CRA[95] compliance requirements.

[92] 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.

[93] (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.

[94] (April 2022). *Rooftop Solar Incentives Remain Effective for Low- and Moderate-Income Adoption.* Prepared by Eric O'Shaughnessy of Lawrence Berkeley National Laboratory.

[95] 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).

Reducing asymmetric information by requiring that all data from federally funded programs such as the GHGRF 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.

Key Takeaways:

- 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
  - 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.

4. What should EPA consider in the design of the program to ensure community accountability for projects funded directly or indirectly by the Greenhouse Gas Reduction Fund? What if any existing governance structures, assessment criteria (e.g., the Community Development Financial Institutions Fund's Target Market Accountability criteria), rules, etc., should EPA consider?

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 Green Bank has several perspectives with regards to this response, including guidance provided by the 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.

Community Reinvestment Act

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. CRA was enacted by Congress in 1977 to encourage depository institutions to lend in low- (i.e., less than 50% Area Median Income ("AMI") census tracts) to-moderate-income (i.e., 50-80% AMI census tracts) communities. These lending institutions are rated by regulators as to the volume of their lending to projects in these communities. The more a green bank can partner with such financial institutions that must comply with CRA, the more EPA can use public funds from the GHGRF to mobilize private investment in qualified projects in low-income and disadvantaged communities.

In a recent opportunity to comment on the Federal Reserve System, Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation involving revisions to the CRA, the Green

Bank supported the inclusion of "disaster preparedness and climate resiliency" as a new category in community development activities eligible for CRA credit, along with three (3) criteria to qualify for such credit, including that the activities must:

1. benefit or serve residents, including low- or moderate-income residents, in one or more of the targeted census tracts;

2. not displace or exclude low- or moderate-income residents in targeted census tracts; and

3. be conducted in conjunction with a federal, state, local, or tribal government plan, program or initiative focused on disaster preparedness or climate resiliency that includes an explicit focus on benefitting a geographic area that includes the targeted census tracts.

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.

Jurisdictional Public Policy and Corporate Governance

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[96] or United States Conference of Mayors Climate Protection Center[97]) 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 insightful to ensuring community accountability.[98] Where corporate structure is not as apparent, consideration by EPA should include the following:

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

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

[98] 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.

- **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.

Key Takeaways:

- To ensure community accountability, EPA should consider guidance from the Community Reinvestment Act 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.
- Where available, GHGRF recipients should follow protocol established by state and local government to ensure community accountability.
- Financial institutions should adopt environmental, social, and governance (ESG) principles consistent with the intentions of the GHGRF.

Section 6: General Comments

1. Do you have any other comments on the implementation of the Greenhouse Gas Reduction Fund?

   Response
   State and local green banks, especially those that have been statutorily created and/or provided public funds, and a mission to confront climate change by increasing and accelerating private investment in and deployment of clean energy and climate change projects, especially within low income and disadvantaged communities, are excellent partners for the EPA in its successful and sustainable efforts to implement the GHGRF.

The Green Bank appreciates EPA's efforts to solicit public comment on the RFI GHGRF. The Green Bank looks forward to working with our partners in Connecticut, and across the country, to submit applications for consideration into the pending solicitations.

