



# STATE OF CONNECTICUT

## PUBLIC UTILITIES REGULATORY AUTHORITY

DOCKET NO. 17-12-03RE03

PURA INVESTIGATION INTO DISTRIBUTION SYSTEM PLANNING OF THE  
ELECTRIC DISTRIBUTION COMPANIES – ELECTRIC STORAGE

### NOTICE OF ISSUANCE OF STRAW ELECTRIC STORAGE PROGRAM DESIGN AND REQUEST FOR COMMENTS

(January 26, 2021)

On May 6, 2020, the Public Utilities Regulatory Authority (Authority or PURA) issued a Request for Program Design (RFPD) proposals in the above-referenced docket in accordance with the Interim Decision dated October 2, 2019 in Docket No. 17-12-03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies (Interim Decision). The Authority identified the following objectives in the RFPD for electric storage programs in Connecticut based on Raised House Bill (H.B.) 5351,<sup>1</sup> *An Act Concerning Certain Programs and to Incentivize and Implement Electric Energy Storage Resources*, the Interim Decision, and the Authority's Notice of Proceeding in the above-referenced docket:

- Provide positive net present value to all ratepayers, or a subset of ratepayers paying for the benefits that accrue to that subset of ratepayers;
- Provide multiple types of benefits to the electric grid, including, but not limited to, customer, local, or community resilience, ancillary services, peak shaving, and avoiding or deferring distribution system upgrades or supporting the deployment of other distributed energy resources;<sup>2</sup> and
- Foster the sustained, orderly development of a state-based electric energy storage industry.

The RFPD requested proposals for residential and commercial and industrial electric storage program design, as well as proposals for any other electric storage programs that meet the above-stated goals, including program designs that reflect both behind-the-meter *and* front-of-the-meter configurations, or some combination thereof, as well as standalone, coupled, or co-located configurations.

On July 31, 2020, the Authority received eight responses to the RFPD. The Authority received a joint response from Sunrun Inc., Vivint Solar, Inc., and SunPower Corp., a joint response from the Northeast Clean Energy Council and the U.S. Energy Storage Association, and one response each from the Connecticut Light and Power

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<sup>1</sup> Raised House Bill (H.B.) 5351 – An Act Concerning Certain Programs and to Incentivize and Implement Electric Energy Storage Resources, Connecticut General Assembly, Energy and Technology Committee, February Session, 2020, [https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill&bill\\_num=HB5351&which\\_year=2020](https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill&bill_num=HB5351&which_year=2020), last visited March 19, 2020.

<sup>2</sup> Docket No. 17-12-03RE07 (RE07) will address Non-Wires Alternatives (NWA), which may invoke additional use cases and program designs that support the deployment of storage assets.

Company d/b/a Eversource Energy, ConnectDER, AmeriZone, DER Task Force, the United Illuminating Company, and the Connecticut Green Bank. The Authority appreciates the thoughtful proposals and comments of the respondents.

Based on its review of the RFPD responses, the record in the above-referenced docket, and publicly available information, the Authority hereby issues the Straw Electric Storage Program Design (Straw Proposal); see Attachment 1. The Straw Proposal includes: (1) an initial program design to facilitate further discussion; and (2) potential orders that may be included in the Decision of this docket.<sup>3</sup> All potential future orders are clearly identified.<sup>4</sup>

The Authority invites all docket Participants and other interested parties to provide written comments on the Straw Proposal by 4:00 p.m. on **January 26, 2021**. Specifically, the Authority invites stakeholders to provide recommended modifications to the Straw Proposal. Responding stakeholders are required to structure their comments to reflect the headings and the order of those headings in the Straw Proposal (i.e., II. Program Objectives, III.A. Program Summary, III.B. Program Length, III.C. Program Eligibility, etc.).

Further, the Authority announces the following subsequent procedural events outlined in Table 1 in the above-referenced docket following the issuance of this Notice and the Straw Proposal attached hereto.

**Table 1: Next Steps in Docket No. 17-12-03RE03**

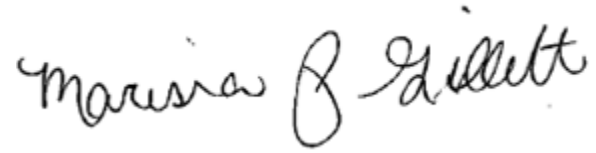
EVENT	TENTATIVE DATE / TIME	
Written Comments Due	Tuesday, January 26, 2021	4:00 p.m.
Technical Meeting on Stakeholder Proposals and Written Comments	Monday, February 1, 2021	10:00 a.m.
Rolling Interrogatory Period	February 2, 2021 – February 23, 2021	-
Hearing	Wednesday, February 24, 2021	11:00 a.m.
Briefs Due	Monday, March 8, 2021	4:00 p.m.
Target Issuance of Draft Decision	Monday, March 22, 2021	-

<sup>3</sup> The Decision in this docket will include a final version of Attachment 1.

<sup>4</sup> Section III.O. Other Program Design Elements contains several potential orders that are not identified individually.

Dated at New Britain, Connecticut, this 5<sup>th</sup> day of January, 2021.

PUBLIC UTILITIES REGULATORY AUTHORITY

A handwritten signature in black ink that reads "Marissa P. Gillett". The signature is written in a cursive style with a large, looped initial "M".

Marissa P. Gillett  
Chairman

Notice filed with the Secretary of the State on January 5, 2021.



## STATE OF CONNECTICUT PUBLIC UTILITIES REGULATORY AUTHORITY

### DOCKET NO. 17-12-03RE03

### PURA INVESTIGATION INTO DISTRIBUTION SYSTEM PLANNING OF THE ELECTRIC DISTRIBUTION COMPANIES – ELECTRIC STORAGE

### STRAW ELECTRIC STORAGE PROGRAM DESIGN

#### **I. BACKGROUND**

Pursuant to §§ 16-11 and 16-244i of the General Statutes of Connecticut (Conn. Gen. Stat.), and in accordance with the Interim Decision dated October 2, 2019 in Docket No. 17-12-03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies (Interim Decision), the Authority establishes the electric storage program (Program) defined herein, which shall be available to all customers and customer classes within the service territories of the Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) and the United Illuminating Company (UI; collectively, electric distribution companies). The electric distribution companies (EDCs) and the Connecticut Green Bank (CGB; collectively, Program Administrators) shall develop, for the Authority's review and approval, the appropriate program documents and additional program rules as directed in the final Decision in Docket No. 17-12-03RE03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies, and all associated documents necessary to effectively implement the final version of this program design (Program Design Documents). The Program Administrators shall not deviate from or modify in any way the final Program Design Documents without first receiving express written approval by the Authority.

