

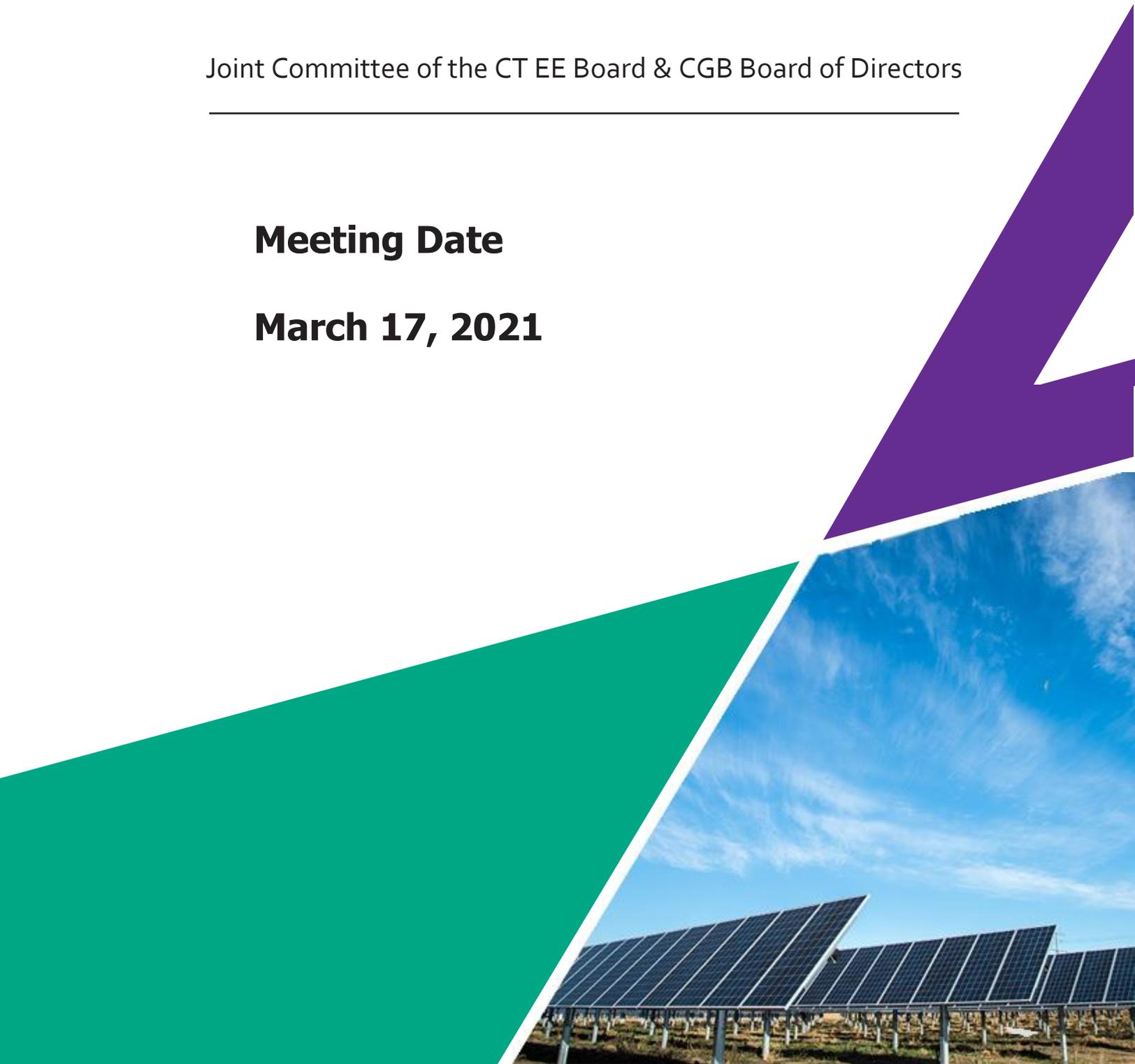


Joint Committee of the CT EE Board & CGB Board of Directors

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**Meeting Date**

**March 17, 2021**



JOINT CGB/EEB COMMITTEE MEMBERS

<b>Eric Brown</b> Chair CT Business & Industry Association	<b>Michael Li</b> CT Department of Energy and Environmental Protection (DEEP)
<b>John Harrity</b> Chair CT Roundtable on Climate and Jobs	<b>John Viglione</b> Office of Consumer Counsel
<b>Brenda Watson</b> Executive Director Operation Fuel	<b>Bryan Garcia</b> President and CEO Connecticut Green Bank
<b>Ronald J. Araujo</b> Eversource	<b>Bert Hunter</b> EVP/CIO Finance Connecticut Green Bank
<b>Jane Lano</b> United Illuminating	



## **AGENDA**

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

#### **Online**

March 17, 2021  
1:30 pm – 3:00 pm

1. Call to Order
2. Public Comments (5 min)
3. Review and Approval of Minutes for December 12, 2020 (5 min)
4. Clean Energy Jobs Report – Review of Statement of Work (30 min)
5. Plan Coordination (15 min)
  - a. Input to FY 2022 Connecticut Green Bank Comprehensive Plan
  - b. Input to 2022-2024 Conservation and Load Management Plan
6. Update on the 2021 Legislative Session (10 min)
7. Other Business (25 min)
  - a. Brief Update: C&I - Government (5 min)
  - b. Brief Update: C&I – Small and Medium/Large Business (5 min)
  - c. Brief Update: Residential – Single Family and Multi-Family (5 min)
    - Update on Docket No. 20-07-01 (i.e., Residential Solar Tariffs)
  - d. Other Business
8. Adjourn

Join the meeting online at <https://global.gotomeeting.com/join/617653197>

Or dial in using your telephone:  
Dial: 1 (646) 749-3122 / Access Code: 617-653-197



## RESOLUTIONS

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

#### Online

March 17, 2021  
1:30 pm – 3:00 pm

1. Call to Order
2. Public Comments (5 min)
3. Review and Approval of Minutes for December 12, 2020 (5 min)

#### **Resolution #1**

Motion to approve the meeting minutes of the Joint Committee for December 12, 2020

4. Clean Energy Jobs Report – Review of Statement of Work (30 min)
5. Plan Coordination (15 min)
  - a. Input to FY 2022 Connecticut Green Bank Comprehensive Plan
  - b. Input to 2022-2024 Conservation and Load Management Plan
6. Update on the 2021 Legislative Session (10 min)
7. Other Business (25 min)
  - a. Brief Update: C&I - Government (5 min)
  - b. Brief Update: C&I – Small and Medium/Large Business (5 min)
  - c. Brief Update: Residential – Single Family and Multi-Family (5 min)
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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** – per Executive Order 7B (i.e., suspension of in-person open meeting requirements), we need to record and post this board meeting.
- **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

March 17, 2021



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# Agenda Item #1

## Call to Order



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# Agenda Item #2

## Public Comments



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# Agenda Item #3

## Approval of Meeting Minutes for December 12, 2020



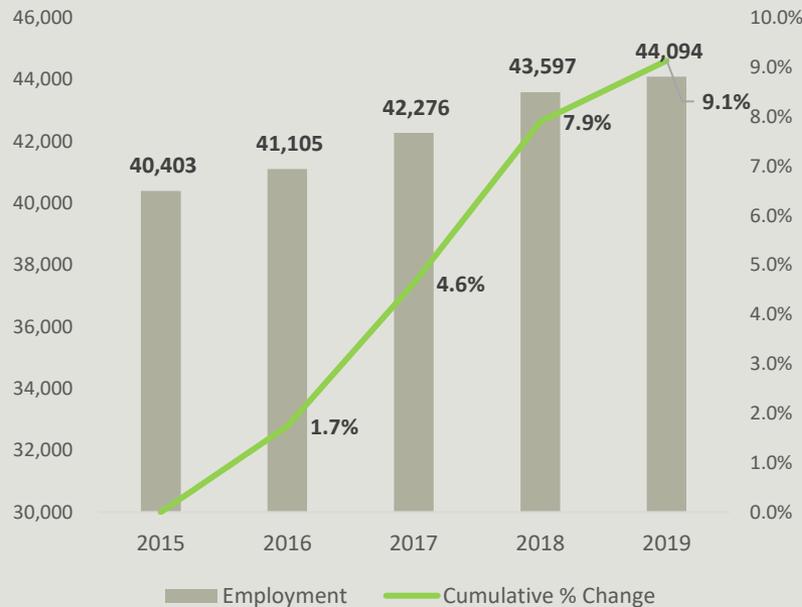
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# Agenda Item #4

## Clean Energy Jobs Report

### Review of Statement of Work

# 2020 Clean Energy Report Findings



- +3,700 jobs in 4 years
- 2.6% of total jobs in CT in 2019, 1.2% of all clean energy jobs in U.S.
- Energy efficiency represented 8 in 10 jobs
- 54% in construction & 25% in professional services

# Monthly COVID-19 Updates



- 8% below 2019 baseline employment (-3,500 jobs)
- 85% of jobs lost in energy efficiency
- 60% of jobs lost in construction

# 2021 Clean Energy Report Data & Timeline

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- Employment data (by technology, sub-technology, and value chain segment) specific to CT definition of clean energy
  - County-level employment & workforce demographics
  - COVID-19 job losses – including comparisons to Northeast
  - Optional analyses – economic impact analysis, career profiles, specific technology focus (renewable heating and cooling, fuel cells, etc.)
- 
- Draft Report – April 23<sup>rd</sup>
  - Final Report – June 18<sup>th</sup>

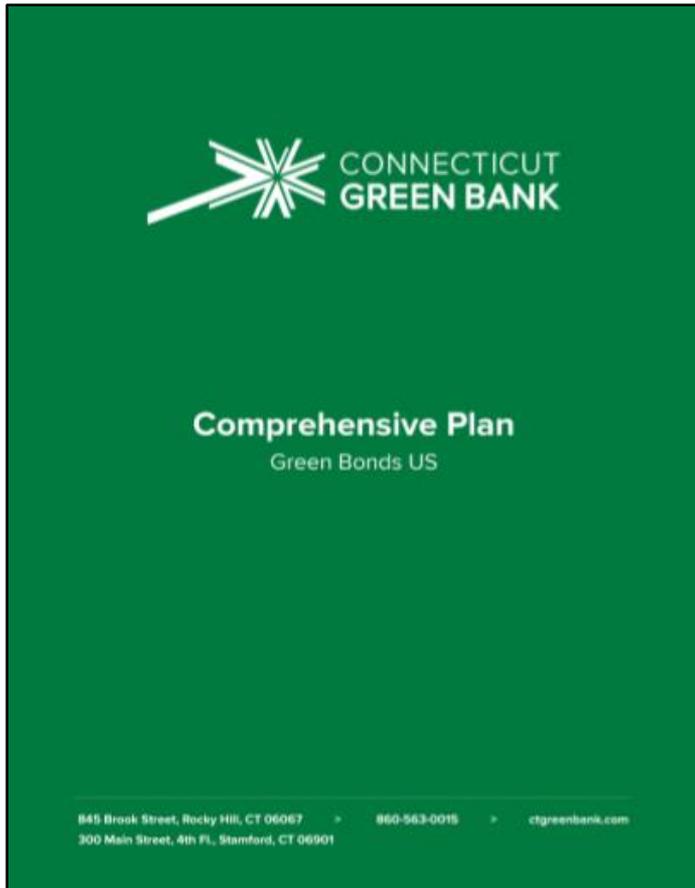


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**Agenda Item #5a**  
Plan Coordination  
Connecticut Green Bank  
Comprehensive Plan – Green Bonds US

# Connecticut Green Bank

## FY21 Comprehensive Plan – Green Bonds US (REVISED)



- ❑ **“vulnerable communities”** – included recent definition passed in “Take Back Our Grid Act” into the goals
- ❑ **Equity Target** – established vulnerable communities target of no less than 40 percent of investment from incentive and financing programs by 2025
- ❑ **Target** – revised some of our FY 2021 targets given better than expected performance
- ❑ **Programs** – included programs we have developed to support implementation of Comprehensive Plan (e.g., RSIP-E, Solarize Storage, etc.)

# Connecticut Green Bank

## Looking Ahead at FY22 Comprehensive Plan

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- **Corporate Headquarters** – moving from Rocky Hill (i.e., 195 Tech Center) to Hartford (i.e., CT Non-Profit Center) to build sustainable community, including working with the City (i.e., “Greenest City in America”)
- **BTM Tariffs** – supporting orderly transition of BTM market from net metering to tariff-based compensation structure for residential and non-residential systems, including consultant to PURA (Docket No. 20-07-01)
- **BTM Battery Storage** – supporting development of BTM market for 580 MW of battery storage for residential and non-residential systems as co-administrators of incentive programs with EDCs (Docket No. 17-12-03RE03)
- **Environmental Infrastructure** – Governor seeking to expand the scope of the Green Bank beyond “clean energy” to include “environmental infrastructure” (e.g., agriculture, waste and recycling, adaptation and resiliency, water, etc.)



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**Agenda Item #5b**  
Plan Coordination  
Conservation and Loan Management Plan

# 2019-2021 Plan Priorities

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1. Advance State Energy & Environmental Policy Goals
2. Offer Tailored Solutions for Market Segments While Ensuring Equitable Distribution
3. Focus on Direct Savings to Customers
4. Develop and Maintain a Sustainable Workforce
5. Continuous Commitment to Deliver Comprehensive Energy Efficiency Strategies
6. Implement Effective Demand Reduction Strategies
7. Continue to Explore and Implement Financing Options

# 2022-2024 C&LM Plan Board Schedule

Month	Board Activities
November	Review Draft 2022-2024 Plan Schedule
December	Discuss Three-Year Plan Opportunities and Challenges
January	Develop Questions for Stakeholders and Public Input Sessions
February	C&I Program Discussion
March	Residential and Low income Program Discussion Public Input Session #1
April	Demand Response and Electrification Program Discussion Avoided Energy Supply Cost Study Discussion
May	Review and Discuss PMI Structure, Weights, etc. and Identify Areas for Potential Revision
June	Marketing, Education and Workforce Development Discussion
July	Review and Discuss Initial Draft Plan Text and Revised PMI Structure Review Draft Plan text and PMIs
August	Review and Comment on Initial Revenue, Savings and Budget Projections and PMI Values Review revised Plan text
September	Vote on Plan Text Review revised revenue, savings and budget projection
October	Vote on Plan Tables
November	Three-Year Plan Filed

# Likely “Themes” in 2022-2024 Plan

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- Growth in active demand response (DR)
  - How best to co-deliver EE and DR
- Equity
  - How defined and addressed?
  - Addition of Equity secondary metrics in 2021 Plan Update
- Electrification
  - Though role and level of C&LM program support is not yet defined
- Net-zero energy new construction

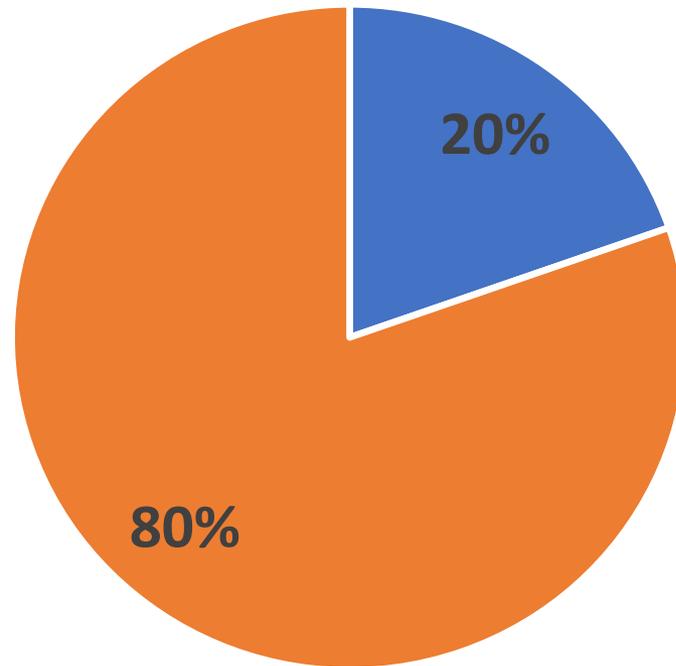
## Likely “Themes” in 2022-2024 Plan (cont.)

- Impacts of Residential and C&I lighting transitions
- Workforce development
- Addressing health and safety Wx barriers
- Continued focus on Comprehensiveness/Deeper savings
- Delivered fuel efficiency well integrated into Res. programs, but recent addition to C&I

# Large Majority of Lifetime Electric Savings are from C&I

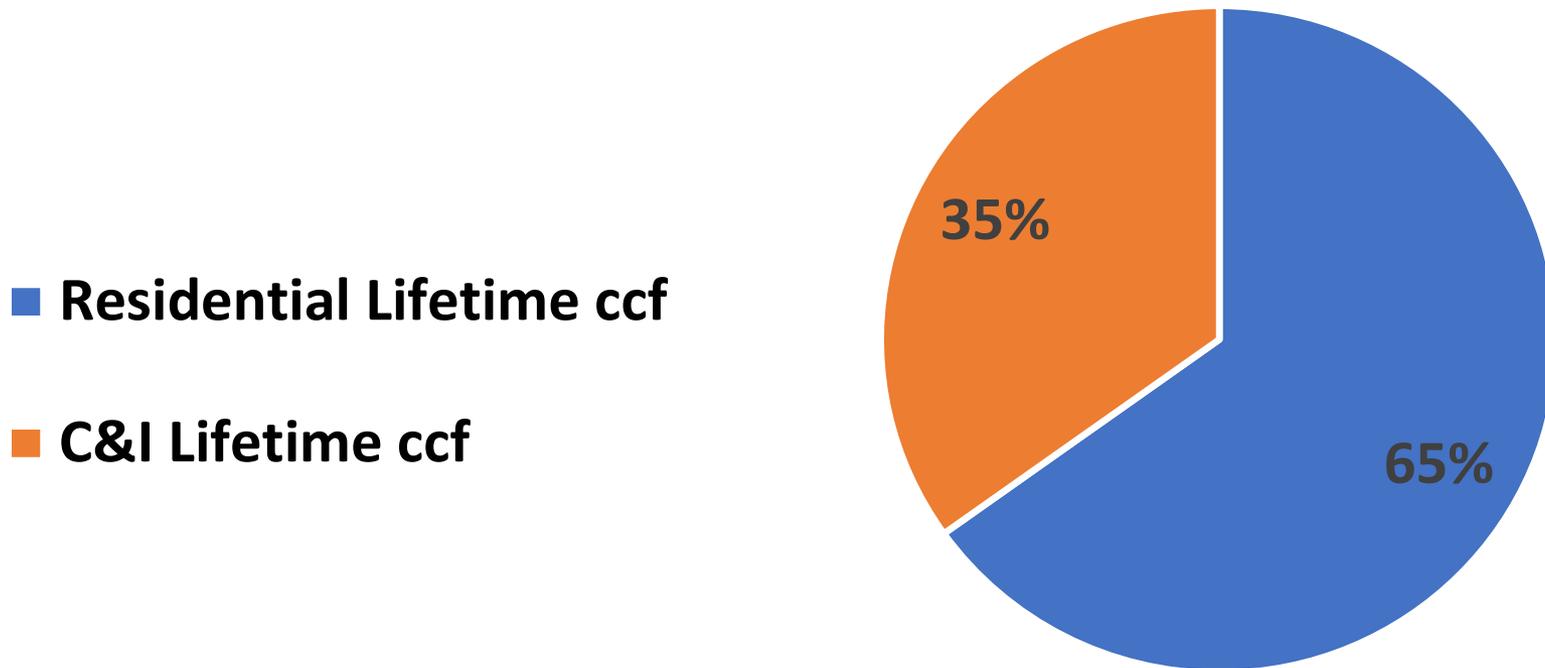
## 2021 Lifetime Electric Savings

- Residential Lifetime MWh
- C&I Lifetime MWh



# While Majority of Lifetime Gas Savings are from Residential

## 2021 Lifetime Gas Savings

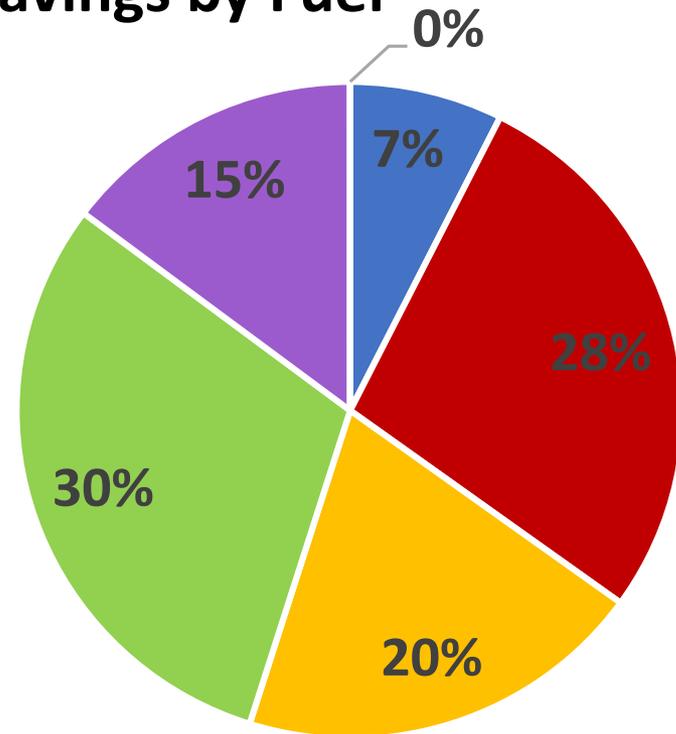


# And Total Lifetime Energy Savings Are Nearly Evenly Split Between the Two Sectors

## 55% Residential / 45% C&I

### 2021 MMBTU Savings by Fuel

- Residential Electric LT MMBTU
- Residential Gas LT MMBTU
- Res. Delivered Fuels LT MMBTU
- C&I Electric LT MMBTU
- C&I Gas LT MMBTU
- C&I Delivered Fuels LT MMBTU

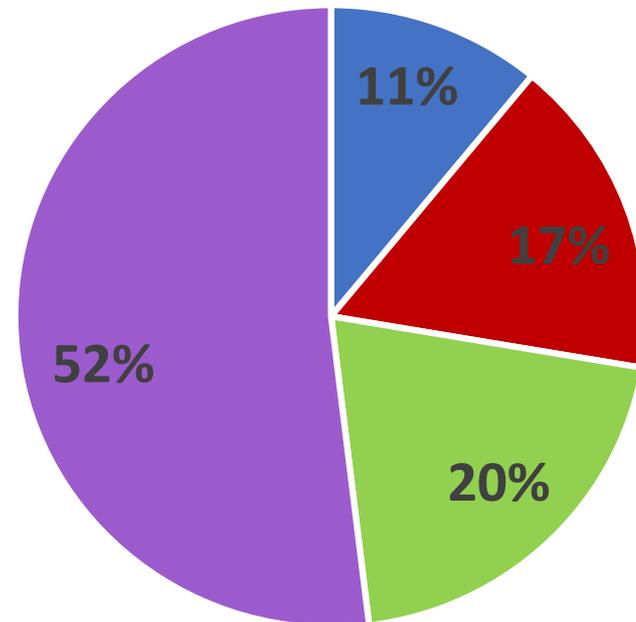


# Nearly Three Quarters of Demand Savings Comes from C&I

28% Residential / 72% C&I

### 2021 Demand Savings

- Residential Passive Demand kW
- Residential Active Demand kW
- C&I Passive Demand kW
- C&I Active Demand kW



# C&LM Program and Green Bank Coordination

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- Leveraging/co-delivery of efficiency, demand response and renewables, including to LMI populations
  - Battery storage
  - EV chargers
  - PVs
  - New construction
- Growing the use of financing to support deeper project savings and consider linkage to energy efficiency projects



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# Agenda Item #6

## Update on the 2021 Legislative Session

# 2021 Legislative Session

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- **SB 882** (E&T) – codifies EO3 of Governor Lamont with zero emission electric sector by 2040
- **SB 952** (E&T) – establishes 1,000 MW battery storage target for BTM and FTM systems
- **HB 6571** (E&T) – expands scope of C-PACE to include resiliency and exempts EV infrastructure and resiliency from SIR
- **SB 991** (E&T) – requires EDCs to better explain combined public benefits charge (i.e., C&LM and CEF)
- **GB 884** (ENV) – models RGGI to create Transportation Climate Initiative (TCI)
- **GB 6441** (ENV) – expands scope of Green Bank to include “environmental infrastructure”
- **SB 999** (Labor) – provides for a just transition to climate-protective energy production and community investment
- **SB 127** (Transportation) – permit EV manufacturers to sell EVs directly to consumers



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**Agenda Item #7a**  
Other Business  
Brief Update: C&I – Government

# Brief Update Government

- **Small Business Energy Advantage** loan size expanded for state and municipal governments

Utility	Maximum Loan Amount	Maximum Loan Term
Eversource	\$1M per project	7 years (from 4)
UI	\$500k per State agency / municipality	5 years (from 4)

- **Eversource State / Muni loans (Part of overall SBEA Loan Recap)**
  - *New State/Muni loans issued in 2020*
    - *~27 Municipalities + State - \$2.4 M (represents over 60 projects)*
  - *State/Muni Loans resold/recapped since 2018: 467 projects - \$10.7M*



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## Agenda Item #7b

Other Business

Brief Update: C&I – Small, Medium, and  
Large Business

# 2021 C&I Program Update Highlights

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- Enhancements to new construction program – four pathways
- Virtual Commissioning Pilot – AMI data (UI only)
- Small Business Energy Advantage and BEA
  - Virtual Pre-assessments
  - Microbusiness Energy Advantage
  - Distressed Communities
- Small Manufacturer Initiative
- Agriculture Market Segment
- HVAC Modernization Pilot to include process measures
- C&I Heat Pump Pilot

# 2021 C&I Program Update Highlights

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- Upstream refrigeration incentives
- Natural gas active demand response pilot (CNG and SCG only)
- “Savings are Essential” increased incentives extended through June 2021
- Modified Utility Cost Test adopted for C&I electric programs
  - Includes oil and propane savings, avoided costs, and program costs

# Brief Update

## Small, Medium, and Large Business

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- **C-PACE** has provided financing in FY21 to 18 projects for a total of \$11.5m. This is 62% and 84%, respectively, of the goals so on target to meet or exceed them.
- Launched **ChargeUp CT Buildings** and flexible repayment offers for **C-PACE**
- UI SBEA Update
  - SBEA/Muni - Loans Issued in 2020 – 138 new loans; \$ 2.85 M;  
— (ref. 2019 – 164 loans; \$2.98M)
- Eversource SBEA Update
  - SBEA/Muni - Loans Issued in 2020 – 382 new loans; \$ 7.9 M;  
— (ref. 2019 – 800 loans; \$14.1M)
  - SBEA/Muni loans resold/recapped since 2018 – 5,233 loans; \$64 M
- Eversource BEA financing
  - # 3 loans, \$226K
  - Rolled out to 11 contractors



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## Agenda Item #7c

Other Business

Brief Update: Residential – Single Family  
and Multifamily

# Brief Update

## Single Family and Multifamily

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### ■ Single Family

- HES copay and insulation rebate changes at end of first quarter
- New Air Source Heat Pump (ASHP) Qualified Product List (QPL)
- Two tiers of heat pump incentives
- Smart-E Loan Spring Special Offer

### ■ Multifamily

- Program will look very similar to 2020
- Adopting the new ASHP heat pump QPL
- CT Green Bank Multifamily updates

# 2021 HES Incentives

- As of April 1, 2021, newly-enrolled customers will pay \$50

HES  
Co-Payment



- **Customers with HES assessment conducted prior to April 1, 2021** = \$2.20/sq. ft. with installation and rebate form submitted by June 30, 2021
- **Customers assessments performed on or after April 1, 2021** = \$1.70/sq. ft.