Sincerely,

Lonnie Reed
Lonnie Reed
Chair

Bryan Garcia
Bryan Garcia
President and CEO

Sara Harari
Sara Harari
Associate Director of Innovation

Bert Hunter
Bert Hunter
EVP and CIO

Eric Shrago
Eric Shrago
VP of Operations

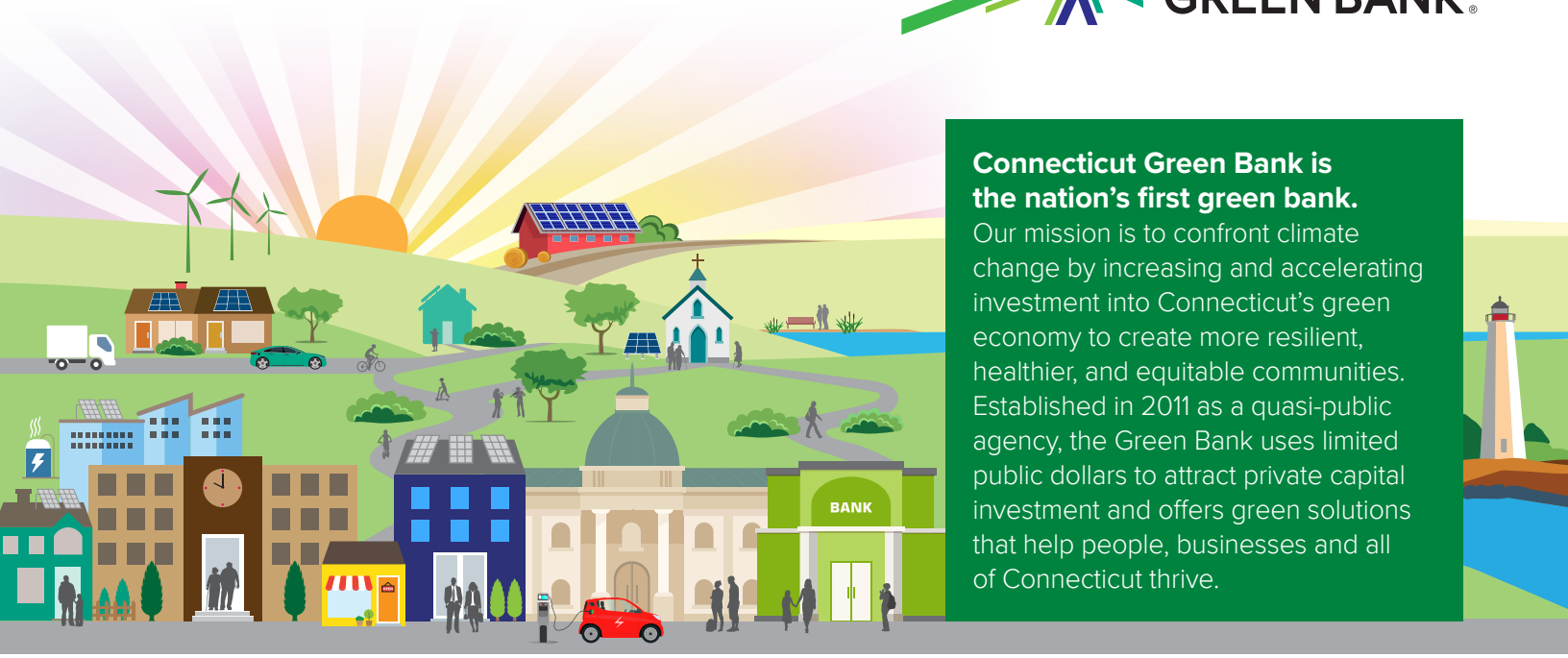
Ashley Stewart
Ashley Stewart
Manager of Community Engagement

Attachments
Attachment A – Our Solutions
Attachment B – Green Bank Model
Attachment C – Residential Solar Investment Program
Attachment D – American Recovery and Reinvestment Act
Attachment E – Social Impact

ATTACHMENT A

Our Solutions

CONNECTICUT GREEN BANK®



Connecticut Green Bank is the nation's first green bank.
Our mission is to confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities. Established in 2011 as a quasi-public agency, the Green Bank uses limited public dollars to attract private capital investment and offers green solutions that help people, businesses and all of Connecticut thrive.

our solutions

The Green Bank is helping Connecticut flourish by offering green solutions for homes and buildings, and by creating innovative ways to invest in the green economy.

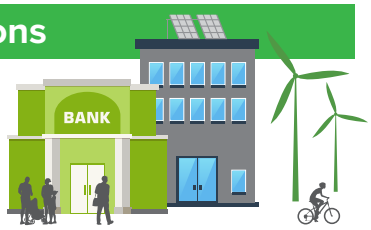
home solutions

Empowering all Connecticut families and households with accessible and affordable green solutions that bring them comfort and security. Find incentives for battery storage or use the Green Bank's flexible financing to reduce costs with health and safety improvements and the newest energy efficient technologies.

building solutions

Creating stronger, more resilient buildings with green solutions for all types of buildings – from businesses and nonprofits to multifamily housing. Leverage Green Bank financing to go solar or retrofit your building with efficiency and resiliency measures, while saving money and realizing the benefits of more modern, sustainable buildings.

investment solutions



Securing a healthier planet with smart ways for individuals and businesses to invest in green solutions – and our future – while also earning a return. Energize the green economy by investing in it today. Buy a Green Liberty Bond, invest through a crowdfunding offering, or join the movement by finding other ways to invest.

community solutions

Helping Connecticut thrive and creating stronger towns and cities by offering green solutions for all. From solutions for local and state government properties, to providing support for community leaders in outreach to local businesses and community members – especially the most vulnerable – helping them to access green energy and achieve a more prosperous future.