#### **II. PROGRAM OBJECTIVES**

On May 6, 2020, the Authority issued a Request for Program Design (RFPD) proposals in Docket No. 17-12-03RE03. The RFPD identified the following objectives for an electric storage program in Connecticut:

- Provide positive net present value to all ratepayers, or a subset of ratepayers paying for the benefits that accrue to that subset of ratepayers;
- Provide multiple types of benefits to the electric grid, including, but not limited to, customer, local, or community resilience, ancillary services, peak shaving, and avoiding or deferring distribution system upgrades or supporting the deployment of other distributed energy resources; and
- Foster the sustained, orderly development of a state-based electric energy storage industry.

On July 31, 2020, the Authority received eight submissions in response to its RFPD. Shortly thereafter, Connecticut was hit by Tropical Storm Isaias, which left more than 800,000 electric utility customers without power, many for upwards of seven days. Customers who lost power included those in economically distressed and environmental justice communities, in nursing homes and other medical care facilities, with medical conditions that require electrical devices for at-home care, and countless facilities deemed “critical” by local, state, and utility officials.<sup>1</sup> The impact of Tropical Storm Isaias underscores the importance of a resilient electric grid and the importance of the resilience benefits that electric storage can provide. Accordingly, the Authority adds the following objective to the Program established herein:

- Prioritize delivering increased resilience to: (1) low-to-moderate income (LMI) customers, customers in environmental justice or economically distressed communities, customers coded medical hardship, and public housing authorities as defined in Conn. Gen. Stat. § 8-39(b); (2) customers on the grid-edge who consistently experience more and/or longer than average outages during major storms;<sup>2</sup> and (3) critical facilities as defined in Conn. Gen. Stat § 16-243y(a)(2).

Further, based on the RFPD responses, the Authority adopts the following, additional objectives:

- Lower the barriers to entry, financial or otherwise, for electric storage deployment in Connecticut; and
- Maximize the long-term environmental benefits of electric storage by reducing emissions associated with fossil-based peaking generation.

The six objectives outlined above (Program Objectives) shall guide the Program Administrators in their implementation of the Program established herein.

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<sup>1</sup> On August 8, 2020, the Authority opened Docket No. 20-08-03, Investigation into Electric Distribution Companies’ Preparation for and Response to Tropical Storm Isaias, to evaluate the EDCs’ performance in preparing for and responding to Tropical Storm Isaias. See, [http://www.dpuc.state.ct.us/dockcurr.nsf/\(Web+Main+View/All+Dockets\)?OpenView&StartKey=20-08-03](http://www.dpuc.state.ct.us/dockcurr.nsf/(Web+Main+View/All+Dockets)?OpenView&StartKey=20-08-03).

<sup>2</sup> Major storms are defined in the Decision in Docket No. 86-12-03, dated March 22, 1995, p. 2. The “major storm exclusion criterion [that] is based on a statistical analysis of the most recent four calendar years of reliability data. A cumulative frequency distribution of the number of locations requiring service restoration work per day would be calculated for this four year period. Whenever the frequency of restoration work locations exceeds the 98.5 percentile, by company and/or region, the major storm criterion would be met.”

### III. PROGRAM DESIGN

#### A. PROGRAM SUMMARY

The Authority developed the Program established herein based on the responses provided to the Authority's RFPD, the record in Docket No. 17-12-03RE03, and publicly available information. The key program elements combine the declining-block upfront incentive proposed by the Connecticut Green Bank (CGB) in its Solarize Storage Program proposal<sup>3</sup> and the performance-based incentive structure of Eversource's Connected Solutions Program to develop a nine-year Program available to all customers of the State's EDCs with an end goal of deploying 580 MW of electric storage by 2030.

The Program outlined below will be administered jointly by the CGB and the EDCs. The CGB shall administer the upfront incentive portion and shall be responsible for the communication and promotion of the Program. The EDCs shall administer the performance incentive portion of the Program. The CGB and the EDCs shall jointly be responsible for Evaluation, Measurement, and Verification (EM&V). All other program administration duties shall be assigned as detailed herein. Where program administration duties have not yet been assigned or require clarification, the CGB and the EDCs shall submit a written proposal regarding the assignment of such duties for the Authority's review and approval.

#### B. PROGRAM LENGTH AND SIZE

The record in Docket No. 17-12-03RE03, as well as the testimony provided regarding Raised H.B. 5351, indicate a desire from renewable energy developers, energy and environmental advocates, and the General Assembly to develop a long-term plan for electric storage in Connecticut. See, Tr. dated November 11, 2019, pp. 117-118, 126-134. Specifically, multiple RFPD responses and Raised H.B. 5351 establish both the need and impetus for an aspirational statewide storage target of 1,000 MW by the end of 2030.<sup>4</sup>

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<sup>3</sup> RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf).

<sup>4</sup> See, RFPD response, Sunrun Inc., Vivint Solar, Inc., and SunPower Corp., dated July 31, 2020, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/e09b721d5f9f7d4e852585b6005ada67/\\$FILE/17-12-03RE03%20Joint%20Solar%20Parties%20RFP%20Response.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/e09b721d5f9f7d4e852585b6005ada67/$FILE/17-12-03RE03%20Joint%20Solar%20Parties%20RFP%20Response.pdf); See also, RFPD Response, Northeast Clean Energy Council, U.S. Energy Storage Association, dated July 31, 2020, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/bb8bbb2e2ebd8d1b852585b60054d775/\\$FILE/Joint%20ESA%20and%20NECEC%2017-12-03RE03%20RFPD%20Response%207.31.20%20.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/bb8bbb2e2ebd8d1b852585b60054d775/$FILE/Joint%20ESA%20and%20NECEC%2017-12-03RE03%20RFPD%20Response%207.31.20%20.pdf).

Accordingly, the Authority establishes a nine-year program for electric storage in Connecticut commencing January 1, 2022 and running through at least December 31, 2030. As detailed in Section III.H., the Program will include three-year program review cycles to fully evaluate whether the Program is delivering on the expected value to Connecticut’s ratepayers and is meeting the stated Program Objectives. The Program will also include annual processes to review key program metrics and to make adjustments as necessary.

For each of the aforementioned three program review cycles running through 2030, the Authority establishes the deployment targets listed in Table , resulting in a total program deployment target of 580 MW:

**Table 1: Initial Program Deployment Targets**

CUSTOMER CLASS	2022-2024	2025-2027	2028-2030	TOTAL
Residential	50 MW	100 MW	140 MW	290 MW
Commercial and Industrial	50 MW	100 MW	140 MW	290 MW
				<b>580 MW</b>

The initial electric storage deployment targets established herein were developed using the RFPD responses that addressed the potential aspirational statewide target of 1,000 MW by 2030.<sup>5</sup> Both the three-year cycle program deployment targets and the breakdown of the deployment targets by customer class will be reevaluated during each three-year program review.

**C. PROGRAM ELIGIBILITY**

The following criteria must be met for customer participation in the Program:

- Eligible customers must be an electric customer, residential or commercial and industrial (C&I), of one of the State’s two EDCs;
- The service address for a residential or C&I customer electric account must be for a physical address located within the state of Connecticut;
- The residence or C&I building/facility must be connected to the electric grid by agreement with the EDCs;
- The electric storage system must be new to the customer residence or C&I building/facility.