Insulation



- **Double-pane windows:** HES participants qualify for \$50/window rebate through December 31, 2021
- **Triple-pane windows:** Standalone \$100/window rebate through December 31, 2021

Windows



# 2021 Heat Pump Incentives

## Ground-Source Heat Pumps

- **Electric heat:** \$750/ton, up to \$15,000/home
- **Oil/Propane heat:** \$1,500/ton, up to \$15,000 home

## Air-Source Heat Pumps

- New ASHP Qualified Product List effective April 1, 2021
  - Effective for April 1 to December 31, 2021 sales, aligns with regional HP qualification criteria
- New mini-split HP two-tier ASHP incentive structure effective Jan. 1, 2021 (*must meet qualifying SEER/HSPF criteria*)
- **HES participant heat pump rebates:**
  - ASHP HES rebate: \$1,000/ton electric resistance
  - Fuel Optimization HP Pilot
    - Ducted/Ductless HP: \$1,000/ton
    - Integrated controls with legacy heating unit: \$500/unit up to \$1,500/home



# 2021 ASHP Incentives

## Ductless Single-Zone ASHP

- **Tier 1: \$250/ton\***
  - Specifications:  $\geq 18$  SEER,  $\geq 10$  HSPF, 58% Heating Capacity Ratio (47°F to 17°F)
- **Tier 2: \$500/ton\***
  - Specifications:  $\geq 22$  SEER,  $\geq 10$  HSPF, 58% Heating Capacity Ratio (47°F to 17°F)

## Ducted and/or Ductless Multi-Zone ASHP

- **Tier 1: \$250/ton\***
  - Specifications:  $\geq 16$  SEER,  $\geq 9.5$  HSPF, 58% Heating Capacity Ratio (47°F to 17°F)
- **Tier 2: \$500/ton\***
  - Specifications:  $\geq 20$  SEER,  $\geq 10$  HSPF, 58% Heating Capacity Ratio (47°F to 17°F)

## Central Air Source HP: \$500/ton\*

- $\geq 16$  SEER,  $\geq 9.5$  HSPF, 60% Heating Capacity Ratio (47°F to 17°F)

\*Up to two systems per home.

# Brief Update

## Single Family and Multifamily

- HES Payment Plan/Micro Loan
  - Expanded to include HES-IE
  - Expanded to include other measures windows, heat pumps
  - Lowered the minimum loan from \$1,000 to \$500
- Single Family Loan Volumes (2020 vs. 2019)

	2019		2020	
	# OF LOANS	AMOUNT	# OF LOANS	AMOUNT
HES	349	\$ 1,015,318	185	\$ 727,688
EnergizeCT	1,965	\$ 17,331,028	2,090	\$ 19,092,646
ECLP	27	\$ 276,924	20	\$ 268,485
Smart-E	744	\$ 11,268,851	636	\$ 9,716,621
	<b>3,085</b>	<b>\$29,892,121</b>	<b>2,931</b>	<b>\$29,805,440</b>

# Smart-E Loan Spring Special Offer

## Single Family Energy Financing

- **Launched:** Mon., March 15th
- **Loan Terms:** 5, 7 and 10 years
- **Rate:** 1.99%
  - 0% for 80% AMI
  - 0% for crumbling foundations
- **Loan Amounts:** \$500 - \$40,000
- **IRB Budget:** \$1.3M
- **Estimated IRB/Loan:** \$3,000 – \$5,000
- **Estimated Loan Count:** 250-750



# Smart-E Loan Spring Special Offer

## Single Family Energy Financing

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### Qualifying Technologies:

- Home Performance
  - Insulation + HES
  - Windows + HES
- High Efficiency HVAC
  - ASHP + HES
  - GSHP + HES + Data Monitors
  - Boilers, Furnaces, Water Heaters, AC
- Solar Battery Storage
- Electric Vehicle Charging Stations
- *Health & Safety + HES (pending DOE approval)*



Keep the cozy in  
& the chill out.

LIMITED-TIME  
SPECIAL OFFER **1.99%**

NO MONEY DOWN / FLEXIBLE TERMS

Heat pump technology  
is the solution for  
savings and comfort.

# Multifamily Building Electric Heating & Cooling Systems Incentives

Multifamily buildings currently with electric-resistance heating and cooling systems eligible for **enhanced incentives** to convert to a heat pump system

Individual Dwelling Unit – Conversion to Heat Pump System		
	Market Rate Property Owner Incentive	Income-Eligible Property Owner Incentive
Heat pump system for Small Multifamily (2-19 attached dwelling units)	\$3,000/unit or up to 75% of the installation cost (based on estimated energy savings)	Up to 90% of installation cost (based on estimated energy savings)
Heat pump system for Large Multifamily (20 or more attached dwelling units)	\$1.60/kWh saved, capped at 75% of total project cost	\$1.60/kWh saved, capped at 90% of total project cost
Heat Pump Control Integration for 5+ dwelling unit properties	Is required to qualify for above listed incentives.	Is required to qualify for above listed incentives.

All ASHPs must be on the Qualified Product List effective April 1, 2021

# Connecticut Green Bank

## Residential Multifamily

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- Partnership Updates:
  - Multifamily Financing Options updated at [energizect.com](http://energizect.com)
  - CHFA & DOH Sustainability Work Group / Passive House
- Program Updates:
  - Loans Improving Multifamily Efficiency (LIME) – expanded program in place; C4C will reach out to coordinate launch
  - ECT Health & Safety Loan Fund
    - \$415,000 approved and closed; \$400K in underwriting; \$400K application anticipated; leaving \$285K to be committed

# Docket No. 20-07-01

## Residential Solar Tariffs

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- Buy All and Monthly Netting Tariffs
- Key Decisions from Green Bank Perspective:
  1. Low Income (i.e., \$0.0250/kWh) or “Distressed Communities” (i.e., \$0.0125/kWh) adders [Green Bank led advocacy]
  2. HES Requirement [Green Bank led advocacy]
  3. Direct Payment (i.e., allowing Green Bank to support LMI market with financing) [Green Bank led advocacy]
  4. Rate of Return of 10% (i.e., just, reasonable and adequate) [Green Bank led advocacy]
  5. Confront Climate Change by allowing the system size to be increase to support two (2) electric vehicles and RH&C (i.e., EDCs to develop process)
- Integrate battery storage (Docket No. 17-12-03RE03)

# Press Release and Press



**STATE OF CONNECTICUT**  
PUBLIC UTILITIES REGULATORY AUTHORITY

**\*\*PRESS RELEASE\*\***

**PURA Establishes New Residential Renewable Energy Program**  
*Implementation Set for January 1, 2022*

(New Britain, CT – February 10, 2021) – Connecticut Public Utilities Regulatory Authority (PURA) announced today the establishment of a new residential renewable energy program that will change how solar owners are compensated. The new systems program will replace the current net metering program (NEM), starting January 1, 2022.

**Great job by Chair Gillet to deliver transition**

"It is crucial for the state to modernize the state's electric grid to accommodate growing grid demand, and to enhance the availability of distributed energy resources to all ratepayers," stated PURA Chairman Marissa P. Gillet. "This new plan will transform how residential solar owners are compensated while extending grid flexibility to accommodate future electricity needs, including electric vehicle chargers and electric heating systems."

Among other orders, PURA's decision instructs the EDCs to focus on customer education and protection, while also setting the stage to leverage the expertise garnered by the Connecticut Green Bank through its impactful role in administering previous renewable energy programs.



# the ct mirror

A shocker in the plan to finally update residential solar rates: No complaints

ENERGY :: by JAN ELLEN SPIEGEL | JAN 11, 2022 | VIEW



**Great article by Jan Ellen Spiegel of CT Mirror**

of changing underpinnings for systems, and, for a decade, it complaining.

changes in how solar owners are compensated for the excess power their systems produce at certain times. The rates for how that is calculated and structured will be altered, but in exchange, systems will be allowed more flexibility to accommodate future larger electricity needs.



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# Agenda Item #8

## Adjourn



## Draft MINUTES

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

Wednesday, December 16, 2020  
1:30-3:30 p.m.

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

#### In Attendance

Voting Members: Eric Brown, John Harrity, Michael Li

Non-Voting Members: Stephen Bruno, Bryan Garcia, Linda King,

Members Absent: John Viglione, Brenda Watson, Donna Wells

Others: Ron Araujo, Joe Buonannata, Sergio Carrillo, Gentiana Darragjati, Kate Donatelli, Mackey Dykes, Richard Faesy, Brian Farnen, Joel Kopylec, George Lawrence, Liz Murphy, Madeline Priest, Lonnie Reed, Lawrence Rush, Cheryl Samuels, Ariel Schneider, Claire Sickinger, Kim Stevenson

Unnamed Callers: 04, 05, 06, "Giulia"

#### 1. Call to Order

Eric Brown called the meeting to order at 1:31 pm.

#### 2. Public Comments

No public comments.

#### 3. Review and approval of Meeting Minutes from the September 16, 2020 meeting.

#### Resolution #1

Motion to approve the meeting minutes for September 16, 2020.

**Upon a motion made by John Harrity and seconded by Michael Li, the Joint Committee voted to approve Resolution 1. None abstained or opposed. Motion approved unanimously.**

#### 4. 2021 Regular Schedule of Meetings

- Bryan Garcia said the schedule mimicked the schedule in 2020 as closely as possible

and tried to align with legislative sessions, the Comprehensive Plan, etc.

## **Resolution #2**

Motion to approve the 2021 Regular Schedule of Meetings.

**Upon a motion made by John Harrity and seconded by Michael Li, the Joint Committee voted to approve Resolution 2. None abstained or opposed. Motion approved unanimously.**

### 5. Energy Jobs Report – Report Out and Next Steps

- Bryan Garcia summarized the history and status of the Jobs Report in collaboration with BW Research. The US Climate Alliance released its report just last week and it included the data from the Jobs Report in their section on Connecticut. There was a successful webinar press release on November 10, 2020 with 51 attendees and had substantial media coverage.
- Bryan Garcia has begun to set initial meetings with BW Research and others on continuing the report into 2021. He said the hope is that with the incoming Biden-administration would support the national collection of clean energy jobs information by state. If this were to occur, then there should be a drop in the budget expenses to produce the report for Connecticut as the federal administration releases funds to support it which were not previously released.
  - John Harrity commented that he is happy with the report as it heavily promotes both job creation and green energy.

### 6. Plan Coordination

#### a. Input to FY 2021 Connecticut Green Bank Comprehensive Plan

- Bryan Garcia explained the basic timeline of the Green Bank's Comprehensive Plan including upcoming meetings and potential proposed changes. There is a focus on equity and vulnerable communities and involving those definitions within the plan as well as setting an equity target of no less than 40% of investment from incentive and financing programs by 2025. Any adjustments to the Comprehensive Plan would require support from the Budget, Operations, and Compensation Committee and approval by the Board of Directors.
- Bryan Garcia reviewed the Green Bank's FY 2021 drafted targets. The Green Bank is currently ahead of where was estimated due to COVID-19, and thus is asking staff to review and revise the upper end of targets to account for the current position.
- Bryan Garcia noted that Bond Buyers has awarded the Green Bank's Green Liberty Bonds both the Innovative Bond of the Year award and nomination for the Deal of the Year award, which Bert Hunter will be presenting during their online conference.
  - John Harrity commented that there was a certain amount of risk involved with putting together the bond program, but it is amazing to see that it has panned out so successfully. He said he never anticipated it would ever do so well and it shows the desire of the public to support green efforts.

#### b. 2022-2024 Conservation and Loan Management Plan Progress

- Glenn Reed briefly noted that the 2019-2021 Plan, which has been filed, is currently awaiting approval. As for the 2022-2024 Plan, the priorities have been largely intact from the 2019-2021 plan. The C&LM Plan Board will be reviewing new definitions and values to include as well, which Glenn Reed reviewed.
- Glenn Reed summarized the 2022-2024 C&LM Plan Board schedule. He highlighted some of the programs that are linked to State statutes which the C&LM Plan aims to achieve. This includes programs that benefit low-income people, indoor air quality programs, joint fuel conservation, public education, and others. He also reviewed some data from 2021 which shows that C&I lifetime energy savings are nearly evenly matched to those coming from the Residential sector between electric, gas, and delivered fuels, and that nearly 73% of the Demand Savings are coming from C&I.
  - Bryan Garcia commented that, working with Glenn Reed, CGB and C&LMP teams would be meeting in January 2021 to dive deeper and work more closely going forward.
  - John Harrity commented that he hoped the issue of equity would also be addressed within workforce opportunities.

## 7. Plans for the 2021 Legislative Session

- Bryan Garcia summarized the CGB's legislative priorities which includes expanding the scope of the Green Bank via environmental infrastructure, supporting the local solar industry in requesting an extension of the Residential Solar PV program by 100 MW as a bridge to tariffs, expansion of C-PACE programs, and clarifying the Class I tax exemption to resolve confusion on third-party owned residential solar. Brian Farnen noted that it has been a long process to navigate with the few towns who are pushing back on the longstanding property tax exemption for residential solar but we are trying to maintain flexibility through the litigation process to reach a settlement.
  - Ron Araujo commented that the increase to the RSIP program would be welcome by Home Energy Solutions contractors.
  - Michael Li asked in relation to the Class I tax exemption is for all Class I resources or just for residential solar. Brian Farnen clarified that it is for all systems for on-site residential use.
  - Michael Li also asked about the solar fields and how the tax exemption may apply. Brian Farnen clarified that if the solar fields are selling the energy for commercial purposes and not intended principally for onsite consumption, then it would not be covered, but he would need more specific information to be clear. In the end, the bottom line is that budgets are tight due to COVID-19 and this issue only seems to be raised because of that.
  - Stephen Bruno asked if there are any concerns about a potential budget sweep. Brian Farnen said he believes the Green Bank and C&LM Fund should be fine for this next session, but everyone needs to be vigilant, work together and on the same page about protecting each other's interests and capabilities.

## 8. Other Business

### a. Brief Update: C&I – Government

- Stephen Bruno gave an update about the Small Business Energy Advantage program. The loan size was expanded for state and municipal governments for both Eversource and United Illuminating. He also reviewed the State and Municipal loans recapped in

2020, which covers approximately 67 projects and \$1,700,000. As of 2018, 433 projects and \$9,100,000 have been resold/recapped.

b. Brief Update: C&I – Small and Medium/Large Business

- Liz Murphy summarized the COVID-19 mitigation strategy which includes an enhanced incentive structure. Incentive levels have been increased across the board and a distressed incentive was made available for qualifying customers.
- Liz Murphy reviewed the actions C&I took to continue to deter hardship due to COVID-19. This includes 6-month loan deferments offered to SBEA customers, virtual pre-assessment offerings transitioned fully into the program, SBEA aggregation rules relaxing, and other measures. As well, the Microbusiness Energy Advantage (MBEA) pilot was launched to target the smallest commercial customers.
- Mackey Dykes gave an update about C-PACE, and it is on track to either meet or exceed its FY21 goals. Two initiatives have been launched to push project interest: ChargeUp CT Buildings and flexible repayment offers for C-PACE projects.
- Stephen Bruno gave the United Illuminating and Eversource SBEA Updates. Overall loans are down from 2019 with both companies, however the loan recapitalization process is still going strong. As well, Eversource began offering BEA financing which has a formal roll-out slated for January 2021.

c. Brief Update: Residential – Single Family and Multi-Family

- Ron Araujo summarized the updates for the Single and Multifamily programs. For Single Family homes, HES Incentives change at the end of the first quarter of 2021. The copay has been reduced for market rate customers and incentive levels were increased for insulation. There will also be two tiers of incentives offered for heat pumps. Ron Araujo then explained the HES Incentive changes and Heat Pump Incentive plans in more detail.
- Ron Araujo continued that for Multifamily homes, the program will be similar to 2020 with some changes. He highlighted the enhanced incentives available, to Multifamily systems with electric-resistant heating and cooling systems, to convert to a heat pump system, and the cost that it would take to do the conversion. Ron Araujo also summarized the changes from 2019 and 2020 for the HES Payment Plans and Micro loans which have been expanded to include HES-IE, windows, heat pumps, and other measures.
  - John Harrity asked if there are any efforts to educate customers about air-source heat pumps, as there may not be a lot of knowledge about it. Ron Araujo said there is some educational material in the HES print on demand booklet (“POD”) but it is an area that needs more attention. Michael Li noted that DEEP is very interested in ASHPs.
- Joe Buonannata gave an update on the Smart-E Loans, which has been doing well despite COVID-19. The 2.99% special offer for heat pumps, solar battery storage, and EV chargers launched on July 1, 2020 and is expected to be available through at least Q3 of FY2021. So far, 87 loans have been closed through the special offer. He also mentioned that marketing materials used for the Smart-E 2.99% heat pump special offer include consumer friendly educational content on air source heat pumps published by Northeast Energy Efficiency Partnerships (“NEEP”) in their “SHP Buying Guide.” For PosiGen’s Solar for All campaigns, the two campaigns run in 2020 were successful and there is an expectation that two more will launch in 2021.
- Kim Stevenson gave an update on the Green Bank Multifamily programs. Focus has been on marketing for the ECT Health & Safety Revolving Loan Fund and solar

outreach. The team is in process on closing on a small multifamily project which is exciting as it is a difficult market to reach. Other updates include launching of the new LIME market rate and supporting CHFA and the Dept of Housing Sustainability Work Group.

d. Other Business

- None raised.

9. Adjourn

**Upon a motion made by John Harrity and seconded by Michael Li, the Joint Committee Meeting adjourned at 3:06 pm.**

Respectfully submitted,

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Eric Brown, Chairperson

DRAFT



## MEMORANDUM

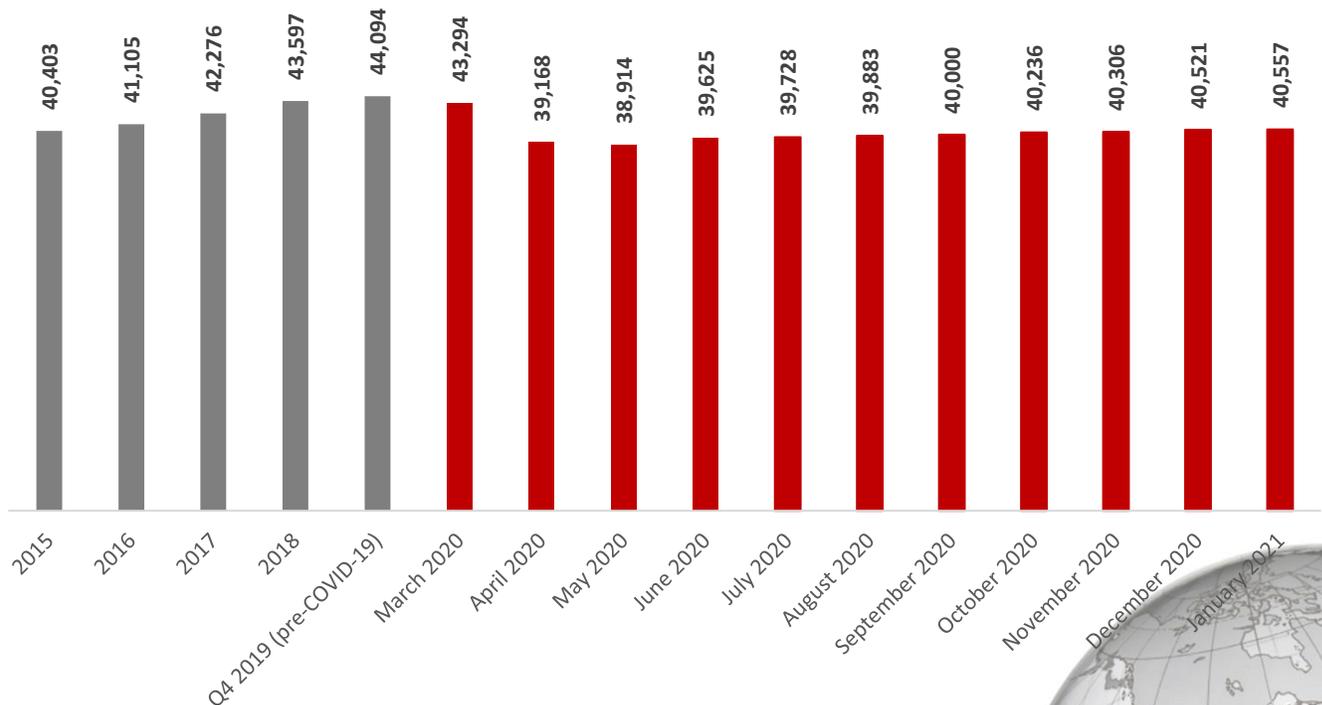
**To:** Bryan Garcia, Connecticut Green Bank  
**From:** Sarah Lehmann, BW Research  
**Date:** 19 February 2021  
**Re:** COVID-19 Clean Energy Job Losses in Connecticut (through January 2021)

### OVERALL CLEAN ENERGY JOB LOSSES

Overall, clean energy employment in Connecticut has declined by eight percent compared to the last quarter of 2019. Clean energy jobs recovery has been slow from June 2020 through January 2021 (+1,643 workers).

To date, BW Research estimates that there are roughly 40,557 clean energy workers in Connecticut, about 3,538 fewer than the last quarter of 2019.