Get Started. Call 860.563.0015 or visit ctgreenbank.com

8/22

ATTACHMENT B
Green Bank Model

The Green Bank Model

A Planet Protected by the Love of Humanity

1 Attract Private Investment by Leveraging Public Funding

Public Funding
Ratepayer dollars, taxpayer dollars

CONNECTICUT GREEN BANK

Private Investment
Individuals, credit unions, banks, bond buyers

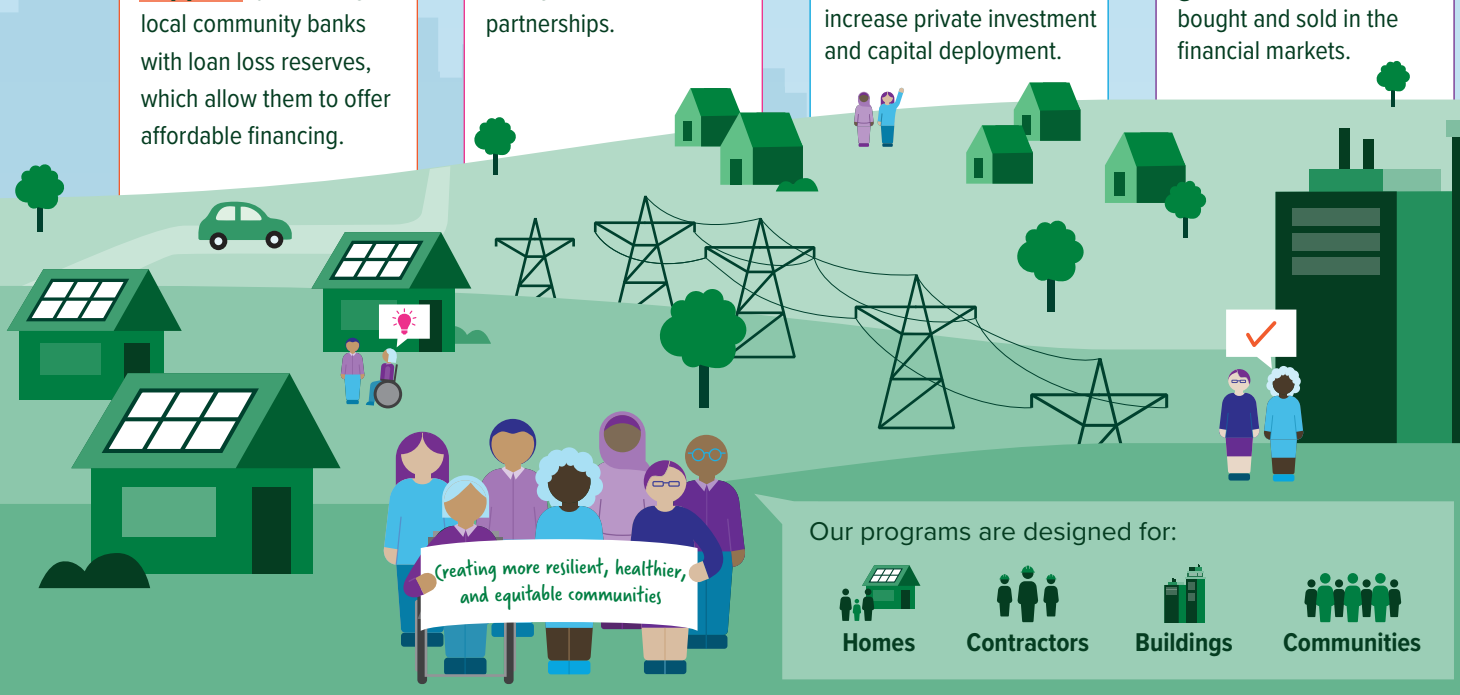
2 Apply Innovative Financial Tools to Deploy Investment Towards Our Programs

Generate **credit support** by providing local community banks with loan loss reserves, which allow them to offer affordable financing.

Initiate **co-investment** through public-private partnerships.

Support **performance-based incentives** to increase private investment and capital deployment.