<sup>5</sup> See, RFPD response, Sunrun Inc., Vivint Solar, Inc., and SunPower Corp., dated July 31, 2020, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/e09b721d5f9f7d4e852585b6005ada67/\\$FILE/17-12-03RE03%20Joint%20Solar%20Parties%20RFP%20Response.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/e09b721d5f9f7d4e852585b6005ada67/$FILE/17-12-03RE03%20Joint%20Solar%20Parties%20RFP%20Response.pdf); See also, RFPD Response, Northeast Clean Energy Council, U.S. Energy Storage Association, dated July 31, 2020, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/bb8bbb2e2ebd8d1b852585b60054d775/\\$FILE/Joint%20ESA%20and%20NECEC%2017-12-03RE03%20RFPD%20Response%207.31.20%20.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/bb8bbb2e2ebd8d1b852585b60054d775/$FILE/Joint%20ESA%20and%20NECEC%2017-12-03RE03%20RFPD%20Response%207.31.20%20.pdf).



The Program will allow for both standalone electric storage systems and energy storage systems coupled or co-located with other energy resources (e.g., solar), if such configurations are also in compliance with EDC interconnection agreements. The Program will also allow for both behind-the-meter *and* front-of-the-meter configurations, so long as all other eligibility requirements are met. Both alternating current (“AC”) and direct current (“DC”)-coupled battery systems are eligible for the Program.

The following technical criteria must also be met:

- The electric storage system must be grid-tied;
- All components must utilize commercially-available electric storage technologies approved for use by the Authority, as recommended by the CGB and the EDCs;
- The customer and any contractors must abide by the most recent version of the applicable EDC’s interconnection guidelines;
- To receive an upfront incentive, the electric storage system must be set to the passive dispatch default settings determined by the CGB and approved by PURA, subject to audit over the course of the useful life of the electric storage system;<sup>6</sup> and,
- To receive ongoing performance incentives, the electric storage system must be actively dispatched by a third-party owner (TPO) or the applicable EDC in accordance with the rules determined by the EDCs and approved by PURA.

Lastly, the following criteria shall govern the participation of electric storage systems within the Program in the ISO New England Inc. (ISO-NE) markets and any program(s) resulting from Docket No. 17-12-03RE07, PURA Investigation into Distribution System Planning of the Electric Distribution Companies – Non-Wires Alternatives (NWAs Docket):

- All electric storage systems participating in the Program will be treated as “load reducers” and, therefore, may not register in the ISO-NE wholesale *energy* market;
- All participating electric storage systems shall transfer the ownership of capacity rights to the CGB. The CGB may not sell the transferred capacity rights into the ISO-NE capacity market without first receiving express written approval from the Authority;<sup>7</sup>

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<sup>6</sup> The Authority provisionally approves the CGB’s passive dispatch default settings included in its RFPD submission, in which Passive Dispatch Default Settings was defined as, “set the electric storage system to automatically store and dispatch solar energy through the battery to reduce demand during ISO-NE summer peak periods which currently includes June through August weekdays from 1:00 to 5:00 p.m. using no more than 80% of the battery storage capability (i.e., at least 20% will be reserved for back-up power).” RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, p. 10, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf).

<sup>7</sup> The Authority reserves the right to further condition the sale, as well as the distribution or use of any resulting profits, through any such approval.



- All electric storage systems may participate in any other existing or future ISO-NE markets besides the wholesale energy and capacity markets. The rights for participation in such markets shall stay with the system owner unless otherwise authorized by the system owner; and
- All new (i.e., not currently in service) electric storage systems may participate in any programs resulting from the NWAs Docket, subject to any eligibility criteria established in the NWAs Docket final Decision.

The above wholesale market eligibility criteria is derived from the cost-benefit analysis provided by the CBG, specifically evaluating its proposed upfront incentive program paired with a performance-based incentive, wherein the wholesale energy and capacity market benefits created by electric storage systems participating in the Program are socialized amongst all ratepayers.<sup>8</sup> While allowing participation in the wholesale energy or capacity market may allow for greater participant benefit, it would reduce the benefits of the Program to non-participants. Thus, the above criteria is in keeping with the first objective of the Program to provide positive net present value to all ratepayers.

The Authority plans to monitor the ongoing discussions with ISO-NE and the proceedings through New England Power Pool (NEPOOL) with respect to the implementation of the Federal Energy Regulatory Commission's Order Nos. 841 and 2222, as well as similar discussions and proceedings regarding the treatment of distributed energy resources operating as "load reducers" in allocating Regional Network Service costs to Load Serving Entities. The Authority may revisit the above rules based on the outcome of those discussions and proceedings.

#### **D. COMPENSATION STRUCTURE**

Electric storage systems participating in the Program will be compensated through two mechanisms:

- (1) an upfront incentive administered by the CGB; and
- (2) performance-based incentives administered by the EDC in which the electric storage system is interconnected.

The upfront incentive administered by the CGB shall be structured as a declining block incentive, with the incentive level set for each three-year program cycle at the beginning of that three-year cycle. The Authority shall review both incentive levels annually, with the advice and consultation of the Program Administrators, as detailed in Section III.H.

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<sup>8</sup> RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, pp. 12, 15-16, 72-92, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf).

**Compensation Adder – LMI Customers**

In accordance with the Program Objectives, the Program Administrators shall prioritize the deployment of electric storage systems to Connecticut’s most vulnerable citizens (e.g., LMI and underserved communities). Specifically, the CGB shall offer a higher upfront incentive to LMI customers to lower the barriers to adoption of electric storage systems by LMI customers.

**E. COMPENSATION LEVEL**

**Upfront Incentive**

The Authority authorizes the declining blocks and upfront incentive levels proposed by the CGB and listed in Table 2 for *residential* customers during the first three-year program cycle (2022-2024).<sup>9</sup>

**Table 2: Program Declining Upfront Incentive Block Structure for Residential Customers (2022-2024)**

INCENTIVE STEP	ESTIMATED # OF PARTICIPANTS	CAPACITY BLOCK (MW)	EFFECTIVE <sup>10</sup> UPFRONT INCENTIVE FOR NON-LMI PARTICIPANTS (\$/KWH) <sup>11</sup>	EFFECTIVE UPFRONT INCENTIVE FOR LMI PARTICIPANTS (\$/KWH)	AVERAGE UPFRONT ELECTRIC STORAGE INCENTIVE PER SYSTEM <sup>12</sup>
1	400	2.0	\$280	\$560	\$3,950
2	700	3.5	\$240	\$480	\$3,400
3	1,300	6.5	\$200	\$400	\$2,900
4	2,600	13.0	\$170	\$340	\$2,350
5	5,000	25.0	\$130	\$260	\$1,850
<b>Total</b>	<b>10,000</b>	<b>50.0</b>			

The same declining blocks and upfront incentive levels as residential non-LMI customers shall be established for *C&I* customers during the first three-year program cycle (2022-2024), as shown in Table 3.