**Figure 1. Clean Energy Employment in Connecticut, Q4 2015 – January 2021**





## MEMORANDUM

Table 1. Monthly and Cumulative Clean Energy Jobs Losses, March 2020 – January 2021

	Monthly Job Change	Cumulative Job Losses
March 2020	-800	-800
April 2020	-4,126	-4,926
May 2020	-254	-5,180
June 2020	711	-4,469
July 2020	103	-4,366
August 2020	155	-4,211
September 2020	116	-4,095
October 2020	236	-3,858
November 2020	70	-3,789
December 2020	215	-3,573
January 2021	36	-3,538

### JOB LOSSES BY TECHNOLOGY SECTOR

The energy efficiency sector accounted for about 85 percent of jobs lost from March 2020 through January 2021. Clean energy generation firms accounted for about one in ten job losses (7.9 percent), followed by alternative transportation (4.5 percent of cumulative job losses), clean grid and storage (2.0 percent), and clean fuels (0.9 percent).

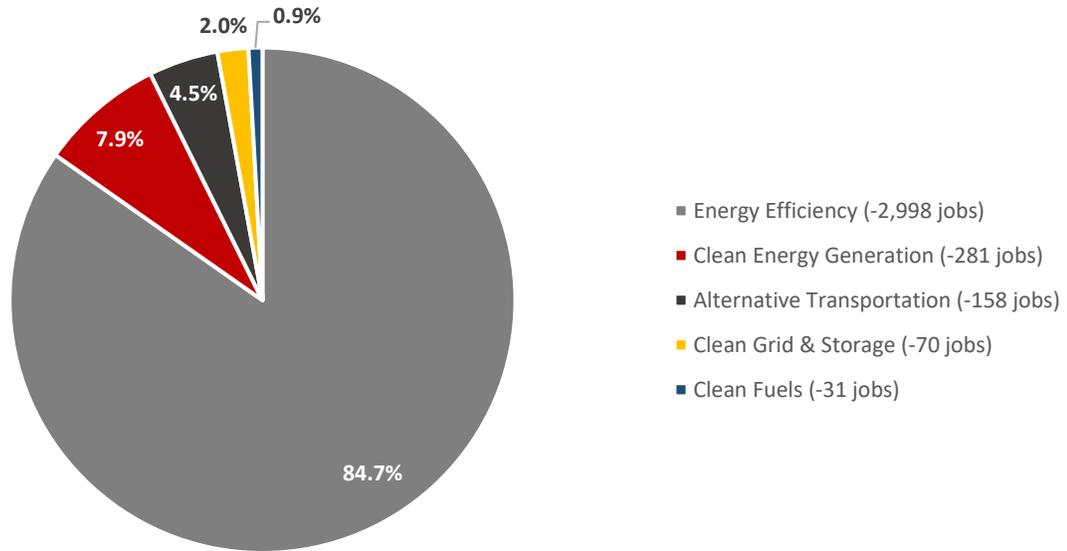
Energy efficiency businesses rebounded slightly from June 2020 through January 2021, adding back roughly 1,350 workers. Over the same time, clean energy generation firms regained about 155 jobs. BW Research estimates that the solar sub-sector has lost approximately 325 jobs as of November 2020—an 11.4 percent decline compared to the 2,839 solar jobs at the end of 2019.



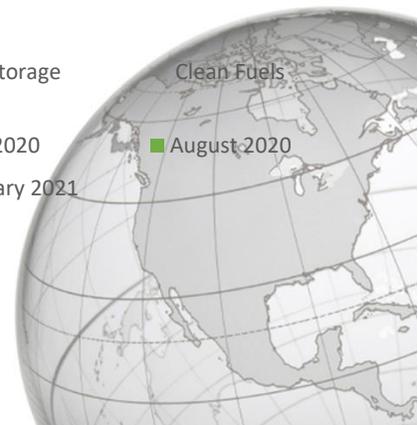
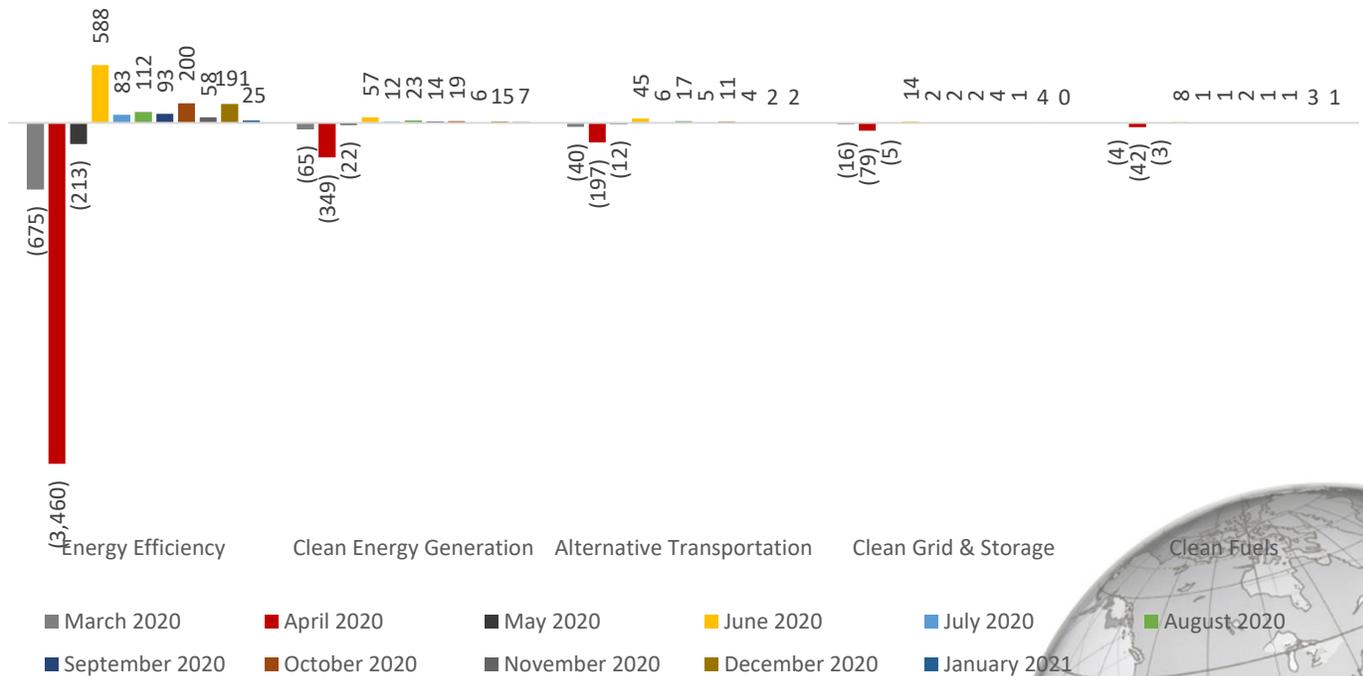


## MEMORANDUM

**Figure 2. Cumulative Clean Energy Job Losses by Technology Sector (through January 2021)**



**Figure 3. Clean Energy Job Losses by Technology Sector, March 2020 – January 2021**





## MEMORANDUM

While the energy efficiency sector has seen the greatest absolute loss in number of jobs, clean grid and storage firms saw the highest proportion of clean energy job losses compared to the 2019 employment baseline—a 9.2 percent decline.

Table 2. Clean Energy Job Losses, % of Total Jobs by Technology Sector

	<b>2019 Jobs</b>	<b>Cumulative Losses March 2020 – Jan 2021</b>	<b>% of Jobs Lost</b>
Energy Efficiency	36,000	(2,998)	-8.3%
Clean Energy Generation	4,830	(281)	-5.8%
Alternative Transportation	1,865	(158)	-8.4%
Clean Grid & Storage	761	(70)	-9.2%
Clean Fuels	638	(31)	-4.9%





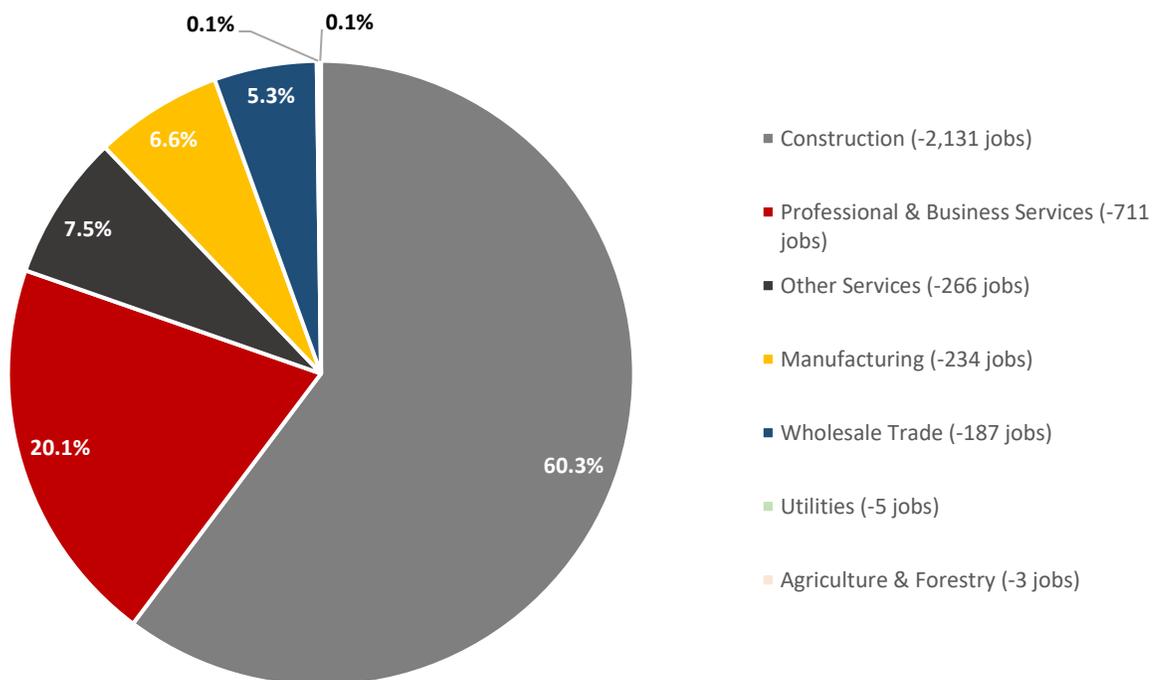
## MEMORANDUM

### JOB LOSSES BY VALUE CHAIN SECTOR

The construction industry accounted for about six in ten of total jobs lost (60.3 percent) from March 2020 through January 2021. Professional and business services accounted for about two in ten job losses (20 percent) over the same time. Other services, which largely includes automotive repair and maintenance, accounted for 7.5 percent of cumulative job losses while the clean energy manufacturing industry represented 6.6 percent of job losses as of January 2021.

Construction and professional services each added back a respective roughly 724 and 547 jobs back to the clean energy industry from June 2020 through January 2021. However, despite growth from June 2020 through December 2020, clean energy construction did shed 25 jobs in January 2021.

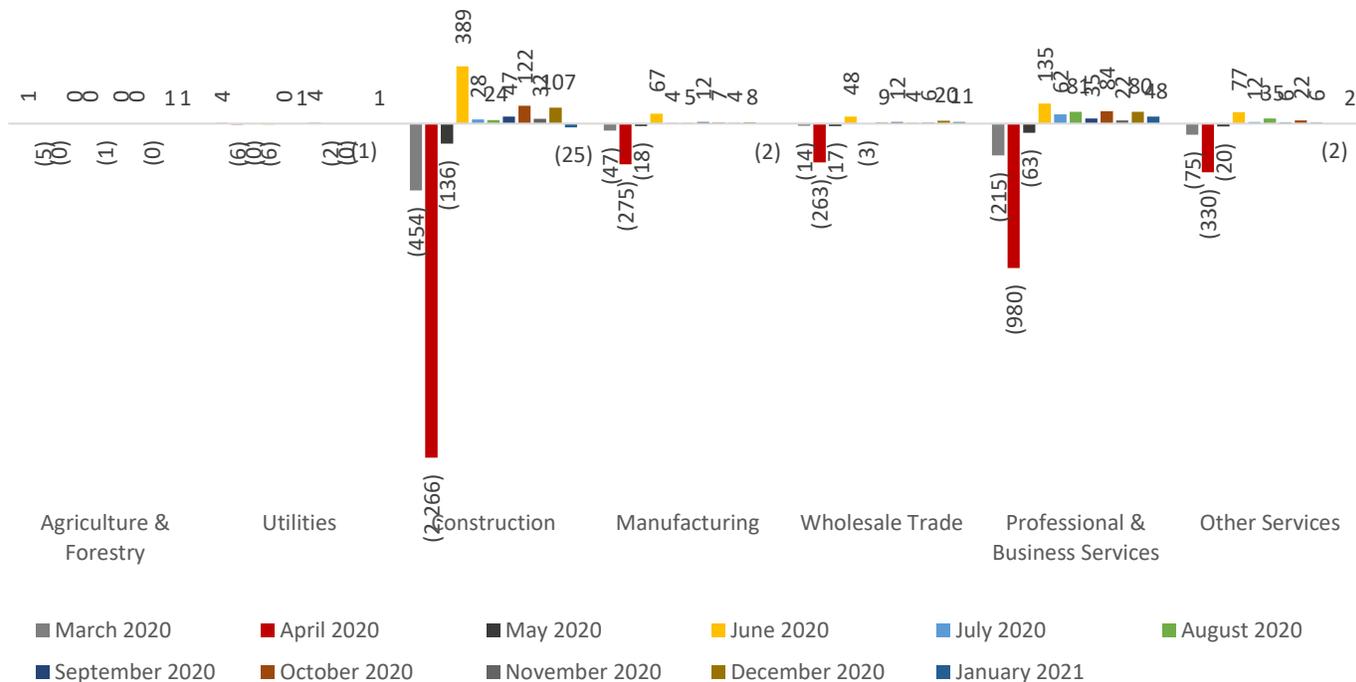
Figure 4. Cumulative Clean Energy Job Losses by Value Chain Sector (through January 2021)





**MEMORANDUM**

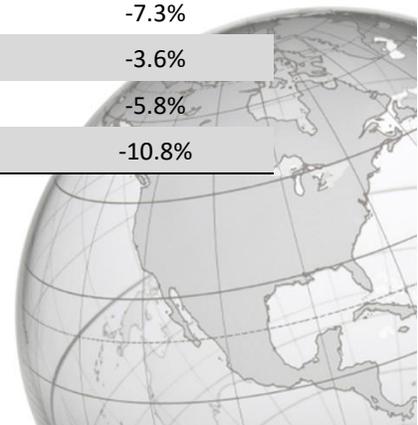
**Figure 5. Clean Energy Job Losses by Value Chain Sector, March 2020 – January 2021**



As of January 2021, the clean energy construction industry sector had seen both the greatest absolute and proportional job loss—shedding a cumulative 2,131 jobs—a 10.8 percent decline compared to the 2019 baseline.

**Table 3. Clean Energy Job Losses, % of Total Jobs by Value Chain Sector**

Value Chain Sector	2019 Jobs	Cumulative Losses March 2020 – Jan 2021	% of Jobs Lost
Agriculture and Forestry	59	(3)	-4.8%
Utilities	1,186	(5)	-0.4%
Other Services	2,488	(266)	-10.7%
Manufacturing	3,213	(234)	-7.3%
Trade	5,145	(187)	-3.6%
Professional & Business Services	12,237	(711)	-5.8%
Construction	19,767	(2,131)	-10.8%



## STANDARD PROFESSIONAL SERVICES AGREEMENT

This Standard Professional Services Agreement (“Agreement”) is made on February 24, 2021 (“Effective Date”), by and between the CONNECTICUT GREEN BANK (“Green Bank”), a quasi-public agency of the State of Connecticut, having its business address at 845 Brook Street, Rocky Hill, CT 06067, and BW RESEARCH PARTNERSHIP, INC. (“Consultant”), having its business address at 19 Kendrick Street, Wrentham, MA 02093. Green Bank and Consultant together are the Parties and each individually is a Party to this Agreement.

**WHEREAS**, per Section 16-245n of the Connecticut General Statutes, the Green Bank, Eversource Energy, Avangrid, and the Department of Energy and Environmental Protection (“DEEP”) are part of the Joint Committee (“Joint Committee”) of the Energy Efficiency Board and the Board of Directors of the Connecticut Green Bank;

**WHEREAS**, BW Research has developed and written standardized and customized Clean Energy Industry Job Reports for many years for Massachusetts, New York, Rhode Island, Vermont and others, and has expressed a desire to continue to support the second such report for Connecticut;

**WHEREAS**, BW Research conducts the U.S. Energy and Employment Report (USEER) for the Energy Futures Initiative (EFI) and the National Association of State Energy Officials (NASEO);

**WHEREAS**, the USEER project team and the United States Climate Alliance (“USCA”) have developed a Clean Energy Industry Job Study for all of the members of the USCA, as well as offering at a discount to member states, to which the State of Connecticut is a member through DEEP, the opportunity for individual customized reports; and

**WHEREAS**, on February 23, 2021, the Joint Committee was presented several options for the development and completion of the second Clean Energy Industry Job Study, including a comprehensive and customized report for the State of Connecticut, whose costs would be shared by the Green Bank, Eversource Energy, and Avangrid, and effort led by the Green Bank to develop a scope of work for consideration by the Joint Committee;

**NOW, THEREFORE**, Green Bank and Consultant, intending to be legally bound, agree as follows:

- 1. Scope of Services.** Consultant shall provide Green Bank with professional consulting services (“Work”) as detailed in Consultant’s proposal in Attachment A, which is incorporated into this Agreement.
- 2. Period of Performance.** Green Bank agrees to retain Consultant, and Consultant agrees to perform the Work under this Agreement, beginning on the Effective Date and

**PSA # 5661; BW Research Partnership, Inc.**

ending on June 30, 2021 (“Period of Performance”), unless earlier terminated in accordance with Section 8 of this Agreement. The Parties can extend the Period of Performance only by a written amendment to this Agreement signed and dated by Green Bank and Consultant.

**3. Payment.** Green Bank agrees to pay Consultant for the Work performed within the Scope of Services of this Agreement, but in an amount not-to-exceed Fifty Thousand Dollars (\$50,000) inclusive of hourly fees and any other expenses. The person(s), and their title and their hourly rate, performing the Work under this Agreement are as follows:

Philip Jordan, Principal and Vice President	\$250
Ryan Young, Research Manager	\$125
Sarah Lehmann, Project Manager	\$125
Mitch Schirch, Research Analyst	\$ 85

**THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT CAN BE MODIFIED BY THE PARTIES ONLY BY A WRITTEN AMENDMENT SIGNED AND DATED BY GREEN BANK AND CONSULTANT PRIOR TO ANY WORK TO BE PERFORMED BY CONSULTANT WHICH WOULD RESULT IN PAYMENTS IN EXCESS OF THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT.**

**4. Invoices.** Consultant shall submit itemized monthly invoices with detailed accounting for hourly fees and the one-time, fixed fee cost of the underlying energy data for the State of Connecticut, which is \$25,000. All invoices shall be subject to Green Bank’s approval for conformity with the terms and conditions of this Agreement. For approved invoices, Green Bank will pay Consultant within thirty (30) days of receipt by Green Bank of an invoice. Consultant agrees to include the PSA #, which can be found at the top of this Agreement, on all invoices submitted to Green Bank in connection with Work performed under this Agreement. Invoices shall be submitted to:

Connecticut Green Bank  
845 Brook Street  
Rocky Hill, CT 06067  
Attn: Accounts Payable Department

**UNDER NO CIRCUMSTANCES WILL GREEN BANK ACCEPT INVOICE(S) SUBMITTED BY CONSULTANT WHICH THE TOTAL AMOUNT OF THE INVOICE(S) EXCEEDS THE NOT-TO-EXCEED AMOUNT OF THIS AGREEMENT.**

**5. Subcontracting or Assignment.** Consultant shall not subcontract, assign, or delegate any portions of the Work under this Agreement to any other person or entity not identified in Section 3, above, without prior written approval from Green Bank.

**6. Independent Contractor.** Consultant understands that it is acting as an independent contractor and shall not hold itself out as representing or acting in any

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manner on behalf of Green Bank except within the Scope of Work of this Agreement or any other active agreements between Green Bank and Consultant.

**7. Disclosure of Information.** Consultant agrees to disclose to Green Bank any information discovered or derived in the performance of the Work required under this Agreement. Consultant shall not disclose to others any such information, any information received or derived in performance of this Agreement, or any information relating to Green Bank without the prior written permission of Green Bank, unless such information is otherwise available in the public domain.

**8. Termination.** (a) This Agreement may be terminated by either Party giving ten (10) business days prior written notice to the other Party. In the event of such termination, Green Bank shall be liable only for payment in accordance with the payment provisions of the Agreement for the Work actually performed prior to the date of termination.

(b) If this Agreement is not renewed at the end of this term, or is terminated for any reason, the Contractor must provide for a reasonable, mutually agreed period of time after the expiration or termination of this Agreement, all reasonable transition assistance requested by Green Bank, to allow for the expired or terminated portion of the services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to Green Bank or its designees. Such transition assistance will be deemed by the Parties to be governed by the terms and conditions of this Agreement, except for those terms or conditions that do not reasonably apply to such transition assistance. Green Bank will pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by this Agreement. If there are no established contract rates, then the rate shall be mutually agreed upon. If Green Bank terminates this Agreement for cause, then Green Bank will be entitled to offset the cost of paying the Contractor for the additional resources the Contractor utilized in providing transition assistance with any damages Green Bank may have otherwise accrued as a result of said termination.

**9. Indemnification and Limitation of Liability.** Consultant agrees, to the fullest extent permitted by law, to indemnify and hold harmless Green Bank, its officers, directors, and employees against all damages, liabilities, or costs, including reasonable attorneys' fees and defense costs, to the extent caused by the Consultant's negligent performance of professional services under this Agreement and that of its sub-consultants or anyone for whom the Consultant is legally liable.

Neither Party shall be liable to the other Party for indirect, incidental, punitive, special, or consequential damages arising out of this Agreement, even if the Party has been informed of the possibility of such damages, including but not limited to, loss of profits, loss of revenues, failure to realize expected savings, loss of data, loss of business opportunity, or similar losses of any kind. However, this limitation shall not apply to damages of any kind related to criminal, intentional, reckless, or grossly negligent conduct or omissions on the part of either Party.

**10. Quality of Service.** Consultant shall perform the Work with care, skill, and diligence in accordance with the applicable professional standards currently recognized by his/her profession, and shall be responsible for the professional quality, technical accuracy, completeness, and coordination of all work product and/or Work furnished under this Agreement. If Consultant fails to meet applicable professional standards, Consultant shall, without additional compensation, correct or revise any errors or deficiencies in any work product and/or Work furnished under this Agreement.

**11. Severability.** In the event that any one or more of the provisions contained in this Agreement shall be held to be invalid, illegal, or unenforceable in any respect, then such invalidity, illegality, or unenforceability shall not affect any other provisions of this Agreement, and all other provisions shall remain in full force and effect. If any provision of this Agreement is held to be excessively broad, then that provision shall be reformed and construed by limiting and reducing it to be enforceable to the maximum extent permitted by law.

**12. Entire Agreement.** This Agreement constitutes the entire agreement of the Parties hereto, and supersedes any previous agreement or understanding. This Agreement may not be modified or extended except in writing executed by the Parties.

**13. Governing Law.** The validity, interpretation, and performance of this Agreement shall be governed by the laws of the State of Connecticut. All disputes which arise in connection with, or in relation to, this Agreement or any claimed breach thereof shall be resolved, if not sooner settled, by litigation only in Connecticut or the Federal Court otherwise having subject matter jurisdiction over the dispute and not elsewhere, subject only to the authority of the Court in question to order changes of venue. To this end, Consultant waives any rights it may have to insist that litigation related to this Agreement to which Consultant is a party be had in any venue other than the above court, and covenants not to sue Green Bank in court other than the above courts with respect to any dispute related to this Agreement.

**14. State Contracting Obligations.** Consultant understands and agrees that Green Bank will comply with Conn. Gen. Stat. Sections 4a-60 and 4a-60a. Consultant agrees to comply for the Period of Performance with the state contracting obligations in this Section 14. For purposes of this Section 14, Contractor and Consultant shall have the same meaning and Contract and Agreement shall have the same meaning.