Convert assets into **green bonds** to be bought and sold in the financial markets.



Our programs are designed for:

- Homes
- Contractors
- Buildings
- Communities

3 Deliver Social and Environmental Benefits to Connecticut's Families and Businesses

Economic Development

- Creating thousands of jobs
- Generating millions in tax revenue

Energy

- Reducing energy burden by deploying clean energy
- Increasing energy security by deploying clean energy

Environmental Protection

- Reducing greenhouse gas emissions
- Improving the health of our residents by reducing air pollution

Equity

- No less than 40% of investment and benefits must reach vulnerable communities

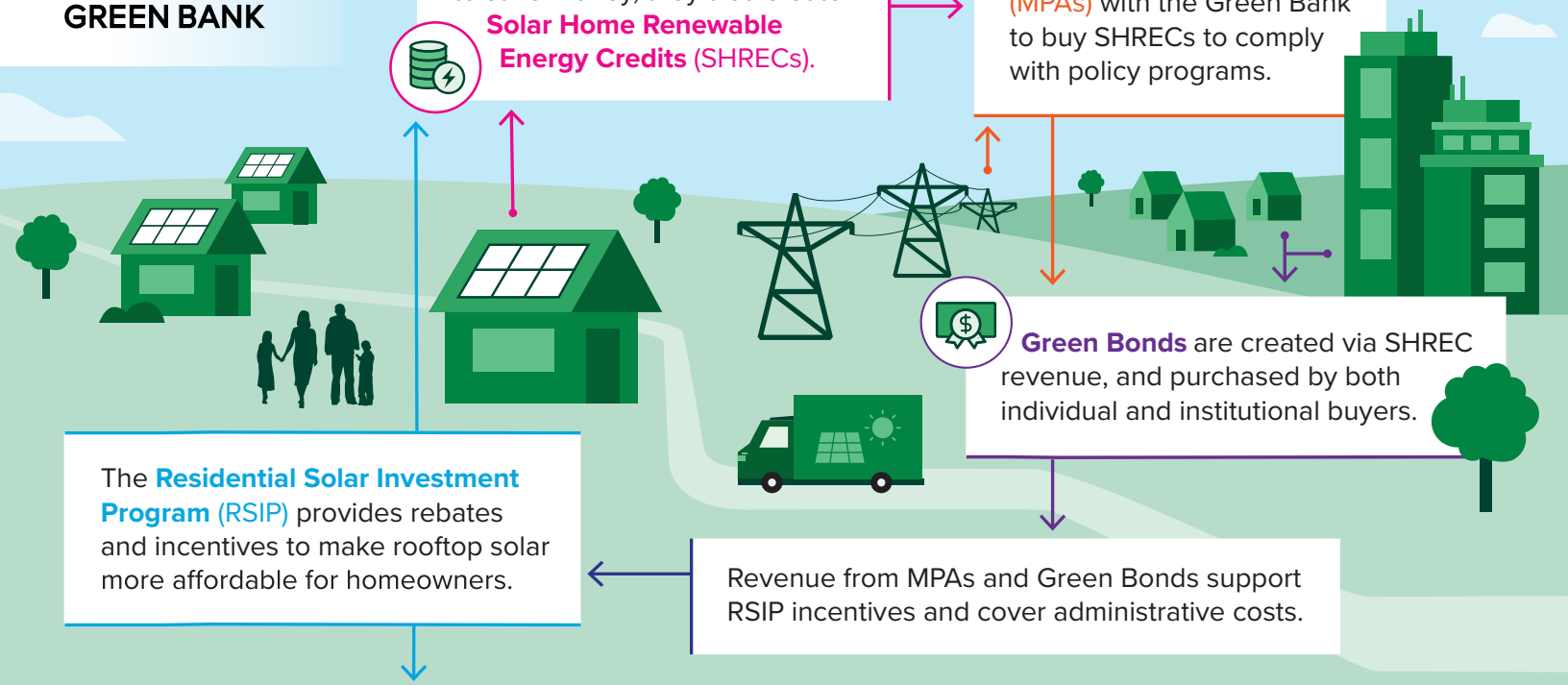
ATTACHMENT C

Residential Solar Investment Program

CONNECTICUT GREEN BANK

When panels produce electricity to save money, they also create **Solar Home Renewable Energy Credits** (SHRECs).

Utilities enter into **Master Purchase Agreements** (MPAs) with the Green Bank to buy SHRECs to comply with policy programs.