<sup>9</sup> Id., p. 10.

<sup>10</sup> The effective incentive level for both non-LMI and LMI residential participants factors in the usable energy capacity (kWh) and the maximum power output rating (kW) of the energy storage system, the nameplate rating of the solar PV system, and includes an incentive cap of \$7,500.

<sup>11</sup> The incentive is adjusted based on kWh and kW capacity.

<sup>12</sup> Assumes that approximately 95% of program participants are non-LMI customers and that 5% are LMI customers.

**Table 3: Program Declining Upfront Incentive Block Structure for C&I Customers (2022-2024)**

INCENTIVE STEP	CAPACITY BLOCK (MW)	EFFECTIVE UPFRONT INCENTIVE FOR C&I PARTICIPANTS (\$/KWH)	AVERAGE UPFRONT ELECTRIC STORAGE INCENTIVE PER SYSTEM
1	2.0	\$280	\$3,750
2	3.5	\$240	\$3,250
3	6.5	\$200	\$2,750
4	13.0	\$170	\$2,250
5	25.0	\$130	\$1,750
<b>Total</b>	<b>50.0</b>		

The maximum upfront incentive provided to any one customer, residential or C&I, within the Program for the first three-year program cycle (2022-2024) shall be \$7,500.<sup>13</sup>

**POTENTIAL ORDER:** Additional program rules are necessary to (1) guide the distribution of the upfront incentive paid to the owner of the electric storage system and (2) ensure that the upfront incentive cap is not subverted. The Program Administrators shall develop the appropriate program rules and submit such program rules and/or documents for the Authority’s approval on or before August 2, 2021.

The CGB is responsible for providing notice, generally and to the Authority directly via email correspondence and the applicable docket(s), as the Program reaches the end of an incentive step. Specifically, the CGB is responsible for: (1) setting a date for the start of the subsequent step (e.g., first day of the next month), and (2) notifying the market and the Authority that the current step will end on a specific date (e.g., last day of the current month) and that the subsequent step will begin the day after (e.g., first day of the next month). Following the provision of such notice, applications received before the end of the month will receive the level of incentive in that step (e.g., Step 2), while those applications received after such date will receive the level of incentive in the subsequent step (e.g., Step 3).

<sup>13</sup> RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, p.10, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf).

**Performance Incentive**

Electric storage systems in both UI and Eversource territories participating in the Program will also be eligible for a performance incentive of \$225/kW per summer event during which the storage system is dispatched for the first three-year program cycle (2022-2024), in line with Eversource’s current Connected Solutions Demand Response Program.<sup>14</sup> Table 4 summarizes the key parameters for the performance incentive that will be administered by each EDC.

**Table 4: Performance Incentive Parameters (2022-2024)<sup>15</sup>**

	SUMMER
Incentive (\$/kW)	\$225
Season Dates	June 1 – September 30
Number of Events	30 – 60
Event Duration	3 hours
Timing	2 p.m. – 7 p.m.

As a condition of receiving the performance incentive, participating customers must allow the EDCs or a TPO to actively dispatch the electric storage system.<sup>16</sup> Participating customers may receive performance incentives for the same electric storage system for up to 10 years. Participating customers shall receive their performance incentive in an annual, lump-sum payment. Customers may transfer their payments to a TPO or another party.

**POTENTIAL ORDER:** Additional program rules are necessary to guide the distribution of the performance incentive and the information sharing between TPOs and the EDCs. The EDCs shall develop the appropriate program rules and submit such program rules and/or documents for the Authority’s approval on or before August 2, 2021.

**F. OWNERSHIP MODEL**

So long as the eligibility requirements outlined in Section III.C. are satisfied for the duration of the system’s participation in the Program, eligible customers may own the participating electric storage system.

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<sup>14</sup> Id., p. 26.

<sup>15</sup> See, Demand Response for Home Battery Storage, Eversource, <https://www.eversource.com/content/ema-c/residential/save-money-energy/manage-energy-costs-usage/demand-response/battery-storage-demand-response>.

<sup>16</sup> The Authority will consider, through additional program rules, whether modifications to the number of events for which the system may be dispatched are appropriate.

TPOs may also own a participating electric storage system so long as: (1) the eligibility requirements outlined in Section III.C. are satisfied for the duration of the system's participation in the Program; (2) the TPO actively dispatches the electric storage system in accordance with the rules and/or information provided by the EDCs; and (3) the Program Administrators has determined that the TPO has the technical, financial, and managerial capabilities to own and operate, if requested, electric storage systems.

POTENTIAL ORDER: The Program Administrators shall establish a process for certifying TPOs as technically, financially, and managerially capable of owning and operating electric storage systems. The Program Administrators shall develop the appropriate program rules and submit such program rules and/or documents for the Authority's approval on or before August 2, 2021.

### **G. OPERATIONAL CONTROL MODEL**

Battery management systems associated with individual devices will monitor power and energy data and state of charge of the battery system, which will be visible to the Participant. Data monitored and recorded by the CGB's dispatch platform (e.g., Virtual Peaker, or a similar platform) shall include real-time power and energy data and state of charge of the battery system, with visibility provided to the CGB. The CGB will also provide access to the EDCs and the appropriate, certified TPOs.

As discussed in Section III.C., passive dispatch default settings will be required for Program participation. Additionally, the EDCs or TPOs certified by the Program Administrators will control the active dispatch of a participating electric storage system, depending on the election of the system owner. The EDCs will schedule active dispatch the day ahead of an event to take priority over the passive dispatch schedule. The storage management system will take operational control during commercial power outages, allowing batteries to go into back-up power mode so as to only be available to serve on-site load.

Program participants will provide the Program Administrators with information regarding the battery device location, power and energy ratings, and other relevant data when applying to the active demand response program through the EDCs.<sup>17</sup>

POTENTIAL ORDER: The EDCs shall jointly establish an application process for enrolling customers in the active demand response portion of the Program. The EDCs shall jointly develop the appropriate program rules and submit such program rules, and associated documents, for the Authority's approval on or before August 2, 2021.

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<sup>17</sup> While the application process and corresponding program rules may be adapted to any specific IT or system differences of each EDC, the overall process and rules should be standardized to the extent practicable to provide a consistent developer experience statewide to minimize soft costs associated with the Program.

## **H. PROGRAM ADMINISTRATION**

The Program outlined herein will be administered jointly by the CGB and the EDCs. The CGB shall administer the upfront incentive portion and shall be responsible for the communication and promotion of the Program. The EDCs shall administer the performance incentive portion of the Program. The CGB and the EDCs shall jointly be responsible for EM&V. All other program administration duties shall be assigned as detailed herein. Where program administration duties have not yet been assigned or require clarification, the CGB and the EDCs shall submit a written proposal regarding the assignment of such duties for the Authority's review and approval.