Conn. Gen. Stat. § 4a-60(a):

“Every contract to which the state or any political subdivision of the state other than a municipality is a party shall contain the following provisions:

(1) The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status

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as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut; and the contractor further agrees to take affirmative action to ensure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved;

(2) The contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission;

(3) The contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment;

(4) The contractor agrees to comply with each provision of C.G.S. Sections 4a-60, 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to C.G.S. Sections 46a-56, 46a-68e, 46a-68f and 46a-86; and

(5) The contractor agrees to provide the Commission on Human Rights and Opportunities (the "commission") with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the contractor as relate to the provisions of C.G.S. Sections 4a-60 and 46a-56."

Conn. Gen. Stat. § 4a-60a(a):

"Every contract to which the state or any political subdivision of the state other than a municipality is a party shall contain the following provisions:

(1) The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the state of Connecticut, and that employees are treated when employed without regard to their sexual orientation;

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(2) The contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the contractor's commitments under C.G.S. Section 4a-60a, and to post copies of the notice in conspicuous places available to employees and applicants for employment;

(3) The contractor agrees to comply with each provision of C.G.S. Section 4a-60a and with each regulation or relevant order issued by said commission pursuant to C.G.S. Section 46a-56; and

(4) The contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the contractor which relate to the provisions of C.G.S. Sections 4a-60a and 46a-56.”

Nondiscrimination Certification. Consultant represents and warrants that, prior to entering into this Agreement, Consultant has provided Green Bank with documentation evidencing Consultant's support of the nondiscrimination agreements and warranties of the statutory nondiscrimination sections, above. A form of the Nondiscrimination Certification to be signed by the Consultant is attached.

Campaign Contribution Restrictions. For all state contracts, as defined in Conn. Gen. Stat. § 9-612(g)(1)(C), having a value in a calendar year of \$50,000 or more or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this Agreement expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice. See [https://seec.ct.gov/Portal/data/forms/ContrForms/seec\\_form\\_10\\_final.pdf](https://seec.ct.gov/Portal/data/forms/ContrForms/seec_form_10_final.pdf) .

Occupational Safety and Health Act Compliance. Consultant certifies it (1) has not been cited for three or more willful or serious violations of any occupational safety and health act or of any standard, order or regulation promulgated pursuant to such act, during the three-year period preceding the date of the Agreement, provided such violations were cited in accordance with the provisions of any state occupational safety and health act or the Occupational Safety and Health Act of 1970, and not abated within the time fixed by the citation and such citation has not been set aside following appeal to the appropriate agency or court having jurisdiction or (2) has not received one or more criminal convictions related to the injury or death of any employee in the three-year period preceding the date of the Agreement.

**PSA # 5661; BW Research Partnership, Inc.**

Consulting Agreements. Consultant hereby swears and attests as true to the best knowledge and belief that no consulting agreement, as defined in Conn. Gen. Stat. § 4a-81, has been entered into in connection with this Agreement. Contractor agrees to amend this representation if and when any consulting agreement is entered into during the term of the Contract. See Affidavit Regarding Consulting Agreements, attached.

**15. Limitation on Recourse.** All liabilities and obligations of Green Bank under this Agreement are subject and limited to the funding available under Connecticut law.

**16. Non-impairment and Assessment.** As a further inducement for the Consultant to enter into this Agreement, subsection (h) of section 16-245n of the Conn. General Statutes is incorporated into this Agreement.

**17. Freedom of Information Act.** Green Bank is a “public agency” for purposes of the Connecticut Freedom of Information Act (“FOIA”). This Agreement and information received pursuant to this Agreement will be considered public records and will be subject to disclosure under the FOIA, except for information falling within one of the exemptions in Conn. Gen. Stat. Sections § 1-210(b) and § 16-245n(d).

Because only the particular information falling within one of these exemptions can be withheld by Green Bank pursuant to an FOIA request, Consultant should specifically and in writing identify to Green Bank the information that Consultant claims to be exempt. Consultant should further provide a statement stating the basis for each claim of exemption. It will not be sufficient to state generally that the information is proprietary or confidential in nature and not, therefore, subject to release to third parties. A convincing explanation and rationale sufficient to justify each exemption consistent with General Statutes §1-210(b) and § 16-245n(d) must be provided.

Consultant acknowledges that (1) Green Bank has no obligation to notify Consultant of any FOIA request it receives, (2) Green Bank may disclose materials claimed by Consultant to be exempt if in its judgment such materials do not appear to fall within a statutory exemption, (3) Green Bank may in its discretion notify Consultant of FOIA requests and/or of complaints made to the Freedom of Information Commission concerning items for which an exemption has been claimed, but Green Bank has no obligation to initiate, prosecute, or defend any legal proceeding, or to seek to secure any protective order or other relief to prevent disclosure of any information pursuant to an FOIA request, (4) Consultant will have the burden of establishing the availability of any FOIA exemption in any such legal proceeding, and (5) in no event shall Green Bank or any of its officers, directors, or employees have any liability for the disclosure of documents or information in Green Bank’s possession where Green Bank, or such officer, director, or employee, in good faith believes the disclosure to be required under the FOIA or other law.

**PSA # 5661; BW Research Partnership, Inc.**

**18. Execution and Facsimile.** This Agreement may be executed in any number of counterparts (including those delivered by facsimile or other electronic means), and each of such counterparts shall for all purposes be deemed to be an original; and all such counterparts, shall together constitute but one and the same agreement.

**IN WITNESS WHEREOF**, the Parties have executed this Agreement as of the day and year first above written.

**CONNECTICUT GREEN BANK**

By:   
Bryan T. Garcia, President and CEO

**BW RESEARCH PARTNERSHIP, INC.**

By:   
Philip Jordah, Vice President



**STATE OF CONNECTICUT  
CERTIFICATION OF STATE AGENCY OFFICIAL OR EMPLOYEE  
AUTHORIZED TO EXECUTE CONTRACT**

*Certification to accompany a State contract, having a value of \$50,000 or more, pursuant to Connecticut General Statutes §§ 4-250 and 4-252(b), and Governor Dannel P. Malloy's Executive Order 49.*

**INSTRUCTIONS:**

Complete all sections of the form. Sign and date in the presence of a Commissioner of the Superior Court or Notary Public. Submit to the awarding State agency at the time of contract execution.

**CERTIFICATION:**

I, the undersigned State agency official or State employee, certify that (1) I am authorized to execute the attached contract on behalf of the State agency named below, and (2) the selection of the contractor named below was not the result of collusion, the giving of a gift or the promise of a gift, compensation, fraud or inappropriate influence from any person.

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

BW Research Partnership, Inc.  
Contractor Name

Connecticut Green Bank  
Awarding State Agency

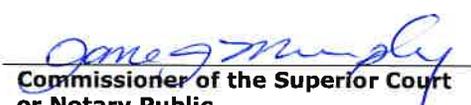
  
\_\_\_\_\_  
State Agency Official or Employee Signature

2/24/21  
\_\_\_\_\_  
Date

Bryan T. Garcia  
Printed Name

President and CEO  
Title

Sworn and subscribed before me on this 24<sup>TH</sup> day of February, 2021

  
\_\_\_\_\_  
Commissioner of the Superior Court  
or Notary Public

July 31, 2023  
\_\_\_\_\_  
My Commission Expires



**JANE J. MURPHY**  
**NOTARY PUBLIC**  
**MY COMMISSION EXPIRES JULY 31, 2023**



STATE OF CONNECTICUT  
NONDISCRIMINATION CERTIFICATION – Affidavit  
By Entity  
For Contracts Valued at \$50,000 or More

*Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson, member, or other corporate officer duly authorized to adopt corporate, company, or partnership policy that certifies the contractor complies with the nondiscrimination agreements and warranties under Connecticut General Statutes §§ 4a-60(a)(1) and 4a-60a(a)(1), as amended*

**INSTRUCTIONS:**

For use by an entity (corporation, limited liability company, or partnership) when entering into any contract type with the State of Connecticut valued at \$50,000 or more for any year of the contract. Complete all sections of the form. Sign form in the presence of a Commissioner of Superior Court or Notary Public. Submit to the awarding State agency prior to contract execution.

**AFFIDAVIT:**

I, the undersigned, am over the age of eighteen (18) and understand and appreciate the obligations of

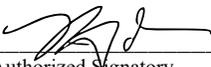
an oath. I am Vice President of BW Research Partnership, Inc., an entity  
Signatory's Title Name of Entity

duly formed and existing under the laws of the State of California.  
Name of State or Commonwealth

I certify that I am authorized to execute and deliver this affidavit on behalf of

BW Research Partnership, Inc. and that BW Research Partnership, Inc.  
Name of Entity Name of Entity

has a policy in place that complies with the nondiscrimination agreements and warranties of Connecticut General Statutes §§ 4a-60(a)(1) and 4a-60a(a)(1), as amended.

  
Authorized Signatory

Philip Jordan  
Printed Name

**Sworn and subscribed to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.**

\_\_\_\_\_  
**Commissioner of the Superior Court/  
Notary Public**

\_\_\_\_\_  
**Commission Expiration Date**



**PSA # 5661; BW Research Partnership, Inc.**

**CAMPAIGN CONTRIBUTION CERTIFICATION:**

I further certify that, on or after January 1, 2011, neither the Contractor nor any of its principals, as defined in C.G.S. § 9-612(f)(1), has made any **campaign contributions** to, or solicited any contributions on behalf of, any exploratory committee, candidate committee, political committee, or party committee established by, or supporting or authorized to support, any candidate for statewide public office, in violation of C.G.S. § 9-612(f)(2)(A). I further certify that **all lawful campaign contributions** that have been made on or after January 1, 2011 by the Contractor or any of its principals, as defined in C.G.S. § 9-612(f)(1), to, or solicited on behalf of, any exploratory committee, candidate committee, political committee, or party committee established by, or supporting or authorized to support any candidates for statewide public office or the General Assembly, are listed below:

**Lawful Campaign Contributions to Candidates for Statewide Public Office:**

<u>Contribution Date</u>	<u>Name of Contributor</u>	<u>Recipient</u>	<u>Value</u>	<u>Description</u>

**Lawful Campaign Contributions to Candidates for the General Assembly:**

<u>Contribution Date</u>	<u>Name of Contributor</u>	<u>Recipient</u>	<u>Value</u>	<u>Description</u>

I further acknowledge receipt of SEEC Form 10, Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contributions and Solicitation Limitations found in Section 14 above.

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

BW Research Partnership, Inc.  
Printed Contractor Name

  
Signature of Authorized Official

Philip Jordan  
Printed Name of Authorized Official

**Subscribed and acknowledged before me this      day of      , 20**

\_\_\_\_\_  
**Commissioner of the Superior Court (or Notary Public)**

\_\_\_\_\_  
**My Commission Expires**



STATE OF CONNECTICUT
CONSULTING AGREEMENT AFFIDAVIT

Affidavit to accompany a bid or proposal for the purchase of goods and services with a value of \$50,000 or more in a calendar or fiscal year, pursuant to Connecticut General Statutes §§ 4a-81(a) and 4a-81(b). For sole source or no bid contracts the form is submitted at time of contract execution.

INSTRUCTIONS:

If the bidder or vendor has entered into a consulting agreement, as defined by Connecticut General Statutes § 4a-81(b)(1): Complete all sections of the form. If the bidder or contractor has entered into more than one such consulting agreement, use a separate form for each agreement. Sign and date the form in the presence of a Commissioner of the Superior Court or Notary Public. If the bidder or contractor has not entered into a consulting agreement, as defined by Connecticut General Statutes § 4a-81(b)(1): Complete only the shaded section of the form. Sign and date the form in the presence of a Commissioner of the Superior Court or Notary Public.

Submit completed form to the awarding State agency with bid or proposal. For a sole source award, submit completed form to the awarding State agency at the time of contract execution.

This affidavit must be amended if there is any change in the information contained in the most recently filed affidavit not later than (i) thirty days after the effective date of any such change or (ii) upon the submittal of any new bid or proposal, whichever is earlier.

AFFIDAVIT: [Number of Affidavits Sworn and Subscribed On This Day: \_\_\_\_\_]

I, the undersigned, hereby swear that I am a principal or key personnel of the bidder or contractor awarded a contract, as described in Connecticut General Statutes § 4a-81(b), or that I am the individual awarded such a contract who is authorized to execute such contract. I further swear that I have not entered into any consulting agreement in connection with such contract, except for the agreement listed below:

Philip Jordan, Vice President; BW Research Partnership, Inc.; February, 2021; June 30, 2021; \$50,000; Developing the Connecticut Clean Energy Industry Report for 2021.

Is the consultant a former State employee or former public official? [ ] YES [ ] NO
If YES: Name of Former State Agency; Termination Date of Employment

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.
BW Research Partnership, Inc.; Philip Jordan; 2/24/21; Connecticut Green Bank

Sworn and subscribed before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Commissioner of the Superior Court or Notary Public
My Commission Expires

**ATTACHMENT A – STATEMENT OF WORK**

**Specifications of Work to be Performed:**

In developing the Connecticut Clean Energy Industry Report, the Contractor agrees to undertake, perform and complete a project that shall include the following:

**2021 Report**

1. Two meetings to be used for kick-off, briefing, presentation, or other meeting. (Date and Time: March 17, 2021 – during Joint Committee meeting)
2. Collecting employer data via survey in the State of Connecticut as part of the U.S. Energy and Employment Report, commissioned by Energy Futures Initiative and NASEO. The survey will be conducted similarly to previous years, with the same questionnaire and collection methodology used in prior years with the technologies included in Appendix B. [Note – this will be the same set of technologies we included for 2020. And, also note that if the DOE covers these cost nationally, then Connecticut will not be billed or will be reimbursed.]
3. Analysis of clean energy specific data from that survey to conform to the State of Connecticut’s definition of clean energy, including county-level data as available. The data can be presented as a unique clean energy definition for Connecticut but also adapted for comparisons to other states.
4. Data analysis shall include workforce demographics (age, race, gender, education level, age, union, etc.), company size, and value-chain activities (manufacturing, professional services construction, etc.)Geographic analysis and mapping to correlate unemployment rate by region, including opportunity zones, high-income versus low-income neighborhoods, counties, and other geographic areas to job growth, difficulty hiring, and energy concentrations. This analysis also includes detailed demographic analysis.
5. COVID-19 monthly memos, including tracking performance over time and comparisons with other states in the Northeastern Region (i.e., New England and New York)
6. Detailed analysis of economic impacts and economic efficiency of work, including which segments of the clean energy economy provide higher wages and economic multipliers due to their occupational makeup.
- 7.
8. Development of all charts, tables, and other graphic displays of data, including methodology.
9. Report publication based on the format of the 2020 report, with consideration given to reclassifying structure (e.g., Massachusetts report structure)
10. Detailed analysis of one or more of the options listed below:
  - Optional occupational career profiles for no more than 10 additional in depth looks (e.g., air source heat pumps, offshore wind, transportation electrification, etc.)
  - Optional analysis of up to five (5) specific areas of focus (e.g., renewable heating and cooling, automation, fuel cells, etc.)
  - Optional analysis including industry and working lands jobs
  - Optional analysis of losses and gains from COVID where unemployment data exists.
  - Optional analysis of the ripple effect of clean energy jobs and clean energy deployment on the economy.

Cost: Not-to-exceed \$50,000

*Table 1. Project Timeline*

Date	Deliverable
March 17, 2021	Kick-off meeting
March 19, 2021	Finalize Employment Data
April 23, 2021	Draft report
June 18, 2021	Final report

**ATTACHMENT B: TECHNOLOGY LIST**

1. Solar Photovoltaic Electric Generation
2. Concentrated Solar Electric Generation
3. Wind Generation
4. Geothermal Generation
5. Bioenergy/Biomass Generation
6. Low-Impact Hydroelectric Generation including Wave/Kinetic Generation
7. Traditional Hydroelectric Generation
8. Advanced/Low Emission Natural Gas
9. Nuclear Generation
10. Coal Generation
11. Oil and other Petroleum Generation
12. Natural Gas Generation
13. Combined Heat and Power
14. Other Generation (Specify)
15. Traditional Transmission and Distribution
16. Smart Grid
17. Micro Grids
18. Other Grid Modernization
19. Other Transmission (Specify)
20. Pumped hydro-power storage
21. Battery storage (including battery storage for solar generation)
  - a. Lithium batteries
  - b. Lead-based batteries
  - c. Other solid-electrode batteries (Specify)
  - d. Vanadium redox flow batteries
  - e. Other flow batteries (Specify)
22. Mechanical storage (flywheels, compressed air energy storage, etc.)
23. Thermal storage
24. Liquefied natural gas
25. Compressed natural gas
26. Crude oil
27. Refined petroleum fuels (liquid)
28. Refined petroleum fuels (gas)
29. Coal storage (piles, domes, etc.)
30. Biofuels, including ethanol and biodiesel
31. Nuclear fuel
32. Other gas fuel (Specify)
33. Other liquid fuel (Specify)
34. Other Storage
35. ENERGY STAR Certified Appliances (excluding HVAC)
36. ENERGY STAR Certified Heating Ventilation and Air Conditioning (HVAC), including boilers and furnaces with an AFUE rating of 90 or greater and air and central air conditioning units of 15 SEER or greater
37. Traditional HVAC goods, control systems, and services

**PSA # 5661; BW Research Partnership, Inc.**

38. ENERGY STAR Certified Electronics (TVs, Telephones, Audio/Video, etc.)
39. ENERGY STAR Certified Windows and Doors
40. ENERGY STAR Certified Roofing
41. ENERGY STAR Certified Seal and Insulation
42. ENERGY STAR Certified Commercial Food Service Equipment
43. ENERGY STAR Certified Data Center Equipment
44. ENERGY STAR certified LED lighting
45. Other LED, CFL, and efficient lighting
46. Solar thermal water heating and cooling [SET SOLAR=1]
47. Other renewable heating and cooling (geothermal, biomass, heat pumps, etc.)
48. Advanced building materials/insulation
49. Recycled building materials
50. Reduced water consumption products and appliances
51. Other Energy Efficiency (Specify)
52. Coal
53. Petroleum
54. Natural Gas
55. Other Fossil Fuel
56. Corn Ethanol
57. Other Ethanol/Non-Woody Biomass, including Biodiesel
58. Woody Biomass/Cellulosic Biofuel
59. Other Biofuels
60. Nuclear Fuel
61. Other Fuels (Specify)
62. Gasoline and Diesel Motor Vehicles (excluding freight transport)
63. Hybrid Electric Vehicles
64. Plug-In Hybrid Vehicles
65. Electric Vehicles
66. Natural Gas Vehicles
67. Hydrogen Vehicles
68. Fuel Cell Vehicles
69. Other Vehicles (Specify \_\_\_\_\_)
70. Transportation Vehicle Engine & Drive Parts
71. Transportation Vehicle Exhaust System Parts
72. Transportation Vehicle Body Parts
73. Other Transportation Vehicle Parts (Specify \_\_\_\_\_)



# Comprehensive Plan

Green Bonds US

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845 Brook Street, Rocky Hill, CT 06067 >

860-563-0015 >

[ctgreenbank.com](http://ctgreenbank.com)

300 Main Street, 4th Fl., Stamford, CT 06901



# **Comprehensive Plan**

## **Fiscal Year 2020 & Beyond**

**July 2019**  
**Revised July 2020**  
**Revised January 2021**

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## 1. Executive Summary

*“The civilization of New England has been like a beacon lit upon a hill, which, after it has diffused its warmth around, tinges the distant horizon with its glow.”*

*Alexis de Tocqueville, Democracy in America*

Although Connecticut is one of the smallest states in the country, its decades of legislative leadership on climate change has had an influential impact across the country and around the world. One example of this was on July 1, 2011, when in a bipartisan manner, Public Act 11-80<sup>1</sup> was passed. Within Section 99 of that seminal act, the nation’s first state-level green bank was formed. The Connecticut Green Bank (“the Green Bank”) is a public policy innovation, a catalyst that helps mobilize greater local and global investment to address climate change.

Since its inception, the Green Bank has mobilized nearly \$2.0 billion of investment into Connecticut’s clean energy economy at nearly a 7 to 1 leverage ratio of private to public funds, supported the creation of over 23,000 direct, indirect, and induced job-years, reduced the energy burden on over 55,000 families (in particular low-to-moderate income families) and businesses, deployed nearly 435 MW of clean energy that will help avoid over 8.9 million tons of CO<sub>2</sub> emissions and save over \$230 million of public health costs over the life of the projects, and helped generate \$96.7 million in individual income, corporate, and sales tax revenues to the State of Connecticut.<sup>2</sup>

As a result of the Green Bank’s success as an integral public policy tool addressing climate change in Connecticut, there has been growing national public policy interest at the local,<sup>3</sup> federal,<sup>4</sup> and international<sup>5</sup> levels to realize similar results. This green bank movement is about increasing and accelerating the flow of private capital into markets that energize the green economy to confront climate change and provide all of society a healthier, more prosperous future. As the “spark” to the green bank movement, the Green Bank continues to be recognized for its innovation through receiving the prestigious 2017 Innovations in American Government Awards by the Ash Center at Harvard University’s Kennedy School of Government,<sup>6</sup> Innovation and Green Bond Structure Awards by Environmental Finance in 2020, and Innovative Deal of the Year by Bond Buyer in 2020.

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<sup>1</sup> An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut’s Energy Future.

<sup>2</sup> FY20 Comprehensive Annual Financial Report

<sup>3</sup> American Green Bank Consortium – <https://greenbankconsortium.org/>

<sup>4</sup> US Green Bank Act of 2019 introduced by Senators Blumenthal (CT), Markey (MA), Murphy (CT), Van Hollen (MD), and Whitehouse (RI) in the Senate, National Climate Bank Act of 2019 introduced by Senators Markey (MA) and Van Hollen (MD), with co-sponsors Blumenthal (CT) and Schatz (HI), the US Green Bank Act of 2019 by Representative Himes (CT) and 13 others in the House. Democratic Presidential Candidates Inslee and Bennet proposed \$90 billion and \$1 trillion “green bank” and “climate banks,” respectively as part of their campaigns.

<sup>5</sup> Green Bank Network – <https://greenbanknetwork.org/>

<sup>6</sup> <https://ash.harvard.edu/news/connecticut-green-bank-awarded-harvards-2017-innovations-american-government-award>

At home and abroad, there is agreement that accelerating the flow of capital into the green economy is one key to addressing the climate crisis. The Paris Agreement's third aim (beyond mitigation of greenhouse gas emissions and adaptation to climate change impacts) is making finance flows consistent with a pathway towards reduced emissions and increased climate resilient development. The Center for American Progress estimates that the U.S. needs at least \$200 billion in renewable energy and energy efficiency investment a year for 20 years to reduce carbon emissions and avert climate disaster.<sup>7</sup> In a similar vein, the United Nations estimates that \$90 trillion of investment is needed over the next 15 years to advance sustainable development and confront the worst effects of climate change.<sup>8</sup>

To put these numbers into perspective, this is the equivalent of between \$620 to \$800 of investment per person per year for the next 15 years, respectively – or, the equivalent of nearly \$3 billion a year of investment in Connecticut's green economy!

Faced with the magnitude of investment required to put society on a more sustainable path to confront climate change, the Green Bank convened a group of stakeholders at the Pocantico Conference Center of the Rockefeller Brothers Fund in February of 2019 for a two-day strategic retreat entitled "Connecticut Green Bank 2.0 – From 1 to 2 Orders of Magnitude". Having convened at the Pocantico Conference Center in November of 2011 to establish the Green Bank's first strategic plan (i.e., Green Bank 1.0), this new group of stakeholders met to reflect on the past seven years and then to envision an even bigger future for the Green Bank (i.e., Green Bank 2.0) consistent with the larger investment required.<sup>9</sup>

The retreat identified several key findings and recommendations for the Green Bank, including:

- **Commitment to Address Climate Change** – as the most urgent issue to address, the Green Bank needs to increase and accelerate the impact of its model to support the implementation of Connecticut's climate change plan;<sup>10</sup>
- **Scaling Up Investment and Impact in Connecticut and Beyond** – in order to achieve the climate change goals set forth, more investment from private capital sources leveraged by innovative public sector financing will be needed to scale-up and scale-out the green bank model's impact; and
- **Green Bonds to Increase Access to Capital** – with the ability to issue bonds, the Green Bank is able to increase its access to capital beyond the current sources of funding to scale-up its investment activity, while providing more opportunities to engage citizens in new ways to invest in the state's growing green economy, including through the issuance of "mini green bonds" (i.e., bonds with denomination values of \$1,000 or

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<sup>7</sup> "Green Growth: A U.S. Program for Controlling Climate Change and Expanding Job Opportunities" by the Center for American Progress (September 2014).