Green Bonds are created via SHREC revenue, and purchased by both individual and institutional buyers.

Revenue from MPAs and Green Bonds support RSIP incentives and cover administrative costs.

The **Residential Solar Investment Program** (RSIP) provides rebates and incentives to make rooftop solar more affordable for homeowners.

Residential Solar Investment Program (RSIP)

Through a network of contractors, the Green Bank helped **43,000+ households** access solar energy since 2012, surpassing the statutory target of 350 MW one year ahead of the December 2022 deadline.

$1.33 billion
Total investment

$149.7 million
Total incentive

$0.43/W*
Incentive ($31 per Zero Emission Renewable Energy Credit Equivalent)

$3.80/W
Installed Cost

Solar Power Generation

350 MW
Capacity

9,966,706 MWh
Estimated lifetime generation

Solar and Energy Efficiency for All

- **50%** of RSIP projects have been deployed in **vulnerable communities**
- **98%** of RSIP projects had **energy audits** (i.e., Home Energy Solutions)

SHREC Backed Bonds

Consumer demand is greater than the supply of bonds, showing consumers' high interest in supporting investment to confront climate change in Connecticut.

Green bonds are certified and verified by a third-party for consumer protection.

Connecticut's Solar Industry

15,437
Jobs created

$41.9 million
Tax revenue generated

6,291 Direct | **9,146** Indirect and induced

Environmental Impact

Through the production of zero emission renewable energy, the lifetime reduction of greenhouse gases is equivalent to:

5.5 million
Tons of CO_2

606,686
Homes energy use

6.1 million
Acres of forests

12.6 billion
Miles driven

$397.8 million Public health cost reduction from cleaner air

*Average incentive over life of the program

ATTACHMENT D

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**

$16.5M Green Bank investment

$158.1M private investment

$8.25M ARRA Funds

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

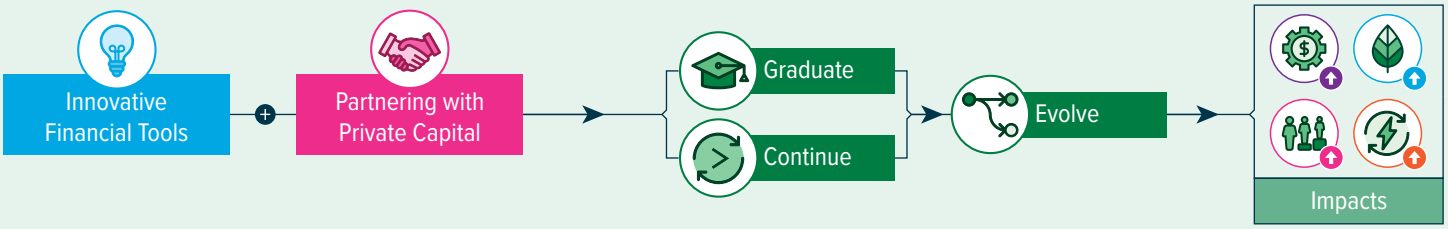
- Deployment of over **24 megawatts** of **clean energy**
- **Lifetime savings of over 3.4 million MMBTUs** through energy efficiency projects, including:
  - Solar panel installation
  - Insulation upgrades
  - Heating and cooling system upgrades

$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 E
Social Impact

CONNECTICUT GREEN BANK

Societal Impact Report

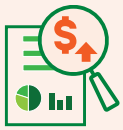
FY12 FY22

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

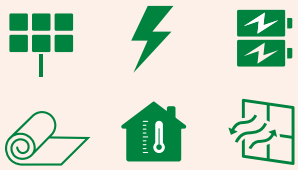
ENERGY

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

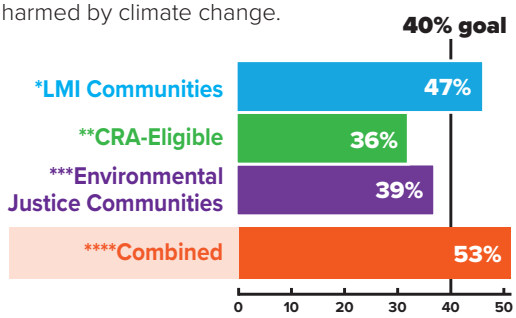
2.1 MILLION passenger vehicles driven for one year

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

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