As the administrator of the upfront incentive for the Program, the CGB will ensure the automatic passive dispatch of the system for the ISO-NE summer peak period (weekdays in June through August, from 1:00 to 5:00 p.m.) as a default or "set it and forget it" mode. The CGB, working with the battery storage technology company, will set the automatic dispatch as the default mode for the electric storage system and manage it through the use of dispatch software (e.g., Virtual Peaker). As the administrator of the ongoing performance-based incentive for the Program, the EDCs, working with eligible TPO's, will manage an active demand response program that dispatches the system during critical events throughout the year (e.g., summer peak periods). The EDCs, working with the battery storage technology companies, in concert with an online dispatch platform (e.g., EnergyHub, Virtual Peaker, etc.), will be able to override the automatic dispatch of the system during specific events.

### **Participant Enrollment Process**

Electric customers of the EDCs interested in participating in the Program may enroll first with the CGB through the upfront incentive portion of the Program or with the EDCs through the active dispatch portion of the Program. Whichever enrollment occurs first, the CGB or the EDCs shall automatically hand-off the customer or TPO to the other Program Administrator to enroll in the other portion of the Program. The Program Administrators shall work to make the enrollment process as seamless as possible, integrating back-end systems (e.g., PowerClerk), websites, online forms, and other processes when possible.

After the customer is enrolled in both portions of the Program (estimated at 2 weeks or more for approval from each Program Administrator), the following steps will occur:<sup>18</sup>

- Installation, municipal approval, interconnection approval, testing and commissioning, and project completion submission to PowerClerk;
- Enrollment in dispatch platform (e.g., Virtual Peaker);
- Project inspection;
- Begin participation in passive and active dispatch protocols;

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<sup>18</sup> Customers have 270 days from enrollment in both portions of the Program before the upfront incentive approval expires.

- Contractor or TPO reimbursed for upfront incentive already provided to customer as discount on sales/lease/PPA agreement;
- Performance measurement and reporting will be ongoing in accordance with the plan and schedule for EM&V;
- Performance-based incentive payments will be made on a schedule set up by the EDCs for an active demand response program; and
- Dispatch and performance monitoring would continue for 10 years.

### **Program Marketing**

The CGB is primarily responsible for marketing and promoting the Program, in consultation with the EDCs. Together, the Program Administrators shall create one, comprehensive marketing plan and Program brand.

The Program Administrators shall support a variety of outreach initiatives, including focusing on LMI communities and targeting high demand areas of the grid. The Program Administrators will specifically utilize the following:

- SolarizeCT – refocusing community-based social marketing campaign to connect competitive market approaches (e.g., issuing RFP’s for local contractors) to create demand for battery storage through a Solarize Storage campaign in collaboration with Yale;
- Solar for All – expanding its low-to-moderate income neighbor-to-neighbor message of residential solar PV to include third-party ownership of electric storage to provide access to affordable resiliency benefits;
- Sustainable CT – as an original co-founder and current co-chair of Sustainable CT, the CGB will promote the Program through local sustainability enthusiasts in Connecticut’s cities and towns. Beyond marketing and outreach, the CGB will provide potential participants with the access to capital they may need to finance a system on their property – i.e., through loans, leases, and/or on-bill repayment mechanisms;
- EDC’s respective websites;
- EnergizeCT; and,
- GoSolarCT.

The Program Administrators will work with the developer community and TPOs to support the increased participation by LMI customers in the Program through:

- Enhanced Marketing – providing additional on the ground and neighbor-to-neighbor research and marketing support to reduce the costs of customer acquisition by contractors (e.g., Solarize, Solar for All); and
- Improved Locational Targeting – undertaking additional analyses, in collaboration with academic institutions like Yale University, to identify target locations where (1) the grid is experiencing high demand, and (2) locations that include vulnerable communities.



These additional considerations are in keeping with the Program Objectives and are necessary to ensure energy affordability and to increase resilience for LMI communities in the face of sustained grid outages and an increasing prevalence of natural disasters.

### **Data Collection and Sharing**

The CGB is a leader in collecting and making program data and compensation levels publicly available, especially since it supports incentive and financing programs that use resources provided by Connecticut ratepayers. As such, the Authority will direct the CGB, in concert with the EDCs, to develop an online portal that provides public access to real-time, anonymized Program information, including, but not limited to:

- Aggregate real-time storage dispatch;
- Historical aggregate hourly dispatch;
- Six-month rolling average installed cost data;
- Historical installed cost and TPO customer agreement data, by contractor, system locations, and application date;
- Program incentive funds disbursed;
- Program administrative costs;
- Installed capacity (number of units, kW, and kWh), in aggregate and by town;
- Aggregate avoided emissions (CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>); and
- Average project metrics, such as:
  - a. Incentive per unit,
  - b. Electric storage system size (kW),
  - c. Electric storage system size (kWh).

**POTENTIAL ORDER:** The Program Administrators shall jointly develop an implementation plan for the above online portal including detailed cost estimates, milestones, and deliverables. The Program Administrators shall submit such implementation plan for the Authority's approval on or before August 2, 2021.

### **PURA Review Process**

During the first two years of every three-year program cycle (e.g., 2022 and 2023), the Authority will conduct an annual review process (Annual Review) beginning on or around August 1 of each year to review key metrics, as provided by the Program Administrators and/or the EM&V firm, and to make small, strategic adjustments, as necessary, to ensure: (1) continued alignment with the Program Objectives; and (2) that the Program is on track to meet its three-year program cycle deployment targets. The Authority will work to conclude the Annual Review within 90 days to provide the Program Administrators and the market time to implement and react to any changes, respectively.

During the last year of each three-year program cycle (e.g., 2024), the Authority will conduct a full program review (Program Review) beginning on or around June 15, including an evaluation of the existing program design to ensure that the Program is: (1) delivering on the expected value to Connecticut's ratepayers; and (2) is meeting the Program Objectives. The Authority will hold at least one public meeting during the course

of the Program Review. The Authority will work to conclude the Program Review within 120 days.

#### **I. EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)**

The Program Administrators shall retain a third party to evaluate, measure, and verify results of the Program (EM&V Consultant). The EM&V Consultant shall develop Program metrics, associated calculation methodologies, and data requirements for verifying Program performance based on the established metrics. All metrics and calculation methodologies shall be subject to review and approval by the Authority.

Metrics to determine program success shall include, but are not limited to:

- The actual, realized benefit-cost ratios for all five cost tests listed in Section III.K.;
- Program incentive funds disbursed (\$);
- Program administrative costs (\$);
- Installed system cost (\$/kW and \$ \$/kWh);
- Installed capacity (number of units, kW, and kWh);
- Number of residential, LMI, and C&I units installed;
- Amount of kW per called event;
- Peak demand savings (kW) based on ISO-NE definition for both active and passive demand response;
- Fraction of usable solar energy used for back-up power, as well as passive and active demand response by location, anonymized and aggregated for public reporting;
- Number of back-up power incidents and peak dispatch events, and battery availability for the incident and events by location, anonymized and aggregated for public reporting;
- Aggregate avoided emissions (CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>); and
- Average project metrics, such as:
  - a. Incentive per unit,
  - b. Electric storage system size (kW),
  - c. Electric storage system size (kWh).