<sup>8</sup> "Financing Sustainable Development: Moving from Momentum to Transformation in a Time of Turmoil" by the UNEP (September 2016).

<sup>9</sup> "Connecticut Green Bank 2.0 – From 1 to 2 Orders of Magnitude" at the Pocantico Conference Center of the Rockefeller Brothers Fund (February 6-7, 2019)

<sup>10</sup> "Building a Low Carbon Future for Connecticut – Achieving a 45% GHG Reduction by 2030" recommendations from the Governor's Council on Climate Change (December 18, 2018)

less) called Green Liberty Bonds that will engage citizens in making investments alongside the Green Bank.

Increasing and accelerating investment in the green economy by using limited public resources to attract and mobilize multiples of private capital investment is paramount to society's efforts to pursue sustainable development, while confronting climate change. More investment in the green economy creates more jobs in our communities, reduces the burden of energy costs on our families and businesses (especially the most vulnerable), and reduces fossil fuel pollution that causes local public health problems and global climate change.

Investment for the sake of investment is not enough unless we have an engaged citizenry that is active in communities across the state! Whether through markets or within communities in partnership with other community-based organizations, the Green Bank is bringing people together and strengthening the bonds we share with one another. In order to confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy, the Green Bank launched the "Green Bonds US" campaign, that promotes a simple but critically important message; green brings us together: green bonds us.

As the cover to the Comprehensive Plan of the Green Bank suggests, by making clean energy more accessible and affordable to everyone – Green Bonds US – society will reap significant gains from moving forward in the same direction together – for we can't have environmentalism without humanitarianism.

## 2. Organizational Overview

The Green Bank<sup>11</sup> was established by Governor Malloy and Connecticut's General Assembly on July 1, 2011 through Public Act 11-80 as a quasi-public agency that supersedes the former Connecticut Clean Energy Fund ("CCEF"). As the nation's first state green bank, the Green Bank leverages public and private funds to drive investment and scale-up clean energy deployment in Connecticut.

The Green Bank's statutory purposes are:

- To develop programs to finance and otherwise support clean energy 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 to foster the growth, development and commercialization of clean energy sources and related enterprises; and
- To stimulate demand for clean energy and the deployment of clean energy sources within the state that serves end-use customers in the state.

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<sup>11</sup> Public Act 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.

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 nearly two-decade history of bipartisan gubernatorial leadership on the issue of climate change. Other 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 emissions (i.e., 1990 levels by 2010, 10% below 1990 levels by 2020, and 80% below 2001 levels by 2050);<sup>12</sup>
- **Governor Rell** – supported Public Act 08-98<sup>13</sup> 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 and later become the EPA Administrator under President Obama leading the development of the Clean Power Plan and the U.S. participation in the Paris Agreement;
- **Governor Malloy** – led the passage of PA 11-80 establishing the Department of Energy and Environmental Protection (“DEEP”), creating the Green Bank, and other policies catalyzing the market for clean energy, as well as Public Acts 18-50<sup>14</sup> and 18-82<sup>15</sup> increasing the state’s renewable portfolio standard to 40% by 2030 and establishing a midterm greenhouse gas emissions reduction target of 45% below 2001 levels by 2030, respectively; and
- **Governor Lamont** – his campaign plan for Connecticut<sup>16</sup> seeks to achieve carbon neutrality by 2050 and setting a 100% renewable portfolio standard by 2050 which would help the state realize green jobs in energy efficiency and clean energy (e.g., fuel cells, offshore wind, solar PV, etc.), while reducing energy costs.

The Connecticut General Assembly 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 and lead the movement on climate change action.

## 2.1 Vision

...a planet protected by the love of humanity.

## 2.2 Mission

Confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.<sup>17</sup>

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<sup>12</sup> NEG-ECP Resolution 26-4 adopting the “Climate Change Action Plan 2001” (August 2001 in Westbrook, CT)

<sup>13</sup> An Act Concerning Connecticut Global Warming Solutions

<sup>14</sup> An Act Concerning Connecticut’s Energy Future

<sup>15</sup> An Act Concerning Climate Change Planning and Resiliency

<sup>16</sup> Ned’s Plan for Connecticut – Addressing Climate Change & Expanding Renewable Energy

<sup>17</sup> 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 Malloy’s Council on Climate Change, and many other past acts, plans, or policies.

## 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,<sup>18</sup> 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.

The vision, mission, and goals support the implementation of Connecticut's clean energy policies be they statutorily required (e.g., CGS 16-245ff on residential solar investment program), planning (e.g., Comprehensive Energy Strategy), or regulatory (e.g., Docket No. 17-12-03 on grid modernization) in nature.

## 2.4 Definition – Clean Energy

The Green Bank's investment focus is on "clean energy" 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 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.

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<sup>18</sup> Per 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," "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. Inclusion of "vulnerable communities" within the goals of the Green Bank would ensure that it's incentive (e.g., RSIP), financing (e.g., multifamily), and investment (e.g., Green Bank Capital Solutions) programs incorporate it as a priority.

### 3. Governance and Organizational Structure

The Green Bank is overseen by a governing Board of Directors comprised of ex officio and appointed members, while the organization of the Green Bank is administered by a professional staff overseeing two business units – Incentive Programs and Financing Programs.

#### 3.1 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<sup>19</sup> that is comprised of eleven voting and one non-voting members each with knowledge and expertise in matters related to the purpose of the organization – see Table 1.<sup>20</sup>

**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
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 Board of Directors of the Green Bank, including Audit, Compliance and Governance Committee, Budget, Operations, and Compensation Committee, Deployment Committee, and the Joint Committee of the Energy Efficiency Board (“EEB”) and the Green Bank.<sup>21</sup>

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

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 Board of Directors 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

<sup>19</sup> <https://www.ctgreenbank.com/about-us/governance/board-of-directors/>

<sup>20</sup> <https://www.ctgreenbank.com/about-us/governance/>

<sup>21</sup> Pursuant to Section 16-245m(d)(2) of the Connecticut General Statutes

Green Bank’s Board of Directors and its Committees are publicly available on the organization’s website.<sup>22,23</sup>

### 3.2 Organizational Structure

The organizational structure of the Green Bank is comprised of two (2) business units, including:

- **Incentive Programs** – the Governor and the Connecticut General Assembly from time-to-time may decide that there are certain incentive (or grant) programs that they seek to have the Green Bank administer (e.g., CGS 16-245ff). 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. For example, the Green Bank administers the Residential Solar Investment Program (“RSIP”) whereby through a declining incentive block structure no more than 350 MW of new residential solar PV systems are deployed, while nurturing the sustained, orderly development of a local state-based solar PV industry. Through the public policy creation of a Solar Home Renewable Energy Credit (“SHREC”), the Green Bank is able to recover its costs for administering the RSIP by selling such credits to the Electric Distribution Companies (“EDCs”) through a Master Purchase Agreement (“MPA”) to support their compliance under Connecticut Class I Renewable Portfolio Standard (“RPS”). Costs recovered from such mechanisms are expected to cover the incentive, administrative expenses, and financing expenses of the Incentive Programs business unit.
- **Financing Programs** – the Green Bank’s core business is financing clean energy projects. The Green Bank’s focus is to leverage limited public funds to attract and mobilize multiples of private capital investment to finance these projects. In other words, the use of resources by the Green Bank are to be invested with the expectation of principal and interest being paid back over time. For example, 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 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 Financing Programs business unit.

These two business units – Incentive Programs and Financing 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.

An Employee Handbook and [Operating Procedures](#) have been approved by the Board of Directors and serve to guide the staff to ensure that it is following proper contracting, financial assistance, and other requirements.

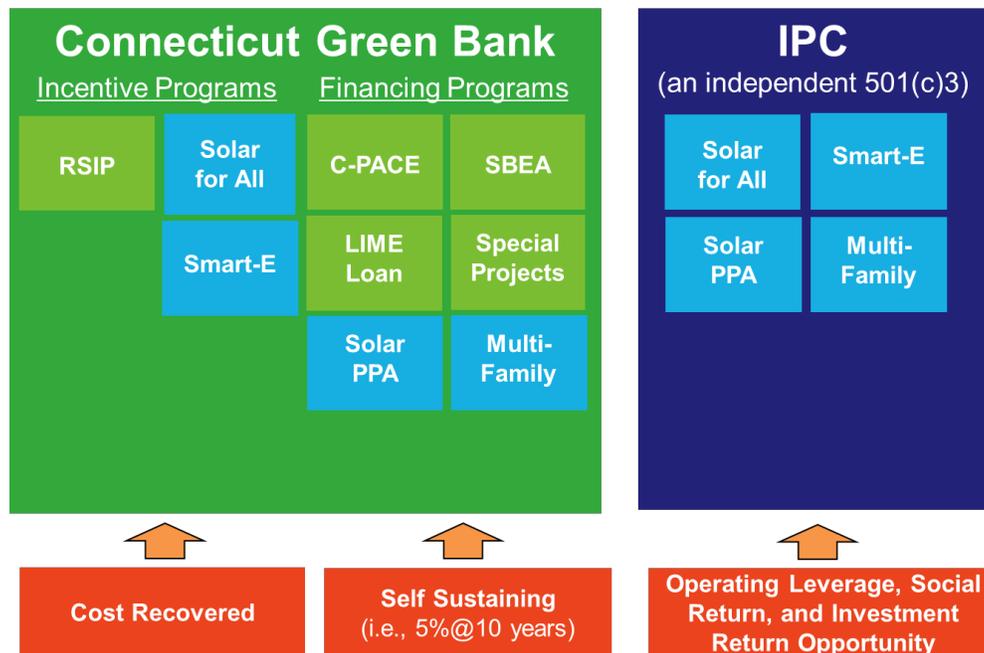
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<sup>22</sup> <http://www.ctgreenbank.com/about-us/board-member-resources/connecticut-grboard-meetings/>

<sup>23</sup> <http://www.ctgreenbank.com/about-us/board-member-resources/connecticut-grittee-meetings/>

In 2018, 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 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 the goals of Connecticut public policy by administering programs on behalf of the Green Bank. 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



#### 4. Incentive Programs

The Green Bank manages incentive programs. That is to say that it oversees grant or subsidy program(s) (including credit enhancements – interest rate buydowns and loan loss reserves) used to deploy clean energy, while at the same time cost recovering the expenses associated with those programs within the business unit – including, but not limited to, incentives, administrative expenses, and financing expenses, as well as loan loss reserves on the balance sheet.

Per CGS 16-245ff, updated by Public Act 19-35<sup>24</sup>, the Green Bank administers the RSIP that includes a declining incentive block structure 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. The RSIP also requires that participating households undergo a Home Energy Solutions assessment, or equivalent audit. It should be noted that the Green Bank has also strategically sought to ensure that households in vulnerable communities (e.g., low-and-moderate income households) have

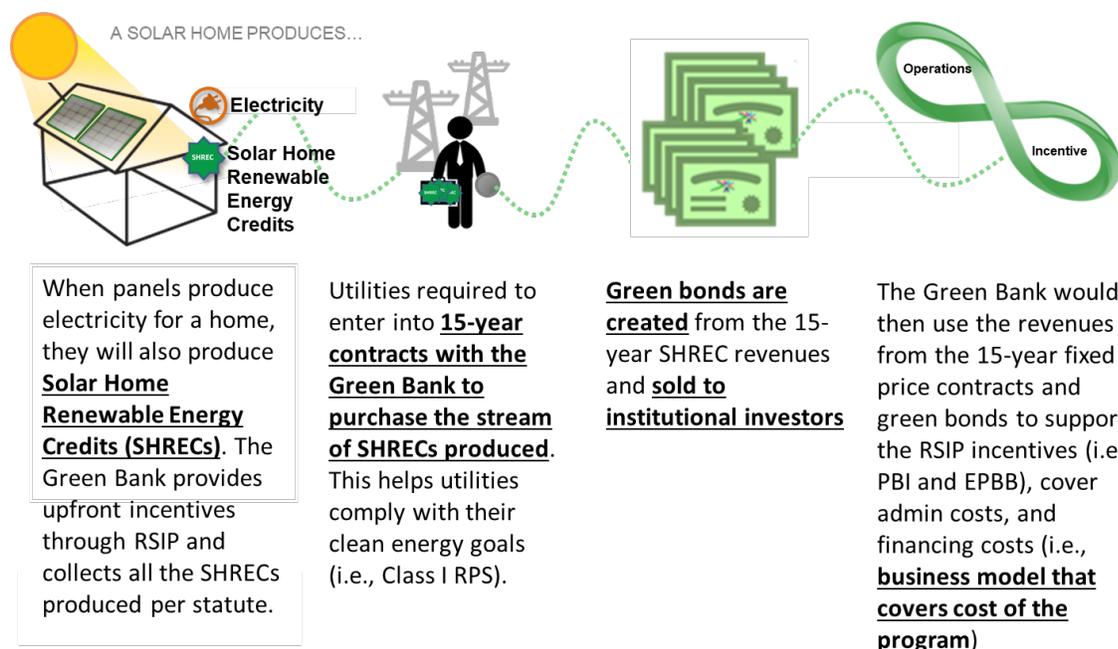
<sup>24</sup> An Act Concerning a Green Economy and Environmental Protection

equal access to residential solar PV.<sup>25</sup> Through the Solar for All program, the Green Bank and its partners are enabling households to reach “solar parity” such that the proportion of solar PV installed on low-and-moderate income households is no less than non-low-and-moderate income households.

As of December 31, 2020, 349 megawatts of residential solar PV systems have been approved through RSIP, supporting 43,553 projects across the state and over \$1.33 billion of investment.<sup>26</sup> Of these approved projects, 321 MW have been completed – or over 90 percent of the statutory target.

To support the Green Bank’s implementation of the RSIP, the EDCs are required to purchase the SHRECs to assist them in their compliance with the RPS. The SHREC price is established by the Green Bank to recover its costs for administering the RSIP through a 15-year MPA with the EDCs. The cash flow from the sale of current and future SHRECs produced by these systems can be sold as a “green bond”<sup>27</sup> to generate cash flow upfront to support the cost recovery of the program – see Figure 2.

**Figure 2. Incentive Program – Overview of the RSIP and the SHREC**



It should be noted that in FY 2020 and continuing into FY 2021, the COVID-19 public health crisis destabilized the local residential solar industry. As a result, in order to ensure that the Green Bank is “fostering the sustained orderly development of a local solar industry,” the

<sup>25</sup> Sharing Solar Benefits – Reaching Households in Underserved Communities of Color in Connecticut by the Connecticut Green Bank (May 2019) – [click here](#).

<sup>26</sup> Prior to the RSIP, through incentives provided by the Connecticut Clean Energy Fund, the predecessor of the Green Bank, there are another 2,018 residential solar PV projects totaling 13.4 MW.

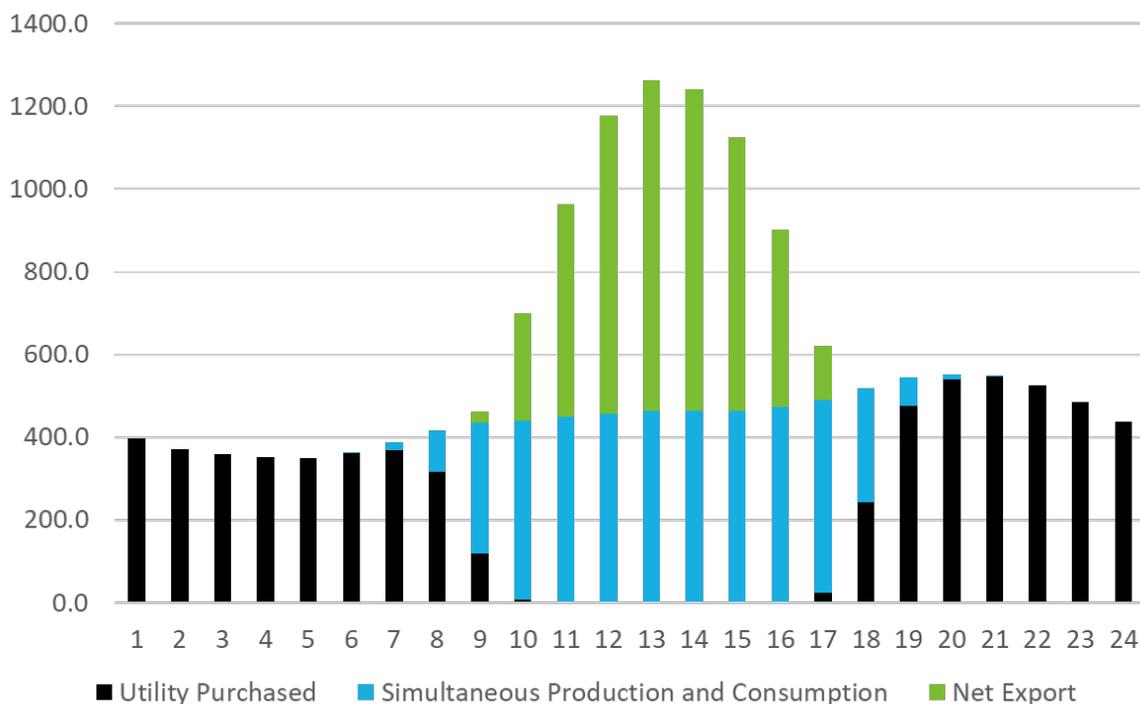
<sup>27</sup> <https://www.ctgreenbank.com/cgb-enters-green-bond-market/>

Board of Directors of the Green Bank approved an extension of the RSIP (i.e., RSIP-E) by 32 MW to (1) ensure that 350 MW of residential solar PV is completed, and (2) provide additional incentive capacity to stabilize the industry as it manages through COVID-19 and the transition from net metering to a tariff.<sup>28</sup>

The Green Bank, through its partner C-Power, aggregates and registers residential solar PV systems in ISO-NE’s On-Peak Hours Resource Program for which it receives Forward Capacity Market payments.<sup>29</sup>

In general, over the course of a year, a typical residential solar PV system produces, and the household simultaneously consumes, about fifty percent of the production from the system – meaning that about fifty percent of the system’s production is being exported to the grid (and generally used subsequently by the household under the existing net metering policy) – see Figure 3.

**Figure 3. Average Residential Consumption (i.e., kWh) and Solar PV Production Over the Course of a Year by Hour of the Day**



In order to store the system’s production that would have been exported to the grid for the purposes of later using it for (1) back-up power that would benefit the household, and/or (2) reducing demand, specifically peak demand, that would benefit all ratepayers, in FY 2019, the Green Bank submitted an application into the Electric Efficiency Partners Program (EEPP) (i.e., Docket No. 18-12-35) demonstrating the “cost effectiveness” of residential solar PV in combination with battery storage.<sup>30</sup> In FY 2021, the Green Bank submitted its “Solarize

<sup>28</sup> <https://www.ctgreenbank.com/about-us/governance/connecticut-grboard-meetings/2020-2/> - see September 23, 2020 materials for details.

<sup>29</sup> <https://www.iso-ne.com/markets-operations/markets/forward-capacity-market>

<sup>30</sup> Section 94 of Public Act 07-242

Storage” proposal into the Public Utility Regulatory Authority’s (“PURA”) Equitable Modern Grid process (i.e., Docket No. 17-12-03(RE03),<sup>31</sup> an incentive program with a focus on combined residential solar PV and battery storage that maximizes participant benefits while sharing those benefits with ratepayers and society. In collaboration with DEEP and the EDCs through the Joint Committee,<sup>32</sup> efforts are being made to enable residential solar PV in combination with battery storage to deliver greater benefits to participating households as well as all ratepayers on the electric grid – through a combination upfront incentive in support of passive demand response through the Green Bank in conjunction with a performance-based incentive in support of active demand response through the electric distribution company administration of the Conservation and Load Management Plan. The Green Bank is now working with the EDCs to support PURA’s issuance of straw proposal program design.

The EnergizeCT Smart-E Loan in partnership with local community banks and credit unions, provides easy access to affordable capital for homeowners to finance clean energy, as well as health & safety improvements on their properties through a partnership between local contractors and financial institutions, IPC, and the Green Bank. As the Green Bank provides credit enhancements to the Smart-E Loan in the form of interest rate buydowns (i.e., subsidy) and loan loss reserves from its balance sheet, it is considered an incentive program since there is no direct financial return (e.g., principal and interest) to the organization like financing programs.

The Green Bank has set targets for its Incentive Programs business unit for FY 2020<sup>33</sup> and FY 2021 in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Tables 2 and 3.

**Table 2. Revised FY 2020 Targets for the Incentive Programs Business Unit**

Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (kW)
Residential Solar Investment Program	7,059	\$214.2	60,000
Solar for All Program	615	\$17.2	4,200
Electric Efficiency Partners Program <sup>34</sup>	0-500	\$0.0-\$5.5	0-2,000
EnergizeCT Smart-E Loan	540	\$7.2	500
<b>Total<sup>35</sup></b>	<b>8,099</b>	<b>\$226.9</b>	<b>62,500</b>

<sup>31</sup> <https://www.ctgreenbank.com/wp-content/uploads/2020/08/PURA-Docket-No.-17-12-03RE03---Solarize-Storage-Proposal-from-the-Green-Bank.pdf>

<sup>32</sup> Pursuant to Section 16-245m(d)(2) of the Connecticut General Statutes

<sup>33</sup> Revised by the Board of Directors on January 24, 2020

<sup>34</sup> The Connecticut Green Bank has submitted a Technology Application (i.e., Docket No. 18-12-35) into PURA through the Electric Efficiency Partners Program in support of a residential battery storage incentive program that would retrofit existing residential solar PV systems installed through the RSIP. Beyond existing solar PV systems that could be retrofit with battery storage, RSIP Step 15 proposes a combined residential solar PV and battery storage upfront incentive for new installations that demonstrates significant “cost effectiveness” of distributed energy systems. Meeting this target was contingent upon PURA’s determination in Docket No. 18-12-35. There was not yet a determination by PURA in the docket, and therefore the revision.

<sup>35</sup> The total does not count Solar for All projects separately because all Solar for All projects are also RSIP projects and therefore already counted.

**Table 3. Revised FY 2021 Targets for the Incentive Programs Business Unit**

Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (kW)	Ann. GHG Emissions Avoided (TCO2)
Residential Solar Investment Program	3,177-4,706	\$96.7-\$143.2	27,000-40,000	16,995-25,178
Solar for All Program	177-416	\$4.3-\$10.1	1,200-2,700	724-1,700
Equitable Modern Grid <sup>36</sup>	0-100	\$0.0-\$0.9	0-500	-
EnergizeCT Smart-E Loan	270-740	\$3.6-\$9.8	300-1,000	1,972-3,911
<b>Total<sup>37</sup></b>	<b>3,447-5,581</b>	<b>\$100.3-\$153.0</b>	<b>27,300-41,500</b>	<b>19,691-30,789</b>

Starting in FY 2021, the Green Bank has added annual GHG emissions avoided (see Table 3) and investment in vulnerable communities (see bullet below) as targets for its Incentive Programs.

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

It should be noted that there are two factors impacting the FY 2021 targets for the RSIP – COVID-19 impacts on market demand and achieving the 350 MW target<sup>38</sup> – and therefore, the low and high range for the targets.

As a result of successfully achieving these targets, the Green Bank will reduce the energy burden on Connecticut families (including low-to-moderate income households and communities of color, as well as ratepayers by reducing demand, specifically peak demand, through the use of solar PV and battery storage), 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.

## 5. Financing Programs

The Green Bank manages financing programs. That is to say that it oversees financing programs that provide capital upfront to deploy clean energy, while at the same time returning principal and interest over time from the financing of projects, products, or programs to ensure the financial sustainability of the business unit.

The Green Bank has a number of clean energy financing products, including:

- **Commercial Property Assessed Clean Energy (“C-PACE”)**<sup>39</sup> – enables building owners to pay for clean energy improvements over time through a voluntary benefit

<sup>36</sup> The Connecticut Green Bank will be submitting a proposal into Docket No. 17-12-03(RE03) – Electric Storage. Should the Request for Proposed Designs (“RFPD”) be accepted by PURA, then the Green Bank would anticipate administering an upfront electric storage incentive program beginning January 1, 2021.

<sup>37</sup> The total does not count Solar for All projects separately because all Solar for All projects are also RSIP projects and therefore already counted.

<sup>38</sup> Given the devastating impacts of COVID-19 on the local solar industry, the Connecticut Green Bank Board of Directors approved an extension to the RSIP (see Footnote 28).

<sup>39</sup> CGS 16a-40g

assessment on their property tax bills. This process makes it easier for building owners to secure low-interest capital for up to 25 years to fund energy improvements and is structured so that energy savings more than offset the benefit assessment.