The cost of the EM&V Consultant shall not exceed five percent of the total Program administrative costs for any three-year program cycle.

POTENTIAL ORDER: The Program Administrators shall develop and submit for the Authority's review and approval a proposed process for retaining a third-party consultant to conduct Program EM&V. Such proposed process must be submitted for the Authority's review and approval on or before June 14, 2021.

POTENTIAL ORDER: The Program Administrators shall notify the Authority, through the relevant docket, of the retention of an EM&V Consultant, including the consultant retained.

POTENTIAL ORDER: The Program Administrators and EM&V Consultant shall develop and submit for the Authority’s review, modification, and approval Program metrics, associated calculation methodologies, and data requirements for verifying Program performance based on the established metrics. The proposed Program metrics, calculation methodologies, and, data requirements must be submitted for the Authority’s review, modification, and approval on or before August 2, 2021.

### **Reporting Requirements**

The Program Administrators shall provide an annual report summarizing the Program results to date and recommendations for any Program modifications no later than August 1 through the relevant proceeding. The Authority will review the Program Administrators’ annual report through the Annual Review or Program Review processes, depending on the year. At a minimum, such annual report shall detail the savings delivered and progress on the Authority-approved Program metrics. The Authority encourages additional reporting through the relevant Authority proceeding,<sup>19</sup> specifically the additional reporting proposed by the CGB in its Solarize Storage Program proposal. The Program Administrators shall strive to provide such reporting in accordance with the annual processes and other data sharing requirements detailed herein, specifically Sections III.H. and III.J.

The EM&V Consultant shall submit a full report on the established Program metrics into the relevant docket on or around June 15 of the last year of each three-year program cycle (e.g., on or around June 15, 2024). The Authority will review the EM&V Consultant’s report through the Program Review process.

### **J. COST RECOVERY PROPOSAL**

Each Program Administrator shall submit their prudently incurred costs associated with the administration of the Program in a given calendar year into the subsequent year’s annual review of the Revenue Adjustment Mechanism (RAM) (e.g., costs incurred in 2023 by UI shall be submitted into the 2024 RAM proceeding). The EDCs shall submit such costs into their individual RAM review docket, whereas the CGB shall submit its costs into both dockets splitting its costs 80/20 between Eversource and UI, respectively. The EDCs shall each pay the CGB 1/12<sup>th</sup> of its costs associated with the administration of this Program, as authorized by the Authority, starting the first month in which rates reflect the recovery of such costs from ratepayers.

For program administration costs expected to be incurred during the launch and initial year of the Program, each Program Administrator may request some portion of their anticipated costs to be included in rates set May 1, 2022 through Docket Nos. 22-01-03

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<sup>19</sup> RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, pp. 63-64,  
[http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf).

and 22-01-04, so long as such request is submitted by January 15, 2022 in Docket Nos. 22-01-03 and 22-01-04 and is accompanied by a line item estimate of all costs requested to be incorporated into rates. The Authority will determine in Docket Nos. 22-01-03 and 22-01-04 through which fully reconciling rate component the EDCs will recover any prudently incurred costs associated with the administration of the Program.

POTENTIAL ORDER: The EDCs may develop and submit for the Authority's review, modification, and approval a proposal for incentivizing the EDCs to optimize the active dispatch of all electric storage systems participating in the Program under the EDCs' operational control. Such proposal, including any necessary additions or modifications to the program rules and associated documents, must be submitted for the Authority's review, modification, and approval on or before August 2, 2021.

POTENTIAL ORDER: The CGB shall develop and submit for the Authority's review, modification, and approval a proposal for performance-based recovery of Program costs, as discussed in its RFPD response.<sup>20</sup> The CGB may also develop and submit for the Authority's review, modification, and approval a proposal for performance-based cost recovery of its administrative costs associated with its duties as a Program Administrator. Such proposal must demonstrate that any cost recovery beyond the CGB's prudently-incurred administrative costs are in-line with or below the margin that could reasonably be expected to be incurred by a third party, should one have been retained to administer the same portions of the Program. Such proposal, including any necessary additions or modifications to the program rules and associated documents, must be submitted for the Authority's review, modification, and approval on or before August 2, 2021.

## **K. COST-BENEFIT ANALYSIS**

The benefits and costs of the Program were analyzed for the residential portion of the first three-year program cycle by the CGB,<sup>21</sup> with assistance from Guidehouse,<sup>22</sup> from several different perspectives. Table 5 presents the benefit-cost ratio results of the Program Administrator Cost Test (PACT), Participant Cost Test (PCT), Societal Cost Test (SCT), Total Resource Cost Test (TRC), and the Ratepayer Impact Measure (RIM)

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<sup>20</sup> RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, pp. 12, 70-71, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf).

<sup>21</sup> Notably, the CGB's analysis spread 50 MW of residential electric storage system deployment out from 3 years to 5 years. See, RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf).

<sup>22</sup> Guidehouse is a consulting agency, formerly known as Navigant Consulting.

cost test, each of which represents various stakeholder perspectives.<sup>23</sup> Figure 1 shows the net present value of all costs and benefits of the Program for each cost test, as well as the calculated benefit-cost ratios. The benefits of the Program are greater than the costs from each of the perspectives analyzed, which indicates that the Program is net beneficial program for all stakeholders.

**Table 5: Program Benefit-Cost Ratios for All Five Cost Tests**

COST TEST	PROGRAM ADMINISTRATOR COST TEST (PACT)	PARTICIPANT COST TEST (PCT)	SOCIETAL COST TEST (SCT)	TOTAL RESOURCE COST TEST	RATEPAYER IMPACT MEASURE
<b>BENEFIT-COST RATIO</b>	2.37	1.00	2.32	2.33	2.15

**Figure 1: Program Net Present Value of Cost/Benefit Categories by Cost Test**

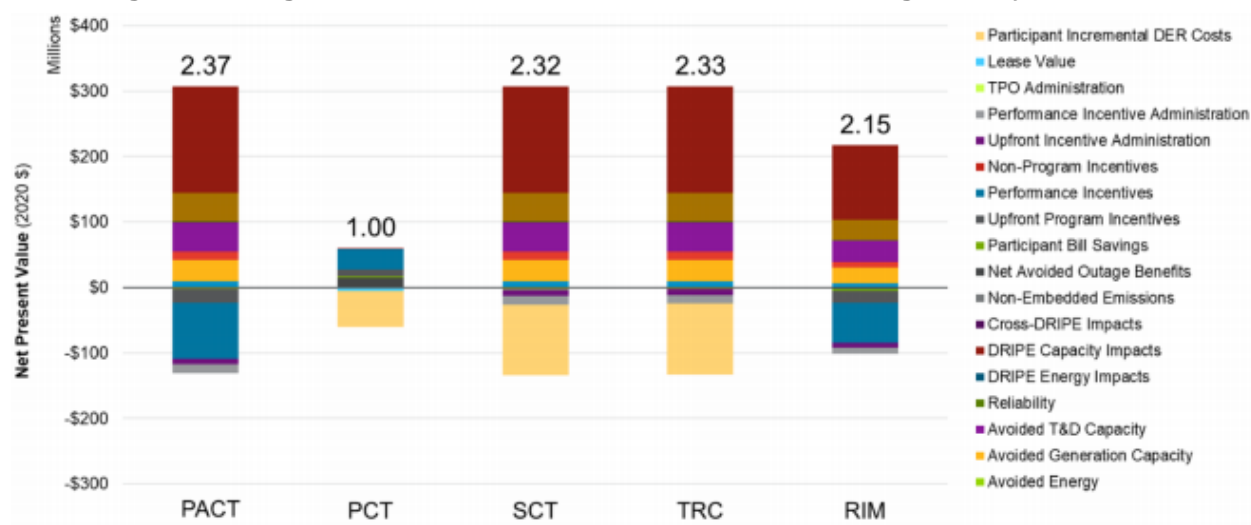


Table 6 provides a similar analysis to Table 5, namely benefit-cost ratios for all five cost tests, but by upfront incentive step. Likewise, Table 7 provides a similar analysis to Figure 1, detailing the cost/benefit categories used for each cost test listed above for 2021-2025.<sup>24</sup>

<sup>23</sup> For more information on these costs tests, see Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy Makers, Energy and Environmental Economics, Inc. and Regulatory Assistance Project, dated November 2008, <https://www.epa.gov/sites/production/files/2015-08/documents/cost-effectiveness.pdf>.

<sup>24</sup> See *supra* footnote 17. The CGB analyzed the deployment of 50 MW of residential electric storage systems over 5 years, opposed to 3 years as envisioned for this Program.

**Table 6: Program Benefit-Cost Ratios for All Five Cost Tests by Upfront Incentive Step**

INCENTIVE STEP	CAPACITY BLOCK (MW)	PACT	PCT	SCT	TRC	RIM
1	2.0	1.23	1.13	1.22	1.22	1.07
2	3.5	1.68	1.00	1.66	1.67	1.5
3	6.5	2.03	0.99	2.00	2.01	1.83
4	13.0	2.44	0.99	2.39	2.40	2.24
5	25.0	2.75	0.98	2.66	2.67	2.55
<b>Total</b>	<b>50.0</b>	<b>2.37</b>	<b>1.00</b>	<b>2.32</b>	<b>2.33</b>	<b>2.15</b>

**Table 7: Program Cost/Benefit Categories by Cost Test**

Benefit Cost Analysis Results by Capacity Block - RIM (2020\$)						
Installation Year	2021	2022	2023	2024	2025	Program Total
Avoided Energy	-\$80,000	-\$130,000	-\$230,000	-\$430,000	-\$800,000	-\$1,670,000
Avoided Generation Capacity - Passive	\$230,000	\$420,000	\$820,000	\$1,690,000	\$3,280,000	\$6,440,000
Avoided Generation Capacity - Active	\$840,000	\$1,550,000	\$3,030,000	\$6,200,000	\$11,950,000	\$23,570,000
Avoided T&D Capacity - Passive	\$410,000	\$690,000	\$1,220,000	\$2,320,000	\$4,250,000	\$8,890,000
Avoided T&D Capacity - Active	\$1,490,000	\$2,490,000	\$4,410,000	\$8,410,000	\$15,420,000	\$32,220,000
Reliability - Passive	\$10,000	\$30,000	\$50,000	\$80,000	\$140,000	\$310,000
Reliability - Active	\$50,000	\$100,000	\$170,000	\$290,000	\$470,000	\$1,080,000
DRIVE Energy Impacts	-\$10,000	-\$20,000	-\$30,000	-\$60,000	-\$110,000	-\$230,000
DRIVE Capacity Impacts - Passive	\$1,030,000	\$1,930,000	\$3,700,000	\$8,160,000	\$15,990,000	\$30,810,000
DRIVE Capacity Impacts - Active	\$3,900,000	\$7,250,000	\$13,830,000	\$30,110,000	\$58,450,000	\$113,540,000
Cross-DRIVE Impacts	\$0	\$0	-\$10,000	-\$10,000	-\$10,000	-\$30,000
Participant Bill Savings	-\$160,000	-\$270,000	-\$480,000	-\$920,000	-\$1,700,000	-\$3,530,000
Upfront Program Incentives	-\$1,470,000	-\$2,090,000	-\$3,060,000	-\$4,690,000	-\$6,550,000	-\$17,860,000
Performance Incentives	-\$3,040,000	-\$4,970,000	-\$8,630,000	-\$16,130,000	-\$28,990,000	-\$61,760,000
Upfront Incentive Administration	-\$1,590,000	-\$1,140,000	-\$1,090,000	-\$1,300,000	-\$1,740,000	-\$6,860,000
Performance Incentive Administration	-\$1,090,000	-\$1,090,000	-\$1,440,000	-\$2,310,000	-\$3,810,000	-\$9,740,000
<b>Benefit</b>	<b>\$7,870,000</b>	<b>\$14,310,000</b>	<b>\$26,960,000</b>	<b>\$56,760,000</b>	<b>\$109,030,000</b>	<b>\$214,930,000</b>
<b>Cost</b>	<b>\$7,350,000</b>	<b>\$9,560,000</b>	<b>\$14,700,000</b>	<b>\$25,350,000</b>	<b>\$42,790,000</b>	<b>\$99,750,000</b>
<b>Total Net Benefits</b>	<b>\$520,000</b>	<b>\$4,750,000</b>	<b>\$12,260,000</b>	<b>\$31,410,000</b>	<b>\$66,240,000</b>	<b>\$115,180,000</b>
<b>Benefit Cost Ratio</b>	<b>1.07</b>	<b>1.50</b>	<b>1.83</b>	<b>2.24</b>	<b>2.55</b>	<b>2.15</b>

<b>Total Program Net Present Value</b>	<b>\$115,180,000</b>
<b>Total Program Benefit Cost Ratio</b>	<b>2.15</b>

All values shown are NPV in 2020\$, assuming a discount rate for the RIM of 7.0% and inflation of 2.0%

## L. DATA PRIVACY AND SECURITY PLAN

POTENTIAL ORDER: The Authority acknowledges receipt of the information provided by each of the Program Administrators in response to Section K. Data Privacy and Security Plan of the RFPD.<sup>25</sup> The Program Administrators shall

<sup>25</sup> RFPD Response, Solarize Storage: Proposal from the Connecticut Green Bank, Connecticut Green Bank, dated July 31, 2020, pp. 93-95, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf); Attachment A: Eversource Grid Modernization Cybersecurity Plan, RFPD Response, Electric Storage Proposal: Request for Proposal Design-Template, Eversource, dated July 31, 2020, pp. 12, 15-16, 72-92, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/\\$FILE/Connecticut%20Green%20Bank\\_Solarize%20Storage\\_Docket%20No.%2017-12-03\(RE03\)\\_Proposed%20Design.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e1649cbe07eeac1852585b6005faf9c/$FILE/Connecticut%20Green%20Bank_Solarize%20Storage_Docket%20No.%2017-12-03(RE03)_Proposed%20Design.pdf); and RFPD Response, UI, dated July 31, 2020, pp. 19-20,

develop one comprehensive Data Privacy and Security Plan for the Program, together, and submit it for the Authority's approval on or before August 2, 2021.