- **Green Bank Solar PPA** – third-party ownership structure to deploy solar PV systems for commercial scale end-use customers (e.g., businesses, nonprofits, municipal and state governments, etc.) that uses a multi-year Power Purchase Agreement (“PPA”) to finance projects while reducing energy costs for the host customer.
- **Small Business Energy Advantage (“SBEA”)** – Eversource Energy administered on-bill commercial energy efficiency loan program for small businesses, in partnership with low-cost capital provided by Amalgamated Bank with a credit enhancements from the Green Bank (i.e., subordinated debt) and the Connecticut Energy Efficiency Fund (i.e., loan loss guaranty and interest rate buydown).
- **Multifamily Products** – defined as buildings with 5 or more units, the Green Bank provides a suite of financing options through 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.
- **Special Projects** – 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 waste to energy, state “Lead by Example” energy service agreements, etc.). 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.

The Green Bank has set targets for its Financing Programs business unit for FY 2020<sup>40</sup> and FY 2021 in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Tables 4 and 5.

**Table 4. Revised FY 2020 Targets for the Financing Programs Business Unit**

Program / Product	Projects	Total Investment (\$MM’s)	Installed Capacity (kW)
Commercial PACE	56	\$25.0	7,000
Green Bank Solar PPA	33	\$28.0	12,600
Small Business Energy Advantage <sup>41</sup>	1,000	\$20.0	-
Multifamily Predevelopment Loan	2	\$0.1	-
Multifamily Term Loan	8	\$1.3	200
Multifamily Catalyst Loan	2	\$0.1	-
Strategic Investments	2	\$7.5	-
<b>Total</b>	<b>1,718</b>	<b>\$99.2</b>	<b>24,000</b>

<sup>40</sup> Revised by the Board of Directors on January 24, 2020

<sup>41</sup> In partnership with Eversource Energy and Amalgamated Bank, the Connecticut Green Bank provides capital in support of the utility-administered Small Business Energy Advantage program to provide 0% on-bill financing up to 4-years for energy efficiency projects.

**Table 5. Revised FY 2021 Targets for the Financing Programs Business Unit**

Program / Product	Projects	Total Investment (\$MM's)	Installed Capacity (kW)	Ann. GHG Emissions Avoided (TCO2)
Commercial PACE	33-48	\$15.2-\$23.3	5,300-7,100	1,452-1,641
Green Bank Solar PPA	30-58	\$4.0-\$6.8	6,200-15,400	3,400-9,668
Small Business Energy Advantage	1,203	\$20.4	-	-
Multifamily Predevelopment Loan	1	\$0.1	-	-
Multifamily Term Loan	2	\$0.2	0.1	68
Multifamily Health & Safety	1	\$0.1	-	-
EV Offset Program	-	-	-	17,770
Strategic Investments	3	\$7.8	-	-
<b>Total</b>	<b>1,267-1,273</b>	<b>\$46.1-\$69.2</b>	<b>10,900-20,700</b>	<b>6,800-13,100</b>

Starting in FY 2021, the Green Bank has added annual GHG emissions avoided (see Table 5) and investment in vulnerable communities (see bullet below) as targets for its Financing Programs.

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

Given the uncertain impacts of COVID-19, there are low and high range targets proposed.

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 Connecticut families and businesses, 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.

## 6. Impact Investment

The Green Bank pursues investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability. With the mission to confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy, the Green Bank leverages limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.

### 6.1 State Funds

The Green Bank receives public capital from a number of ratepayer and state sources that it leverages to scale-up and mobilize private capital investment in the green economy of Connecticut.

### **System Benefit Charge – Clean Energy Fund**

As its primary source of public capital, the Green Bank through CGS 16-245n(b) receives a 1 mill per kilowatt-hour surcharge called the Clean Energy Fund (“CEF”) from ratepayers of Eversource Energy and Avangrid. The CEF has been in existence since Connecticut deregulated its electric industry in the late 1990’s.<sup>42</sup> On average, households contribute between \$7-\$10 a year for the CEF, which the Green Bank leverages to attract multiples of private capital investment in the green economy of Connecticut.<sup>43</sup>

### **Regional Greenhouse Gas Emission Allowance Proceeds**

As a secondary source of public capital, the Green Bank receives a portion (i.e., 23%) of Connecticut’s Regional Greenhouse Gas Initiative (“RGGI”) allowance proceeds through the Regulation of Connecticut State Agencies Section 22a-174(f)(6)(B). The Green Bank invests RGGI proceeds from the nation’s first cap-and-trade program to finance clean energy improvements (i.e., renewable energy projects).

## **6.2 Federal Funds**

The Green Bank receives public capital through a number of past, current, and future sources<sup>44</sup> 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 nearly \$2 million of ARRA funds left,<sup>45</sup> the Green Bank invested over \$6.4 million of ARRA funds to attract and mobilize more than \$110 million of public and private investment in residential clean energy financing programs.

### **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 communities.<sup>46</sup> 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.

## **6.3 Green Bonds**

The future of green bonds is growing. Globally, in 2020, countries, companies, and local governments sold \$305.1 billion (2019: \$269.4 billion) of green bonds that fund projects that are good for the environment.<sup>47</sup> In July of 2019, Connecticut Treasurer Shawn Wooden

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<sup>42</sup> Public Act 98-28 “An Act Concerning Electric Restructuring”

<sup>43</sup> 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

<sup>44</sup> 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.

<sup>45</sup> As of July 1, 2019

<sup>46</sup> “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.

<sup>47</sup> Bloomberg News (James Crombie, January 8, 2021)

announced that the Clean Water Fund's Green Bond Sale shattered state records. The AAA-rated green bond had a record low interest rate of 2.69% and received retail investor orders topping \$240 million in one day! This is the highest level of retail investor orders (i.e., from Separately Managed Accounts (SMA's) or individuals) in the 20-year history of this program – with the balance of the bonds offered to institutional investors generating an additional \$128 million in orders. In April 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. It was honored by Environmental Finance with the Innovation and Green Bond Structure awards in 2020. In July 2020, the Green Bank issued \$16.8 million in a special capital reserve fund backed Green Liberty Bond that was Climate Bond Certified. The Green Liberty Bond was recognized by The Bond Buyer with the Innovative Deal of the Year award in 2020.

Green Banks have an essential role in leveraging limited public funds with private capital to drive investment in the green economy to achieve climate change goals, create jobs in our communities, and reduce the burden of energy costs on our families and businesses. CGS Section 16-245n(d)(1)(C) is the enabling statute that allows the Green Bank to issue revenue bonds to support its purposes. Green Bonds are bonds whose proceeds are used for projects or activities with environmental or climate benefits, most usually climate change mitigation and adaptation.

Connecticut's climate change plan<sup>48</sup> focuses on three mitigation wedges (see Figure 4), including:

- **Decarbonizing Electricity Generation** – representing 23% of Connecticut's economy-wide GHG emissions, electricity generation must be transitioned to zero-carbon renewable energy sources. Strategies include financing for in-state or regional utility-scale renewable energy resources (e.g., community solar, wind, run-of-the-river hydro, food-waste-to-energy, etc.) and financing and incentives for in-state distributed energy resources (e.g., behind the meter solar PV, battery storage, fuel cells, combined heat and power, etc.) that assist with the implementation of the Class I and III Renewable Portfolio Standard, Regional Greenhouse Gas Initiative, and other public policies. To ensure a sustainable downward trajectory to meet the State's 2050 target, electricity generation must be 66% and 84% carbon-free by 2030 and 2050, respectively.
- **Decarbonizing Transportation** – representing over 35% of Connecticut's economy-wide GHG emissions, the transportation sector is the largest source of statewide emissions and must be transitioned to zero- and low-carbon technologies. Strategies for zero- and low-carbon transportation include adopting innovative financing models for ZEV deployment (i.e., EVs and FCEVs) and ZEV charging infrastructure, ensuring equitable access to clean transportation options such as electric bus fleets and ride sharing or hailing services. Also important is supporting voluntary (e.g., carbon offset) and regulatory (e.g., Transportation Climate Initiative) markets for cleaner transportation that transitions us away from fossil fuel to renewable energy. More

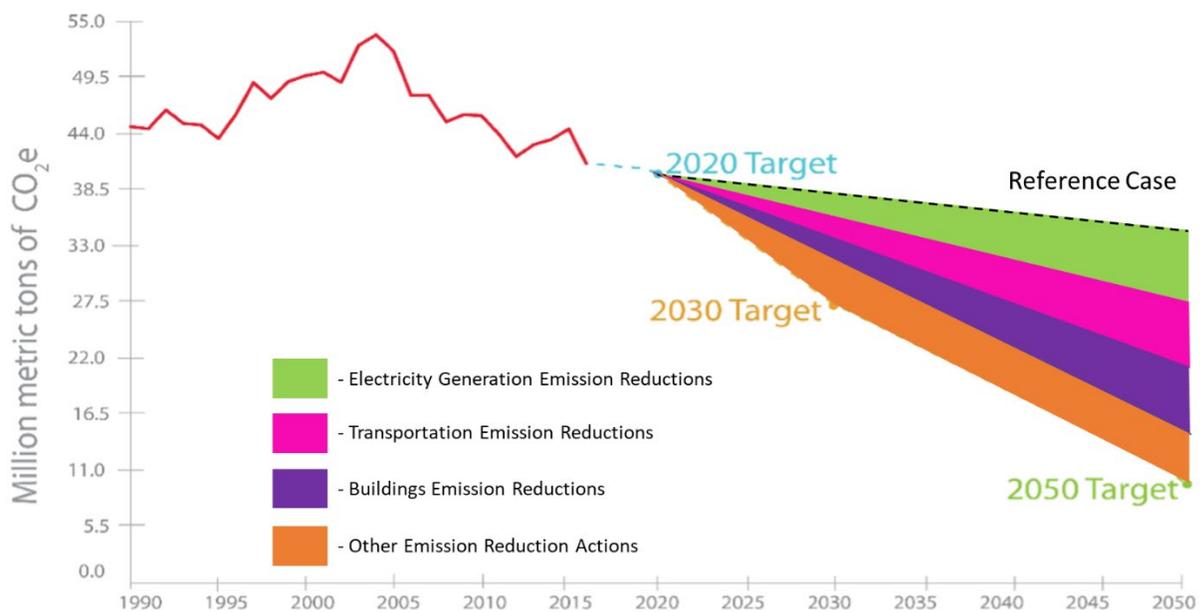
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<sup>48</sup> "Building a Low Carbon Future for Connecticut – Achieving a 45% GHG Reduction by 2030" recommendations from the Governor's Council on Climate Change (December 18, 2018)

specifically, to meet the 2030 target, 20% of the passenger fleet and 30% of the heavy-duty fleet must be zero emission; and to meet the 2050 target, 95% of the passenger fleet and 80% of the heavy-duty fleet must be zero emission.

- **Decarbonizing Buildings** – representing over 30% of Connecticut’s economy-wide GHG emissions, residential, commercial, and industrial buildings are the second largest emitting sector that must transition away from fossil fuels to renewable thermal technology. Strategies for zero-carbon buildings include financing and incentives for energy efficiency (e.g., thermal insulation, appliances, etc.) and renewable heating and cooling (e.g., air source heat pumps, ground source heat pumps, heat pump water heaters, etc.). To meet the economy-wide 2030 and 2050 targets for Buildings, renewable heating and cooling technologies must be significantly deployed to 11% and 26% for residential, and 9% and 20% for commercial, by 2030 and 2050 respectively.

**Figure 4. Example of Key GHG Emission Reduction Measures (i.e., Mitigation Wedges) for Connecticut to Achieve Targets**



The size of investment required and long-term revenue streams from clean energy, lend themselves well to bond structures. Issuing green bonds can provide the Green Bank a lower-cost, longer-term source of capital, enabling the Green Bank to further leverage state and federal funds to increase its impact in Connecticut by attracting and mobilizing private investment in the state’s green economy. The Green Bank has an important role to play in advancing green bonds in the U.S., especially given its history of engaging citizens and communities and its expertise in developing impact methodologies and a thorough and transparent reporting framework.

## 7. Citizen Engagement

The Green Bank, and its predecessor the Connecticut Clean Energy Fund (CCEF), have a long-standing history of citizen engagement within the communities of Connecticut. In 2002,

the CCEF partnered with six private foundations<sup>49</sup> 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.<sup>50</sup> 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,<sup>51</sup> while also advancing the SunShot Initiative of the U.S. Department of Energy (DOE) 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 low-to-moderate income households.

Engaging citizens has been in the DNA of the Green Bank since its inception.

## **7.1 Green Bonds US Campaign**

From the air we breathe to the products we consume; the world’s population is inescapably connected. And while that may present challenges in the context of global climate change, it also affords incredible opportunities for collaboration and progress.

Whether through markets or within communities, the Connecticut Green Bank is bringing people together and strengthening the bonds we share with one another. As its name suggests, the “Green Bonds US” campaign, seeks to promote a simple but critically important message; green brings us together, green bonds us. The multimedia, brand awareness and green-bond promotional campaign will promote the benefits of green energy, as well as a brand-new green energy investment opportunity provided by the Green Bank.

### **Green Liberty Bonds**

Despite the rising demand for green energy in the state, barriers still exist that may prevent more people from participating in Connecticut’s growing green economy. For example, a homeowner who, despite having a strong desire to “go solar”, is not able to because of factors like price, siting, or other issues. To allow more people to benefit from, and invest in, green energy, the Green Bank is offering another way. For the first time in its history, the Green Bank will issue “mini” green-bonds (e.g., small denomination bonds, certificate of deposits, and/or other fixed income investments) called Green Liberty Bonds, for sale to institutions and retail investors (i.e., separately managed accounts “SMAs” and individuals). Launching as a pilot program, Green Liberty Bonds represent another step forward on the path to inclusive prosperity.

In March and December of 2020, the Green Bank’s bonds were awarded for innovation and green bond structure by Environmental Finance and The Bond Buyer, respectively.

For more information on Green Liberty Bonds, visit [www.greenlibertybonds.com](http://www.greenlibertybonds.com)

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<sup>49</sup> Emily Hall Tremain Foundation, The John Merck Fund, Pew Charitable Trust, The Oak Foundation, Rockefeller Brothers Fund, and Surdna Foundation

<sup>50</sup> “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).

<sup>51</sup> “Solarize Your Community: An Evidence-Based Guide for Accelerating the Adoption of Residential Solar” by the Yale Center for Business and the Environment.

## **Market Research**

To gauge the public's interest and assess market demand for mini-green-bonds, the Green Bank performed primary and secondary research such as an online survey, interviews with industry professionals, as well as internal review of recent market data and investment reports.

In June of 2019, the Green Bank engaged GreatBlue Research to conduct primary research throughout Connecticut, measuring the market potential for "mini-bonds". A digital survey was sent to two target audiences: 1.) households that have installed solar PV through the RSIP and 2.) the general population (i.e., households that haven't participated in a Green Bank program). When asked "what types of green projects would you support through your private investments," the survey participants had the following responses:

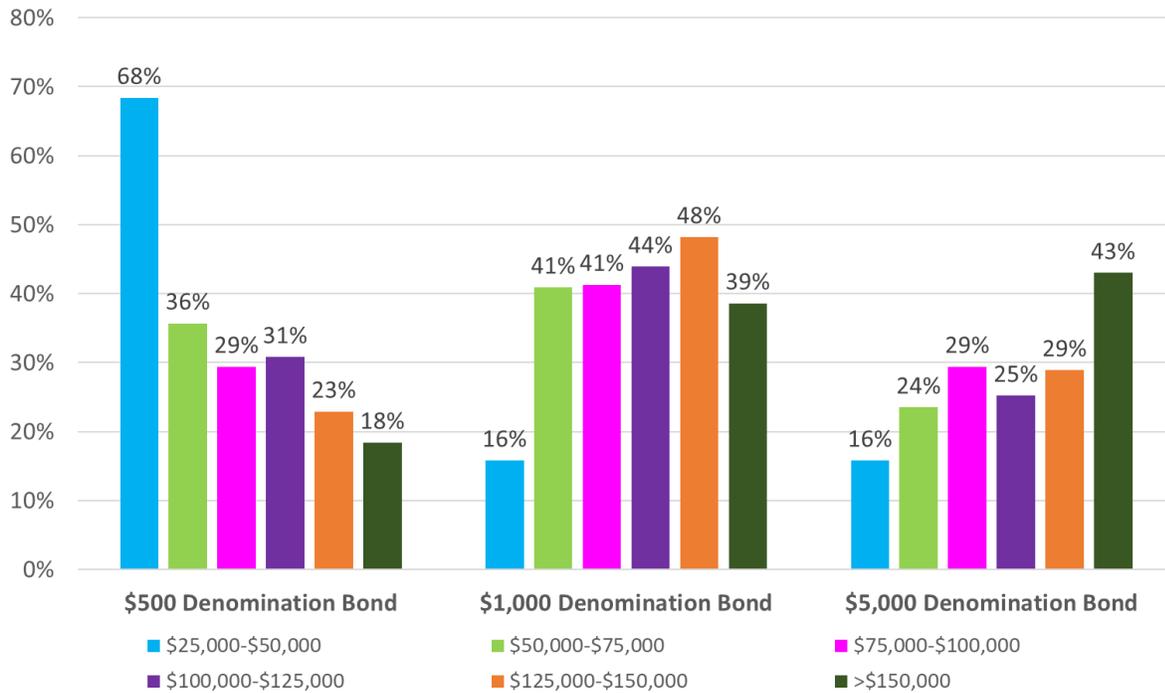
- Recycling and waste reduction – 69.5%
- Clean water – 67.3%
- Roof-top solar – 64.5%
- High efficiency heating and cooling systems – 58.8%
- Home energy efficiency projects – 56.7%
- Land conservation – 49.3%
- Energy efficiency appliance rebates – 45.6%
- Electric vehicles – 41.2%

The Green Bank and GreatBlue research also highlighted that the income of the investor, alongside the denomination of the bond, represents an opportunity for increasing equitable access to greater investment in the environment – see Figure 5.

After taking into account the results of our state-wide primary research, current national trends and conversations with various industry experts, there is sufficient data to suggest that the green bond market for individual investors in Connecticut may be quite large. As a result, the Green Bank intends to issue mini-green-bonds, with proceeds going to support the development of green energy projects within Connecticut.

For more information on the Green Bonds US campaign, visit [www.greenbondsus.com](http://www.greenbondsus.com)

**Figure 5. Comparison of Interest in Bond Denomination Value by Income of Survey Respondents**



## 7.2 Sustainable CT

Sustainable CT and the Green Bank are developing an engagement and investment platform to raise capital in support of local projects that provide individuals, families, and businesses with investment opportunities to make an impact on sustainability in their communities. The 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.

Through a partnership between Sustainable CT and Patronicity, an online crowdfunding platform will enable citizen leaders to have access to financial resources that they need for local sustainability projects.

For more information on Sustainable CT, visit [www.sustainablect.com](http://www.sustainablect.com)

## 8. Evaluation Framework and Impact Methodologies

The Green Bank’s evaluation efforts seek to understand how the increase in investment and deployment of clean energy 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.<sup>52</sup> 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.
- **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<sup>4</sup>) – including Economy, Environment, Energy, and Equity.

## 8.2 Green Bond Framework

The Green Bank’s Green Bond Framework (“Framework”)<sup>53</sup> provides a structure in which the Green Bank can more efficiently and effectively support its efforts to raise capital and deploy more clean energy 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 to meet the 10x goals identified by the United Nations as the level needed to hold off the worst effects of climate change, 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 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

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<sup>52</sup> <https://ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Evaluation-Framework-July-2016.pdf>

<sup>53</sup> [https://ctgreenbank.com/wp-content/uploads/2020/04/CGB\\_Green-Bond-Framework\\_final-4-22-2020.pdf](https://ctgreenbank.com/wp-content/uploads/2020/04/CGB_Green-Bond-Framework_final-4-22-2020.pdf)

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.

### 8.3 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 Navigant Consulting, 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.<sup>54</sup>
- **Tax Revenues** – working in consultation with the Connecticut Department of Revenue Services (“DRS”), through the work of Navigant Consulting, 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.<sup>55</sup>
- **Environmental Protection** – working in consultation with the United States Environmental Protection Agency (“EPA”) 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., CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub>) resulting from clean energy deployment.<sup>56</sup>
- **Public Health Improvement** – working in consultation with the EPA, 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 benefits (e.g., reduced hospitalizations, reduced sick days, etc.) and associated savings to society resulting from clean energy deployment.<sup>57</sup>

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.<sup>58</sup> In FY 2020 and FY 2021, the Green Bank is developing its Equity and Energy impact methodologies to accompany its Economy and Environmental methodologies.

The Green Bank’s efforts to increase investment in and deployment of clean energy projects – which result in increased benefits to Connecticut and all of society – can also be looked at through the lens of the United Nation’s Sustainable Development Goals (“UNSDG’s”).<sup>59</sup> The UNSDG’s include, but are not limited to – reducing poverty, improving health and well-being, making clean energy affordable, increasing economic development, reducing inequalities,

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<sup>54</sup> [https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB\\_DECD\\_Jobs-Study\\_Fact-Sheet.pdf](https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB_DECD_Jobs-Study_Fact-Sheet.pdf)

<sup>55</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf>

<sup>56</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/01/CGB-Eval-IMPACT-091917-Bv2.pdf>

<sup>57</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB-Eval-PUBLICHEALTH-1-25-18-new.pdf>

<sup>58</sup> <http://www.ctgreenbank.com/strategy-impact/impact/>

<sup>59</sup> <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

supporting sustainable communities, and confronting climate change – areas where the Green Bank is measuring (or will measure) the impacts of its investments.

## 9. Reporting and Transparency

The Green Bank has extensive reporting on its financial management and societal impact through various mechanisms. As an administrator of ratepayer (i.e., Clean Energy Fund) and taxpayer (e.g., Regional Greenhouse Gas Initiative) resources, the Green Bank believes that complete transparency is important to ensure the public’s continued trust in serving its purpose.

### 9.1 Comprehensive Annual Financial Report (CAFR)

A Comprehensive Annual Financial Report (“CAFR”) 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 a CAFR in its annually updated publication *Codification of Governmental Accounting and Financial Reporting Standards*. A CAFR 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 CAFR 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.<sup>60</sup>

To date, the Green Bank has issued seven CAFR’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](#)

As the “gold standard” in government reporting, the CAFR is the mechanism the Green Bank uses to report its fiscal year financial and investment performance – including societal benefits and impacts – to its stakeholders. For each of its seven years filing the CAFR with the Government Finance Officers Association the Green Bank has received a Certificate of Achievement for Excellence in Financial Reporting.<sup>61</sup>

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<sup>60</sup> 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 Excellence in Financial Reporting Program (CAFR Program) in 1945 to encourage and assist state and local governments to go beyond the minimum requirements of generally accepted accounting principles to prepare comprehensive annual financial reports that evidence the spirit of transparency and full disclosure and then to recognize individual governments that succeed in achieving that goal.

<sup>61</sup> GAO has yet to designate the FY 2020 CAFR with a Certificate of Achievement

## 9.2 Annual Report

Beyond the CAFR, 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 nine 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](#)

## 9.3 Auditors of Public Account

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 Connecticut Green Bank in fulfillment of its duties under Sections 1-122 and Section 2-90 of the Connecticut General Statutes.

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

- [Fiscal Years 2012 and 2013](#)
- [Fiscal Years 2014 and 2015](#)
- [Fiscal Years 2016 and 2017](#)

## 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.<sup>62</sup> In June of 2020, the Comptroller launched Open Quasi, which provides payroll and checkbook level data for all quasi-public organizations in Connecticut.

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<sup>62</sup> <https://openquasi.ct.gov/>

## 9.5 Stakeholder Communications

The Green Bank holds quarterly stakeholder webinars to update the general public on the progress it is making with respect to its Comprehensive Plan and annual targets.<sup>63</sup> Through these webinars, the Green Bank staff invite questions from the audience. These webinars are announced through the Green Bank’s list serve consisting of thousands of stakeholders as well as the events page of its website.<sup>64</sup>

The Green Bank also issues an e-newsletter through its list serve that provides key topics in the news and important information on products, programs and services.<sup>65</sup>

## 10. Research and Product Development

As the Green Bank implements its Comprehensive Plan, there will be ongoing efforts to develop new 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 impact, including, for example:

- **Shared Clean Energy Facilities** – to support decarbonizing the electricity infrastructure climate change wedge, while reducing the burden of energy costs on Connecticut’s families and businesses, the Green Bank will seek to apply its experience administering the RSIP to supporting and investing in shared clean energy facilities (or community solar projects) with a focus on low-to-moderate income families;
- **Energy Burden from Transportation** – as Operation Fuel has done an exceptional job quantifying the energy burden for electricity use and heating of homes, understanding the energy burden from transportation (i.e., gasoline to alternative fuel vehicles) will help the Green Bank and others (e.g., Department of Housing, Connecticut Housing and Finance Authority, Partnership for Strong Communities, DEEP, etc.) understand its role in addressing the decarbonization of transportation emissions climate change wedge; and
- **Environmental Infrastructure** – if there were an expansion of scope for the Green Bank beyond “clean energy,” the Green Bank could apply the green bank model to mobilize private investment in “environmental infrastructure”.<sup>66</sup> Working with DEEP and other state agencies, local governments, nonprofit organizations, academic institutions, and businesses, the Green Bank could, for example, identify new areas for increased investment in climate change adaptation and resiliency through the issuance of green bonds.<sup>67</sup>

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<sup>63</sup> <https://www.ctgreenbank.com/news-events/webinars/>

<sup>64</sup> <https://www.ctgreenbank.com/news-events/events-calendar/>

<sup>65</sup> <https://www.ctgreenbank.com/newsletters/>

<sup>66</sup> Proposed Senate Bill 927 in the 2019 Legislative Session

<sup>67</sup> Section 10.3 Sustainability of the Comprehensive Plan of the Connecticut Green Bank for FY 2017 through FY 2019 recognizes that other green banks invest beyond “clean energy” and include “environmental infrastructure”.

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 2020 Budget**

For the details on the FY 2020 budget– [click here](#).

For details on the FY 2019 to FY 2020 variance analysis supporting the continuation of the Sustainability Plan – [click here](#).

### **11.2 FY 2021 Budget**

For the details on the FY 2021 budget– [click here](#).

For details on the FY 2021 revised budget – [click here](#).



HARVARD Kennedy School

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and Innovation



March 4, 2021

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

**DETERMINATION: APPROVAL WITH CONDITIONS OF THE 2021 PLAN UPDATE  
TO THE 2019-2021 CONSERVATION AND LOAD MANAGEMENT PLAN, AND  
APPROVAL OF THE 2020 PMI ADJUSTMENT PRO-RATION MODIFIED  
APPROACH**

The Connecticut Department of Energy and Environmental Protection (DEEP) hereby issues the following determination (Final Determination) approving, with conditions, the 2021 Plan Update to the 2019-2021 Conservation and Load Management Plan (2021 Plan Update) based on input received from the Energy Efficiency Board (EEB), feedback received during a technical meeting held on November 17, 2020 with stakeholders, and subsequent written comments. DEEP releases this Final Determination following public comment on the tentative determination released January 29, 2020. DEEP issued a final determination with respect to the 2021 Plan budget, and the adjusted structure to the 2020 performance management incentive (PMI) in the January 29, 2021 tentative approval. DEEP thanks the members of the EEB, the energy efficiency vendor community, Eversource Energy, The United Illuminating Company (UI), the Southern Connecticut Gas Company, the Connecticut Natural Gas Corporation, (collectively the Utilities), and the rest of the stakeholder community for the thoughtful consideration evident in their feedback regarding the 2021 Plan Update.

**I. History**

Pursuant to Conn. Gen. Stat. § 16-245m, the Utilities, in consultation with the EEB, develop and submit to DEEP a combined electric and gas Conservation and Load Management Plan (C&LM Plan) to implement cost-effective energy conservation programs, demand management, and market transformation initiatives for the state of Connecticut. The C&LM Plan is a three-year plan that is supplemented by an annual update. DEEP may approve, modify or reject the three-year C&LM Plan and the detailed budget submitted with the Plan, including any annual updates submitted by the Utilities.

As part of its review of the 2021 Plan Update, DEEP considered stakeholder input received through public input sessions held by the EEB on April 8, 2020 and May 13, 2020.<sup>1</sup>

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<sup>1</sup> All submitted written comments can be accessed at Box.com. See Written Comments, EEB Public Input Session, April 4, 2020, available at <https://app.box.com/s/83wt01sxxg24dvvf8j8l2qvg2vomrn2e>; Written Comments, EEB Public Input Session, May 13, 2020, available at <https://app.box.com/s/evks2dgop4kukifysjcn7mrkhotblh9p>.

These public sessions provided an avenue for stakeholders to engage in the development of the 2021 Plan Update. A summary of each comment submitted, as well as both the EEB and the Utilities' responses to those comments, are included in Appendix B of the 2021 Plan Update. DEEP also reviewed the Utilities' presentations of sections of the 2021 Plan Update to the EEB over several months. The final draft of the 2021 Plan Update was approved by the EEB on October 14, 2020 before it was submitted to DEEP for approval.

On October 20, 2020, the Utilities filed their request for a modified approach to the recovery of their 2020 performance management incentive (2020 PMI Adjustment) due to the impacts of COVID-19 for the 2020 Plan year.<sup>2</sup> This modified approach was developed in consultation with EEB consultants. The approved temporary increase in incentives to help customers and contractors recover from the impacts of COVID-19, as further described below, decreased the amount of savings achievable from energy efficiency programs under the 2020 budget. The Utilities requested a reduction in the savings goals to reflect this decrease in projected savings. In addition, certain secondary metrics such as the Home Energy Solutions-Income Eligible (HES-IE) Penalty Metric, Electric and Natural Gas Comprehensive Metrics and the HES-IE Annual CCF Goal were reduced to reflect the closure of on-site activity for three months during the early part of the pandemic. The 2020 PMI Adjustment was approved by the EEB on October 14, 2020.

On October 21, 2020, DEEP convened a Technical Meeting and Public Comment Session to review the impacts of COVID-19 on the 2020 C&LM budget. DEEP sought input from stakeholders regarding the 2020 spending and projections, the portion of C&LM funds that should be carried over to the following plan year, and whether any of the temporary incentives should be extended. DEEP received feedback from a variety of stakeholders regarding these topics both during the October 21, 2020 meeting and in subsequent written comments.<sup>3</sup>

On November 1, 2020, the Utilities filed the 2021 Plan Update. In the 2021 Plan Update, the Utilities proposed to extend the residential program's temporary incentive levels approved in DEEP's May 18, 2020 Determination, as well as the Commercial and Industrial (C&I) temporary incentive levels approved in DEEP's May 22, 2020 Determination.<sup>4</sup> For residential programs, the Utilities proposed to extend the increased incentive levels for insulation through March 31, 2021, and the incentives for heat pumps and windows through December 31, 2021. Furthermore, they proposed to continue the waiver of the HES co-payment through March 31, 2021, and an increase of the co-payment to \$50 on April 1, 2021. Likewise, the Utilities also proposed to extend the temporary increased incentive levels in the C&I programs through June 30, 2021.<sup>5</sup>

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<sup>2</sup> See Utilities' Proposed PMI Adjustment, October 2020, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb852586070056f9c5?OpenDocument>.

<sup>3</sup> See DEEP's November 2020 Determination Re: Budget, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/213a10a7a78c168f8525862200724f65?OpenDocument>.

<sup>4</sup> See 2021 Plan Update to the 2019-2021 Conservation and Load Management Plan, *available at* <https://portal.ct.gov/-/media/DEEP/energy/ConserLoadMgmt/FINAL-2021-Plan-Update-Filed-10302020.pdf>.

<sup>5</sup> See Appendix A for a summary of temporary incentive levels being offered in the residential and C&I energy efficiency programs. The incentive levels were also summarized by the Utilities in their presentation at DEEP's

According to the Utilities, these extensions would be achievable with a carry-over of 5% of the 2020 budget.<sup>6</sup>

On November 16, 2020, DEEP approved the extension of the temporary incentive levels as described in the Utilities' 2021 Plan Update.<sup>7</sup> These temporary incentives were approved with the condition that the Utilities submit a plan to DEEP by December 15, 2020, detailing the ways in which they planned to leverage the temporary incentives to reach customers struggling to pay their utility bills, as evidenced by their participation in payment plans or account arrearages.<sup>8</sup> Upon their expiration, the temporary incentives will be replaced by the incentives that were approved by DEEP in its February 2020 Determination approving the 2020 Plan.<sup>9</sup> DEEP reminded all parties that those incentives also represented an increase over the pre-existing incentives, and therefore should provide significant opportunity for expanded adoption of measures such as insulation and heat pumps.<sup>10</sup>

After approving the extension of the temporary incentives, on November 17, 2020, DEEP hosted a Technical Meeting regarding the other components of the 2021 Plan Update.<sup>11</sup> The Utilities provided an overview of the proposed 2021 Plan Update, including demand response programs, heat pumps, the Home Energy Solutions program (HES), workforce development, municipal engagement, and C&I programs. DEEP provided an opportunity during the meeting for public comment and questions. On November 24, 2020, DEEP issued a Notice of Request for Written Comments and Request for Supplemental Information.<sup>12</sup> The Utilities were required to provide supplemental information on demand response, heat pumps, the HES program, the proposed Municipal & Community Partnership and potential Communities Request for Proposals (RFP), workforce development and the status of the Home Energy Score working

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technical meeting on October 21, 2020. *See* Utilities' Presentation, October 21, 2020 Technical Meeting, *available at*

[http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb8525860a006d8505/\\$FILE/2020%20Budget%20Update%20-%20Technical%20Meeting%20-%20October%2021%20with%20Additional%20Information.pdf](http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb8525860a006d8505/$FILE/2020%20Budget%20Update%20-%20Technical%20Meeting%20-%20October%2021%20with%20Additional%20Information.pdf).

<sup>6</sup> On October 14, 2020, the EEB approved the Utilities' proposal to extend the temporary incentive levels in the residential and C&I programs, as well as a carry-over of 5% of the 2020 C&LM budget to the 2021-2022 plan year. *See* EEB Meeting Minutes, October 14, 2020, *available at*

[https://www.energizect.com/sites/default/files/EEB%20Meeting%20October%2014%202020%20Minutes%20FINAL\\_0.pdf](https://www.energizect.com/sites/default/files/EEB%20Meeting%20October%2014%202020%20Minutes%20FINAL_0.pdf).

<sup>7</sup> *See* DEEP's November 16, 2020 Determination.

<sup>8</sup> *Id.* *See also* Utilities' Filing Re: Extension of Incentives, December 15, 2020, *available at*

<http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb8525863f00717770?OpenDocument>.

<sup>9</sup> *See* DEEP's February 2020 Determination, *available at*

<http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/16d2e80a4a780ab78525850b0057ec6a?OpenDocument>.

<sup>10</sup> *See id.*

<sup>11</sup> *See* Notice of Technical Meeting, November 12, 2020, *available at*

<http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/0b547a0aae17541c8525861e0059cd03?OpenDocument>.

<sup>12</sup> *See* Notice of Request for Written Comments, November 29, 2020, *available at*

<http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/3f3562dfcb859e9e8525862f005c43d8?OpenDocument>.

group.<sup>13</sup> On December 2, 2020 the Utilities filed their responses to the November 24, 2020 Notice.<sup>14</sup>

On January 29, 2021 DEEP issued its tentative approval with conditions and provided an opportunity for public comment through February 16, 2021.<sup>15</sup> DEEP received several written comments, including a joint utility letter<sup>16</sup>, a joint letter from Connecticut Legal Services, Inc. (CLS) and the Center for Children's Advocacy (CCA)<sup>17</sup>, comments from Sealed<sup>18</sup> and comments from the current evaluation administrator.<sup>19</sup> Based upon input from the Utilities and the Evaluation Administrator, Compliance Condition No. 10 was modified as explained below. Sealed's comments were supportive of Compliance Condition No. 3. The joint CLS and CCA letter asked for more immediate changes than outlined in Condition No.6. These same comments are being addressed in DEEP's Equitable Energy Efficiency (E3) proceeding, so DEEP will not make any changes to this Condition at this time. DEEP added Compliance Condition No. 18 to prioritize the targeting of the HES and HES IE programs to those with the largest arrearages and the most frequent shut-offs and to require reporting on this topic.

## **II. Approval and Compliance Conditions**

### **A. General Approvals**

Contingent on the conditions discussed below, DEEP hereby approves the 2021 Plan Update to the 2019-2021 C&LM Plan, dated November 1, 2020, including all appendices, as well as the associated Connecticut 2021 Program Savings Document, 16th Edition dated November 1, 2020. As a threshold matter, DEEP approves the following changes and updates to the programs as discussed in the 2021 Plan Update:

#### **Environmental Justice (Section 2.2).**

The Utilities plan to improve programmatic focus on environmental justice and ensuring that overburdened and underserved communities have equitable access to Connecticut's energy efficiency and demand management programs. As further set forth below, 2021

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<sup>13</sup> See Utilities' Supplemental Information Submitted, December 3, 2020, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb8525863300712131?OpenDocument>.

<sup>14</sup> *Id.*

<sup>15</sup> See DEEP's Draft Determination, January 29, 2021, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/fecdc0af4d6d06768525866c0076a93e?OpenDocument>.

<sup>16</sup> See Eversource-Avangrid's Comments, February 16, 2021, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb8525867e00738606?OpenDocument>.

<sup>17</sup> See CLS and CCA Comments, February 16, 2021, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/62624be3ff7c06bf8525867e00441559?OpenDocument>.

<sup>18</sup> See Sealed Comments, February 16, 2021, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/57679dcf6c8d0854852586800059475c?OpenDocument>.

<sup>19</sup> See SERA Comments, February 25, 2021, *available at* <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/9ff5034b80ccc51585258687004ec3b8?OpenDocument>.

Compliance Condition No. 1 requires the addition of secondary metrics reflecting equity by March 4, 2021.

**Building Code & Appliance Standard Savings Attribution (Section 2.3).**

DEEP approves the Utilities' proposal to develop a strategy to measure and attribute savings realized by the Utilities from improving compliance with building codes and the adoption of more stringent codes. DEEP notes that any resulting plan related to this proposal will require EEB review and DEEP approval.

**Home Energy Solutions, Potential Bundles (Section 2.4.1).**

DEEP approves the additional HVAC bundling approach outlined for HES that includes bundling HVAC equipment with Wi-Fi thermostats, duct sealing and Active Demand Reduction program recruitment. DEEP also approves the Utilities' proposal to work with the EEB to establish a Weatherization Barrier Working Group to review potential funding opportunities. Compliance Condition No. 2 requires the Utilities to provide information on the HES vendor scorecard for review and comment. Compliance Condition No. 3 requires the Utilities to propose a pilot where ex-post energy savings drive program and financial performance. Compliance Condition No. 4 addresses furthering the adoption of the Home Energy Score.

**HES Income Eligible Program, Increased Non-Energy Impacts (Section 2.4.2).**

In 2021, non-energy impacts (NEIs) are included in the screening of Home Energy Solutions Income Eligible program (HES-IE) projects, as ordered by 2020 Compliance Condition No.2. This results in the ability to pay for a greater percentage of add-on measure costs in the HES-IE program. Compliance Condition No. 6 requires further work on enabling renter participation.

**Heat Pumps (Section 2.4.3)**

The Utilities plan to increase promotion of heat pumps throughout the 2021 program year. In 2020, in response to 2020 Compliance Condition Nos. 7 and 17, the Utilities increased their single-family HES rebate for customers who convert from electric resistance heat to a qualifying heat pump. Furthermore, the Utilities developed a plan and began offering increased incentives to multifamily building property owners who are converting from electric resistance to heat pumps. 2021 Compliance Condition Nos. 8 and 9 require the Utilities to report on participation in these programs and, if necessary, develop proposals to increase participation.

**Retail Lighting and Products (Section 2.4.4)**

DEEP approves the inclusion of additional products in the ENERGY STAR Retail Products Platform once a utility analysis is performed that supports inclusion pursuant to approved cost benefit testing. DEEP also approves the proposed changes to the LED lighting incentives.

**Multifamily Initiative (Section 2.4.5)**

DEEP has been informed that the U.S. Department of Energy Enabling Envelope Technologies for Energy Efficiency (EETEE) grant proposal has not been funded. DEEP encourages the Utilities to continue to identify opportunities to apply for federal grants and to include Connecticut-based partners where applicable.

### **Passive House Training (Residential New Construction) (Section 2.4.6).**

DEEP approves the training being proposed for the residential new construction community, which will include lunch-and-learns, building science workshops and passive house accreditations.

### **C&I New Construction (Section 2.5.1)**

DEEP approves the 2021 redesign of the Energy Conscious Blueprint program to a transformative four-pathway offering to drive the new construction marketplace toward zero-energy buildings with low energy-use intensity (EUI) ratings.

### **Virtual Commissioning Pilot (UI only) (Section 2.5.2)**

DEEP approves UI's plan to launch a virtual commissioning pilot for small and medium-sized businesses. This pilot will utilize Advanced Metering Infrastructure ("AMI") technologies to help customers save energy despite any on-site restrictions to energy efficiency program implementation. Virtual commissioning will help small and medium-sized business make operations and maintenance (O&M) improvements to their equipment and procedures.

### **Small Business Advantage and Business Energy Advantage (Section 2.5.3)**

DEEP approves the continuation of virtual pre-assessments (VPAs) through the Small Business Energy Advantage (SBEA) and Business Energy Advantage (BEA) programs. The VPA helps identify "easy" energy-saving opportunities that can be made once a vendor can physically go on-site and perform the upgrades. DEEP also approves the launch of the Microbusiness Energy Advantage pilot to better address the efficiency needs of Connecticut's smallest businesses.

### **Small Manufacturer Initiative (Section 2.5.4)**

DEEP approves the small manufacturer initiative that focuses on marketing all of the industrial energy efficiency program offerings together in a coherent package and makes it easy for small manufacturers to navigate and capitalize on a wide variety of C&I incentives including Energy Utilization Assessments (EUAs) and the Process Reengineering for Increased Manufacturing Efficiency (PRIME) initiative.

### **New Market Segment-Agriculture (Section 2.5.5)**

DEEP approves the addition of Agriculture as a new target customer segment to help better understand the needs of this segment.

### **HVAC Modernization Pilot (Section 2.5.6)**

DEEP approves the continuation of the HVAC Modernization Pilot and looks forward to the review of the planned 2021 recommendations in consideration of making this a permanent program.

### **C&I Heat Pump Pilot (Section 2.5.7)**

DEEP approves the introduction of a C&I heat pump pilot in 2021.

### **Upstream Incentives (Section 2.5.8)**

DEEP approves moving the commercial refrigeration incentives upstream to help increase adoption of these measures.

### **Delivered Fuel Savings (Section 2.5.9)**

DEEP recognizes the increased focus on delivered fuel savings for the C&I energy efficiency portfolio in response to DEEP's 2020 Compliance Condition No.24. DEEP is allowing the Utilities to calculate energy savings using a base building or baseline that reflects a fuel type that would have been chosen, absent incentives, regardless if it is a different fuel type than that chosen after incentives. DEEP invites comments from the evaluation administrator to ensure that the baseline is appropriate.

### **Active Demand Reduction Strategies (Section 2.6)**

DEEP approves the additions and updates to the Active Demand Response Programs for both the residential and C&I markets. The 2021 Compliance Condition No. 11 requires additional reporting requirements. In addition, 2021 Compliance Condition No. 11 directs the Utilities to develop reporting that compares the cost-effectiveness of the various segments of Active Demand Response and to recommend any potential changes going forward.

### **Educate the Workforce and the Public (Section 2.7)**

DEEP approves the planned workforce development strategy and planned trainings to help promote clean energy workforce development. DEEP also approves the work being done to provide for a mobile education exhibit for communities and K-12 schools and the focus on community engagement. DEEP, in Compliance Condition No. 12, will be providing further feedback on community engagement to ensure the engagement is aligned with C&LM Plan goals.

### **Customer Engagement Initiative (Section 2.8)**

DEEP recognizes the steps that the Utilities have taken to engage their diverse customers, including the development of outreach materials in Spanish and working on adding other languages. DEEP requires the Utilities to further refine and target customers who are not typically engaged through mainstream communications channels, to add Polish as an additional language, and to propose other languages that should be added. DEEP approves the Eversource Customer Engagement plan.

### **Appendix A (2021 Statewide Marketing Plan)**

DEEP approves the 2021 Statewide Marketing Plan.

### **Appendix D (Budgets and Savings Summary)**

DEEP approves the Budget and Savings Tables of the 2021 Plan Update. DEEP recognizes these will be updated due to the over-recovery of funds in the 2020 budget and the application of the November 16, 2020 DEEP Determination impacting the percentage of unspent 2020 funds carried over into 2021. Any carryover funds shall be added to the programs and, if applicable, used for incentives (Table Cs) and all savings forecasts shall be pro-rated by the incentive amount. The new tables shall be filed with DEEP by March 1. DEEP approves the 1.5 million annual MMBTU estimated savings due to temporary changes made to mitigate the impacts of COVID-19. DEEP expects the three-year plan for this goal will exceed the goal of 1.6 million MMBTU.

### **2020 PMI Adjustment Request**

DEEP Approves the 2020 PMI Adjustment Pro-Ration Modified Approach due to COVID-19 for the 2020 Plan Update. This approval is for the changes to the PMI structure for 2020,

it does not include approval of the actual results. DEEP will review and approve by March 30, 2021 the 2020 PMI results filed on March 1, 2021.

## **B. Compliance Conditions**

DEEP believes further refinement of the 2021 Plan Update is necessary to ensure the effective implementation of the Utilities' proposed modifications and new measures and to meet program goals. During the plan year, DEEP expects the Utilities to submit additional information to DEEP as requested in the following Compliance Conditions. Separate from the 2021 Plan Update, these Compliance Conditions also reflect remaining work that needs to be completed regarding the 2020 Compliance Conditions from the 2020 Plan Update, some of which were postponed due to COVID-19. They also address certain high-priority topics, including improving weatherization efforts and further integrating energy efficiency and demand response into efforts to decarbonize electricity. Finally, the Compliance Conditions recognize other dockets, proceedings and determinations that may require proposals to be reflected in C&LM programs.

1. The Utilities and the EEB have been working to develop secondary metrics to reflect the ongoing work to examine equity within the C&LM Plan. The Utilities shall finalize those 2021 Plan secondary metrics, and submit in the March 1, 2021 filing. DEEP will review, subject to approval, once filed. Additionally, the Utilities shall coordinate with the EEB and DEEP to ensure that recommended metrics received through their public processes including the Equitable Energy Efficiency (E3) Proceeding are considered.
2. The Utilities shall provide a proposed HES vendor scorecard for DEEP review and approval no later than April 1, 2021. Vendors and other stakeholders will have an opportunity to comment on the proposal. Any requested revisions from DEEP should be completed by July 1, 2021. The information provided to DEEP shall include a summary of any recent feedback related to performance improvement given to individual vendors.
3. DEEP is considering a stakeholder proceeding to explore best practices for implementing pay for performance. The Utilities are directed to propose a pilot where ex-post, calculated energy savings drive program and vendor/contractor performance. The pilot should allow third parties to participate by developing data sharing capabilities. These programs are sometimes referred to as pay for performance programs. Incentives may be given up-front, but the profit/revenue to the company installing the measures only comes if those measures perform as estimated. DEEP is particularly interested in pilots with companies that support the decarbonization of home heating fuels through the deployment of technologies such as heat pumps. The Utilities shall also consider how to leverage private finance or propose partnerships with companies that leverage private finance to deliver deep decarbonization while overcoming barriers to weatherization. Innovation and leveraging funds beyond the C&LM Plan are necessary to expand access to energy efficiency. A straw proposal shall be submitted to DEEP by April 1, 2021 with a target of receiving final approval from DEEP by July 1, 2021. This pilot is intended to supplement the existing HES, HES-IE and multifamily efficiency programs to help achieve the goal of weatherizing 80 percent of homes pursuant to C.G.S. Section 16-245m(d)(1).
4. The Utilities are directed to establish a working group on the Home Energy Score, as follows: (1) The Utilities shall submit a report to DEEP that identifies barriers to

increased participation and opting-in to a Home Energy Score in the Home Energy Solutions program, and recommend solutions that will help increase participation. This report should also include recommended metrics for measuring the success of the Home Energy Score program. (2) As a component of the report required by (1), the Utilities shall submit recommendations on how to streamline rescoring homes after completing add-on measures and interim measures for facilitating rescoring until such recommendations can be adopted by April 1, 2021. (3) The report shall also include a plan for updating the Android tool such that when a contractor submits data to the Home Energy Scoring tool, the Android must use the “initial” assessment type until the Score is successfully generated, i.e. the Android must validate that the score is successfully generated. Once successful, any subsequent Scores for a given address must use the “corrected” assessment type. (4) Metrics related to re-scoring shall be incorporated into the required report. In addition, all qualifying customers must be offered the score, and customers must decline in writing. The Utilities shall also submit to DEEP the language given to customers regarding the privacy terms and conditions of the Home Energy Score by March 4, 2021.

5. The Utilities, in consultation with the EEB, shall develop a proposal for savings attribution for building benchmarking that would align with the concepts in S.B. 177, *An Act Concerning Energy Consumption Data and Labeling* from the 2020 session regarding building benchmarking. The proposal shall include a program to voluntarily encourage large building owners to benchmark their buildings and address associated data access and aggregation issues. This proposal shall be developed for inclusion in the next three-year plan.
6. The Utilities shall develop a proposal regarding data collection on rental units within HES and HES-IE that do not proceed beyond the initial visit due to lack of landlord approval by April 1, 2021. Consistent with comments received through the E3 Proceeding, the Utilities are directed to offer a series of roundtables with landlords on overcoming obstacles to weatherization, including HES and HES-IE notice and approval requirements. A variety of landlords will be asked to participate, such as landlord with various sized buildings, from different towns, environmental justice communities and Section 8 landlords. Roundtables will begin with those who are willing and interested. Based on this gathered information, the Utilities shall then develop a proposal by June 30, 2021 for options to increase penetration into this market. This should include changes that can be implemented in 2021 as well as longer term options to be included in the next three-year plan.
7. In furtherance of Compliance Condition No. 23 of the 2020 Plan Update, the utilities shall coordinate with the Department of Housing to perform outreach for building envelope and heat pump programs to homeowners with a signed participation agreement from a captive insurance company established by the State of Connecticut to provide financial assistance for crumbling foundations. The Utilities shall provide a report to DEEP no later than April 1, 2021.
8. The Utilities shall develop a proposal by April 1, 2021 to increase participation levels in the heat pump pilot program. The proposal shall include the barriers to date, and the changes made to address those barriers.

9. In the 2020 Plan Update, Compliance 2020 Condition No. 22 required a plan for converting electric resistance heat pump customers. This condition instructs the Utilities to continue this plan and provide quarterly reporting beginning with Quarter 1, 2021, to assess success and determine whether additional steps may be required. The Utilities shall consider partnering with other organizations that have demonstrated success in this area and report to the EEB about such considerations by July 1, 2021 or within such time to allow for inclusion in the 2022-2024 three-year plan.
10. There have been significant delays in conducting evaluation studies due to contracting and data availability. DEEP recognizes that the Utilities have made improvements in these areas over 2020. However, data delays have increased costs, such as in study C1901 where delays have led to increasing the budget for the study by \$20,000, an outcome which DEEP will not tolerate. The evaluation administrator shall submit a report to the EEB Evaluation Committee and DEEP once per quarter on any delays. DEEP directs the Utilities to add a secondary metric with a weight of 1% to the 2021 Electric and Gas PMI. The change will come from a decreased spread across Residential and Commercial savings and net system benefits (Primary metric). This metric will be earned by compliance with timeline requirements for data requests and contracting requests. This metric will also be subject to the sliding scale requirement where performance less than 75% will result in a zero incentive. The Utilities shall have 30 days to fulfill impact evaluation, process evaluation and program tracking data requests. If multiple requests are made at the same time, the Utilities are given an additional week to comply, or as mutually agreed upon between the evaluation administrator and the utility. The Utilities, upon demonstration of progress or good cause, may request up to an additional 14 days to fulfill the request. The timeline for data requests outside the evaluation types previously mentioned, including those for multi-family and commercial programs, shall be mutually agreed upon by the evaluation administrator and the Utilities, and shall not take longer than 60 days to fulfill. Data requests shall be considered fulfilled if they are to the satisfaction of the evaluation administrator or DEEP. The Utilities have 90 days to execute a contract once the required documentation has been submitted. The Utilities must notify the evaluation administrator within 10 business days if the documentation is not complete. The evaluation administrator, in consultation with DEEP, may revise a deadline. . Timely performed evaluation studies are key to the continuous improvement of the C&LM programs and delayed studies have a financial cost.
11. The Utilities are directed to continue the planned increase in demand response as described in the Utilities' response dated December 2, 2020 to DEEP's Request for Supplemental Information dated November 24, 2020.<sup>20</sup> These plans should focus on pay for performance programs where they demonstrate the greatest benefit. Pay for performance generally refers to customers receiving a greater incentive or participation payment for achieving more demand or energy savings. DEEP recognizes there may be valid reasons for structuring a program in other ways. In particular, the Utilities implementing residential active demand response programs that have a flat participation incentive structure shall report to DEEP by April 1, 2021 the research that supports the program design.

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<sup>20</sup> See Utilities' Supplemental Information, available at

<http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb8525863300712131?OpenDocument>.

12. DEEP recognizes the efforts of the Utilities to engage municipalities in C&LM outreach to local communities through a release of a request for proposals (RFP). DEEP is planning to take additional steps to obtain public input on the Utilities' proposed municipal engagement plan and RFP, and directs the Utilities to hold the RFP until instructed for release by DEEP.
13. The Utilities shall propose updates to DEEP for review and approval, as needed, to align the C&LM Plan's programs with the Distribution System Planning and Grid Modernization actions described in Public Utilities Regulatory Authority (PURA) dockets on those topics.<sup>21</sup>
14. DEEP directs the Utilities to examine the soft costs of installing air source and ground source heat pumps. The Utilities may work in consultation with the evaluation administrator to examine best practices to lower customer acquisition costs and installation costs beyond the hardware/technology costs. The Utilities shall report initial findings by July 1, 2021 and propose any steps to be taken within such time to allow for inclusion in the 2022-2024 three-year plan.
15. The Utilities shall present to the EEB by April 1, 2021, examples of residential energy efficiency concierge services that provide residential customers information about adoption of follow-on measures such as insulation, heat pumps, appliances, rooftop solar, or any opportunities to participate shared clean energy facilities.
16. Studies have shown that gas cooking appliances negatively impact indoor air quality and lead to higher asthma rates for children. Additionally, the vast majority of customers have had little experience with induction cooktops which perform much better than traditional electric cooktops. Increasing customer familiarity with induction cooktops is likely to increase adoption of these cooktops, and the overall willingness to purchase all electric homes. As such, DEEP directs the Utilities, in consultation with the EEB, to investigate this topic and be prepared to include in the 2022-2024 Plan a pilot program to provide incentives for induction cooktops that replace existing electric or gas cooktops and if appropriate, a plan or program to increase customer awareness of induction cooktops.
17. The Utilities shall present to the EEB on the Consortium for Energy Efficiency's (CEE) Super Efficient Home Appliances initiative as part of the development of the next three-year plan. More generally, the Utilities are encouraged to report on other CEE initiatives that may be considered in the next three-year plan.
18. The Utilities are instructed to prioritize the targeting of the HES and HES IE programs to those with the largest arrearages and the most frequent shut-offs. The Utilities shall provide a report to DEEP detailing their planned marketing to this target population by April 1, 2021. The Utilities shall also develop and file a report to DEEP describing the

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<sup>21</sup> See Grid Modernization Dockets, PURA Docket Nos. 17-12-03RE01 to 17-12-03RE11. See also PURA Letter, December 17, 2018, *available at* [http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/d6593366b4a198128525836700453d4a/\\$FILE/PURA%20comments%20on%20DEEP%20approval%20of%202019-2021%20Conservation%20and%20Load%20Management%20Plan%20-%20Final.pdf](http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/d6593366b4a198128525836700453d4a/$FILE/PURA%20comments%20on%20DEEP%20approval%20of%202019-2021%20Conservation%20and%20Load%20Management%20Plan%20-%20Final.pdf).

results of its marketing efforts to these communities by May 1, 2021 and continue reporting on a quarterly basis.

### **III. Conclusion**

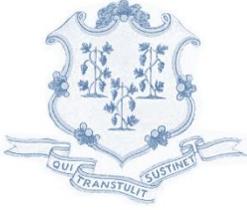
In summary, DEEP approves the C&LM budget and the revised PMI structure and tentatively approves the remainder of the 2021 Plan Update with conditions as discussed above. DEEP appreciates the active engagement of the stakeholder community regarding each of these issues. DEEP will continue to work with stakeholders on the delivery of the C&LM Plan through the Contractor Technical Advisory Committee (CTAC) process, through engagement with the EEB, and in other future public processes hosted by DEEP, including through the Equitable Energy Efficiency Proceeding. Finally, DEEP appreciates the work of the Utilities and the EEB to collect public input, to collaborate with the Connecticut Green Bank, and the significant additional work completed in coordination with DEEP, the vendor community, and stakeholders to support the C&LM programs and workforce throughout the COVID-19 pandemic.

If you have any questions, please contact Donna Wells, Associate Research Analyst, DEEP Office of Building and Transportation Decarbonization, at 860-827-2818 or Donna.Wells@ct.gov.

DEPARTMENT OF ENERGY  
AND ENVIRONMENTAL PROTECTION

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# STATE OF CONNECTICUT

## PUBLIC UTILITIES REGULATORY AUTHORITY

**\*\*PRESS RELEASE\*\***

### **PURA Establishes New Residential Renewable Energy Program**

*Implementation Set for January 2022*

**(New Britain, CT – February 10, 2021)** – Connecticut’s Public Utilities Regulatory Authority (PURA) announced today it has established a successor residential renewable energy program that will change how solar owners are compensated for the power their systems produce and provide to the local electric grid. The new program will replace current net metering, as well as the residential solar incentive program ([RSIP](#)), starting January 1, 2022.

Today’s ruling in [Docket Number 20-07-01](#) is an important step in achieving [the state’s goal of combating the effects of climate change](#) through a zero-carbon electric grid by 2040. Ultimately, the plan ensures the continued sustained and orderly development of the state’s solar industry, which historically deploys approximately 50 to 60 megawatts of residential solar per year, while putting in place important ratepayer and consumer protections that ensure ratepayers reap the benefits of renewable energy resources.

Another crucial tenant of the plan is increased inclusivity and access for low-to-moderate income customers and for those living in environmental justice communities through targeted incentives, key benchmarking metrics, and innovative direct payment options.

“It is crucial for the state to prioritize equitable renewable energy initiatives designed to modernize the state’s electric grid, to promote our state’s growing green economy, and to enhance the availability of distributed energy solutions to all ratepayers,” stated PURA Chairman Marissa P. Gillett. “This new plan will transform how residential solar owners are compensated while also extending greater flexibility to accommodate future electricity needs, including electric vehicle chargers and electric heating systems.”

Among other orders, PURA’s decision instructs the EDCs to focus on customer education and protection, while also setting the stage to leverage the expertise garnered by the Connecticut Green Bank through its impactful role in administering previous renewable energy programs.

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**About the Public Utilities Regulatory Authority:**

The Public Utilities Regulatory Authority (PURA) is statutorily-charged with regulating the rates and services of Connecticut's investor owned electricity, natural gas, water and telecommunication companies and is the franchising authority for the state's cable television companies. In the industries that are still wholly regulated, PURA balances the public's right to safe, adequate and reliable utility service at reasonable rates with the provider's right to a reasonable return on its investment. PURA also keeps watch over competitive utility services to promote equity among the competitors while customers reap the price and quality benefits of competition and are protected from unfair business practices. Visit PURA's website at <https://portal.ct.gov/pura>.

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**STATE OF CONNECTICUT**  
**PUBLIC UTILITIES REGULATORY AUTHORITY**

**PURA Establishes New Residential Renewable Energy Program**

(Docket No. 20-07-01)

*Frequently Asked Questions:*

- **How much renewable energy will be deployed through the new program?**

A: PURA purposefully designed the program, based on stakeholder input, to ensure deployment of around 50 to 60 Megawatts per year, in line with current deployment trends and with the projected amount needed to achieve a 100% zero carbon grid by 2040. The new program will be offered for six years, from 2022 to 2027; so, an additional 300 to 360 MW of distributed renewable energy resources will be deployed over that period, at a minimum.

- **What happens to residential rooftop solar installations that are currently net metered or enter the queue before January 1, 2022?**

A: All rooftop solar installations that are currently operational and net metered or any rooftop solar installations that apply for interconnection with their electric distribution company (Eversource or UI) before January 1, 2022 will be grandfathered under the current net metering program.

- **I've heard a lot about "tariffs", what does that mean? What tariffs did PURA adopt for the program approved today?**

A: In this context, a tariff is simply a mechanism to define how a renewable energy system will be compensated for its production under the new program; a tariff will also include all of the terms and conditions of service.

The statute that guided PURA's decision today authorized two types of tariffs: one tariff that provides a fixed rate for all renewable energy production, also referred to as a "buy-all" tariff; and one tariff that is similar to the current net metering model, which "nets" renewable energy production with your consumption from the electric grid, also referred to as a netting tariff.

One of the terms included in both the "buy-all" and netting tariffs is that the tariff length for each individual renewable energy project is 20 years.

- **How much will I be paid for my renewable energy production under this new program?**

A: In today's decision, PURA tasked stakeholders with developing a specific model for calculating rates under this program based on the guidance and objectives outlined in the decision. Both the model and the rates are subject to PURA's approval later this year, with the final rates applicable for 2022 scheduled for approval in November 2021.

While the final rates under this program are not yet available, today's decision provides ample information to understand the likely range of final rates. For example, the decision notes that the "buy-all" tariff rate will likely be set around \$0.29/kWh for 2022. Similarly, the decision notes that the netting tariff will likely be in the range of financial equivalency to current net metering.

- **Will the tariff rates approved in November 2021 be offered for the entire six-year program?**

A: No. PURA established an annual review process to evaluate whether the program is achieving its objectives (e.g., deploying 50 to 60 MW per year), which may result in adjustments to the rate for the following year. However, all renewable energy systems approved under the program will receive the tariff rate in effect at the time their application was received. For example, if the “buy-all” tariff rate is set at \$0.29/kWh for 2022 but subsequently reduced to \$0.28/kWh for 2023, then any applications for the “buy-all” tariff received by the electric utilities before January 1, 2023 will be eligible for the \$0.29/kWh rate.

- **What does this decision do to enhance customer protections?**

A: Customer protections are inherent throughout due to the simplified program and tariff designs. Through this decision, the electric utilities are also ordered to develop user-friendly online disclosure forms as well as customer education and information resources.

Moreover, the program has been designed with accessibility in mind, with deliberate design elements to encourage increased inclusivity overall and specifically with respect to program participation by low-to-moderate income customers and customers in environmental justice communities.

- **When and where will I find out more about the program?**

A: Final program details are being developed by PURA, the electric utilities, and interested stakeholders throughout the 2021 calendar year. Once all of the program details have been developed and approved by PURA, all program details will be available through the electric utilities’ websites. If you are an interested in potentially signing up for this program, check back on your utility’s website in December 2021.

- **How will the Connecticut Green Bank's role change now that the electric utilities will administer the residential renewable energy program?**

A: The Green Bank will be a key partner, along with the electric utilities, in developing the final program details over the course of 2021. Beyond 2021, PURA plans to leverage the Green Bank's extensive expertise as a consultant and strategic advisor.

- **I've heard that increased electric load, such as purchasing an electric vehicle, may impact the design of a renewable energy system for my house. What if I want to buy an electric vehicle but don't know when I'm going to get one?**

A: Under the new program, the tariffs will allow customers to build renewable energy systems large enough to accommodate up to two electric vehicle chargers and, for non-electric heating customers, a reasonable approximation of the new electric load associated with switching from fossil fuel heating to a heat pump.



## A shocker in the plan to finally update residential solar rates: No complaints

Energy | by Jan Ellen Spiegel | January 29, 2021 | View as "Clean Read"



**EARTHLIGHT TECHNOLOGIES**

## Solar panels on a home in Cheshire

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Connecticut is on the verge of changing one of the key financial underpinnings for residential solar electric systems, and, for the first time in more than a decade, it appears no one is complaining.

The change is in how solar owners are compensated for the excess power their systems produce at certain times. The rates for how that is calculated and structured will be altered, but in exchange, systems will be allowed more flexibility to accommodate future larger electricity needs.

Solar systems obviously don't make any power at night – but during the day, they often make a lot more power than the house they're sitting on needs. For the most part, that power is sold back to the grid.

How a homeowner is paid for the power it sends to the grid has been a flashpoint for years. The battle has been between the utilities and just about everyone else.

On Jan. 20, the Public Utilities Regulatory Authority released a draft plan for a new way to handle that compensation. It is open for comment until Feb. 2. Unlike previous ideas floated over the last several years, it has elicited initial reactions that are a head-snapping 180 degrees from what all parties have come to expect.

“We thought this was going to be a disaster,” said Brad Mondschein, an attorney and deputy director for regulatory affairs at the industry group Solar Connecticut. “It’s a good thing.”

Bryan Garcia, president of the Connecticut Green Bank, which created and runs the current residential solar program called it: “Totally innovative.”

Amy McLean, Connecticut director of the advocacy group Acadia Center said she was “pleasantly surprised. It will be a better part of the solution going forward.”

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“This looks like a solid structure,” said Charles Rothenberger, climate and energy attorney at Save the Sound.

And from the two utilities: “I think it’s pretty balanced and frankly good to see,” said Ed Davis, Eversource’s director of rates. From Patrick McDonnell, vice president of Connecticut regulatory affairs for Avangrid: “It’s a good thing. It shows a maturation of the industry.”

## The problem

The longstanding gold standard for excess power compensation all over the country has been something known as “net metering.” It amounts to simple subtraction. Customers pay for the amount of power they use from the grid, minus the amount the grid takes from customers’ solar generation. In Connecticut, they are both valued at the same price – the retail rate of electricity.

Utilities nationwide have long complained that retail rate net metering is too expensive. And they’ve pushed the widely disputed argument of “cost shift.” That argument contends that a utility’s grid maintenance and power delivery costs don’t really change when residents have solar on their roofs. But since fees based on grid energy use go down for solar customers, utilities claim they have to make it up elsewhere, and they often say lower-income customers wind up paying the difference. Hence, “cost shift.”

Study after study has shown that not to be the case, especially at the low levels of solar adoption that exist in Connecticut. Such studies have shown that maintenance and other societal costs go down when rooftop solar is on the grid – helping everyone, not just solar owners.

The state has also contended that the retail rate exchange embedded in the current system costs ratepayers too much and that the price utilities buy excess solar power for should be lower.

The solar industry has complained that if a utility starts buying customers’ solar power at a lower price, it will lengthen how long it takes for buyers to recover the cost of their systems. That, in turn, will lower interest in solar, which will cost local jobs and tax revenue.

Industry leaders often point to the earliest years of the state’s residential solar program, when it was run by the Connecticut Clean Energy Fund. Incentive funding was given away annually until it ran out – which it always did – leaving solar companies in boom-bust cycles with jobs and whole companies gained and lost.

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In 2011, the Green Bank, the successor to the Clean Energy Fund, developed a residential solar incentive program model (RSIP) that kept incentive money flowing, though diminishing over time, in support of its mission to catalyze the sustained, orderly development of a solar industry in Connecticut.

It has done that.

RSIP blew through its various goals far faster than anticipated. It was extended a few times. Since 2011, it has supported nearly 40,300 projects totaling nearly 323 megawatts. More than 4,000 projects totaling another 35 megawatts are in the pipeline.

These include systems for low and moderate-income homes – a major focus for the Green Bank and one of the most robust such programs in the country.

But the pressure by the state and utilities to change retail-rate net metering has stayed relentless, with several years of standoffs in the legislature, disputed studies, blown deadlines and a solar industry that has managed to persevere despite all kinds of uncertainties.

The battle over net metering moved to PURA. The plan that has emerged seems to show it is being considered a component of the larger effort underway there to modernize grid systems, overhaul how utilities do business in the state and meet Gov. Ned Lamont's executive order to have a zero-carbon electric grid by 2040. That order is expected to be put in statute this session.

Pretty much everyone credits PURA Chair Marissa Gillett, approaching the two-year mark of her tenure, with coming up with what is being hailed as a creative and forward-thinking solution to a seemingly intractable problem.

PURA said it could not comment on the plan while it is still pending, even to verify its components, which are tough to unravel – including for those used to these sorts of things.

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## The solutions

Cited as one of the plan's most creative components is allowing solar purchasers to build systems larger than their current electric needs to accommodate up to two electric vehicle chargers and/or conversion of the home to electric heat. The existing program is supposed to limit system sizes to avoid owners using their solar power to essentially become generators and make money from them.

That does happen, however, and such customers receive reimbursements from the utility once a year under the current setup. That reimbursement provision will end according to the draft plan – which actually offers customers a choice of two plans.

One plan is to stick with retail-rate net metering. And those who already have it will be grandfathered for a period of time. The caveat for new customers who choose net metering is that if they get a system that is larger than they need, instead of collecting from the utility once a year, the excess – calculated on a monthly basis – will rollover indefinitely.

Owners will only be able to collect if they close their utility account – which basically means if they sell their homes. It keeps people from saying they're going to add EV chargers – but then not doing it to collect money.

The second option is what the industry calls a “tariff.” While it sounds like solar owners would have to pay an additional charge, a “tariff” in solar terms is exactly the opposite. It's a credit. This system is also often called “buy-all/sell-all.”

Here's how it works. Solar system owners sell all their power to the grid and buy back what they need at the retail rate, which will change a couple of times a year, the way it does now.

But the price at which solar system owners sell power to the grid would be at a rate set by PURA when the customer's system becomes operational. It will be locked in for 20 years. That sales rate is the tariff. It's what the utility pays the customer, and it will most likely be less than the retail rate.

PURA will actually adjust the sale rate once a year, but that's only for new customers. Those who qualify as a low-income customer or live in an at-risk area will be paid a little extra under PURA's plan.

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“It's a win for equity,” Garcia said. “From the Green Bank perspective – the plan results in things important to the future of the market.”

He noted that the larger grid modernization efforts underway now – many of which rely on the electrification of services such as EVs and are building towards adding battery storage to solar systems – will be easier to layer onto PURA's plan.

“Those are big structural decisions,” he said.

McLean at Acadia called that approach thoughtful. “They’re taking into consideration how does this work in conjunction with the rest of the goals we have in the state as well as with renewables and climate,” she said.

“It allows PURA to pull all the levers to make sure everything lines up,” Avangrid’s McDonnell said.

### **Other changes**

The utilities will take over running the residential solar program, and the Green Bank would be out of the solar business, other than providing loans if needed, according to the plan. And it would mean an end to any incentives from the Bank to help pay for solar systems. The federal tax credit for solar is still in place, though the Trump administration had started to scale back from its historic 30%. It is now 26%, but it’s unknown what the Biden administration may do.

The Green Bank would assist with the transition, and PURA is retaining some key elements the Green Bank put in place. One is the requirement for a Home Energy Solutions, or HES audit prior to approving the solar system.

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A HES audit looks at the energy efficiency profile of a home. That helps ensure the solar system is properly sized and efficient. It also helps maintain the energy efficiency companies and jobs that grew up around the audit system.

PURA also is requiring that there be no less than 50 megawatts of residential solar installed yearly – roughly what the Green Bank was doing.

“Cheers to Chair Gillett’s wisdom and understanding about what Connecticut needs to reimagine its energy stance, which I think had been missing in the past,” said Brendan Sharkey, former speaker of the Connecticut House of Representatives, who has worked in the energy sector and lobbies on behalf of one solar company.

The Department of Energy and Environmental Protection, which is where the push to reform net metering started several years ago, was still reviewing the draft, but overall was said to be pleased with its direction.

Commissioner Katie Dykes said in a statement that the draft plan’s levels of solar deployment and focus on low income populations would help meet administration goals.

“We look forward to working through the details of the draft decision and continuing to participate in the PURA process to identify any refinements DEEP might recommend,” the statement said, without indicating what those refinements might be.

The new solar model is slated to start Jan. 1, 2022. The first tariff rate won't be set until just before then so it can better reflect whatever other conditions may exist, such as higher or lower federal tax credits. But a calculation in a footnote that seems to provide an indication of what a rate might be if it were to be set now is generous enough to make stakeholders think it will not scare off homeowners.

While none of this requires legislative approval, an open question is whether to extend the existing RSIP program until the new one is operative. That would need legislative action.

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And unlike earlier proposals, it should be simpler for both homeowners and contractors, said Mike Trahan, executive director of Solar Connecticut. “The new program has to be explainable by the contractors,” he said. “Customers have to understand what they're getting. It has to be plain and simple.”

Davis at Eversource said the plan was very thorough. “I'm really excited to move forward with this.”



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