#### **M. TECHNOLOGY ELIGIBILITY**

The Program Administrators will maintain a single list of eligible electric storage technologies that will be updated on an ongoing, rolling basis. Battery technologies will be considered (and approved or not approved) for inclusion as eligible based on their ability to satisfy program requirements and objectives, including, but not limited to, the following:

- Commercially available technologies with appropriate technical certifications, reflecting adequate capabilities, testing and quality control with respect to industry standards;
- Ability to meet the passive and active dispatch needs of the Program, including existing or intended software integration with dispatch platforms utilized in the program, and ability for technology to receive remote software upgrades;
- Safety considerations, and other characteristics including:
  - a. 80% roundtrip efficiency or greater;
  - b. 10-year warranty or equivalent; and,
  - c. 10-year system life or equivalent.
- Customer service and technical support provided by battery manufacturer.

The initial list of eligible electric storage technologies shall be approved by the Authority. Any updates to the list must be submitted during the next Annual or Program Review, as applicable.

#### **N. SYSTEM DISPOSAL**

The Program Administrators may require that the decommissioning of any electric storage system participating in the Program be completed by the operations and maintenance provider of the system, or by the original engineering, procurement, and construction (EPC) contractor. The Program Administrators shall submit for the Authority's approval any language formalizing such a requirement as part of the June 14, 2021 submissions.



## **O. OTHER PROGRAM DESIGN ELEMENTS**

**POTENTIAL ORDERS:** All references to investigations with reports and/or findings due on or before June 14, 2021 are potential orders that may be included in the Decision in Docket No. 17-12-03RE03.

In order to more fully align the Program design herein with the Program objectives detailed in Section II., the Authority directs the Program Administrators to investigate the implementation of the program design elements discussed below. The Program Administrators shall report their findings in Docket No. 17-12-03RE03 on or before June 14, 2021. The Program Administrators shall include at least one recommendation for incorporation into the Program for 2022 for each of the categories below: (1) LMI and medical hardship customers; (2) grid edge customers; (3) critical facilities; and (4) increased emissions reduction from avoided fossil fuel peaking generation.

### **LMI and Medical Hardship Customers**

In accordance with the Program Objectives, the Program Administrators shall prioritize the deployment of electric storage systems to Connecticut's most vulnerable citizens (e.g., LMI and underserved communities). In addition to providing a higher upfront incentive to LMI customers, the CGB shall investigate the desirability and effectiveness of offering the same increased incentives to all customers in environmental justice or economically-distressed communities and public housing authorities as defined in Conn. Gen. Stat. § 8-39(b). The CGB shall consult with Connecticut Legal Services, Operation Fuel, and the Center for Children's Advocacy (Low-Income Customer Advocates) in conducting such investigation. The CGB shall report its recommendations to the Authority on or before June 14, 2021 for adoption starting January 1, 2022.

Additionally, the EDCs and the CGB shall investigate how best to prioritize delivering increased resilience through electric storage systems to medical hardship customers, while also potentially reducing the amount of arrearages that the EDCs write-off from medical hardship customers. The EDCs and the CGB may propose one or all of the following methods of prioritizing the deployment of electric storage systems to these customers:

- An incentive adder, for which either or both the EDCs and the CGB shall recommend a methodology for determining the appropriate adder level;
- An enhanced, targeted marketing campaign; and/or
- A pilot program targeted specifically at reducing arrearages from those medical hardship customers accruing the greatest arrears annually.

Such investigation shall determine the desirability and effectiveness of each of the above methods. The EDCs and the CGB shall report their recommendations to the Authority on or before June 14, 2021 for adoption starting January 1, 2022.

### **Grid Edge Customers**

The Program Administrators shall seek to prioritize delivering increased resilience through electric storage systems to customers on the grid-edge who consistently experience more and/or longer-than-average sustained outages during major storms. The EDCs and the CGB shall investigate how best to identify these customers and may propose one or all of the following methods of prioritizing the deployment of electric storage systems to these customers:

- An incentive adder, for which either or both the EDCs and the CGB shall recommend a methodology for determining the appropriate adder level;
- An enhanced, localized marketing campaign; and/or
- A pilot program using electric storage systems, including, but not limited to, electric vehicles, to provide back-up power to multiple electric customers on the grid edge during an extended outage.

Such investigation shall determine the desirability and effectiveness of each of the above methods. The EDCs shall consult with ConnectDER in considering a pilot program.<sup>26</sup> The EDCs and the CGB shall report their recommendations to the Authority on or before June 14, 2021 for adoption starting January 1, 2022.

### **Critical Facilities**

The Program Administrators shall seek to prioritize delivering increased resilience through electric storage systems to critical facilities as defined in Conn. Gen. Stat § 16-243y(a)(2). The EDCs and the CGB shall investigate how best to identify these customers and may propose one or all of the following methods of prioritizing the deployment of electric storage systems to these customers:

- An incentive adder, for which either or both the EDCs and the CGB shall recommend a methodology for determining the appropriate adder level, including a different adder level for electric storage systems replacing existing fossil fuel-fired back-up generation; and/or
- An enhanced, targeted marketing campaign.

Such investigation shall determine the desirability and effectiveness of each of the above methods. The CGB and the EDCs shall also consider the inclusion of businesses now or formerly designated as essential by the Connecticut Department of Economic and Community Development pursuant to Governor Lamont's Executive Order 7H, as well as commercial customers located in any targeted investment community ("TIC"), public investment community ("PIC"), or Neighborhood Revitalization Zone ("NRZ"), for inclusion within any of the above recommended methods. The CGB and the EDCs shall also

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<sup>26</sup> See, RFPD Response, ConnectDER, dated July 31, 2020, <http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0774b9d55db4f8db852585d60064d24d?OpenDocument>.

consult with AmeriZone in conducting such investigation.<sup>27</sup> The EDCs and the CGB shall report their recommendations to the Authority on or before June 14, 2021 for adoption starting January 1, 2022.

### **Increased Emissions Reduction**

The Program Administrators shall seek to maximize the long-term environmental benefits of electric storage by reducing emissions associated with in-state fossil-based peaking generation. The EDCs shall investigate which hours during the year electric storage systems should be dispatched to offset the generation of such units. The EDCs shall also approximate the (1) energy; (2) climate; and (3) local health benefits of avoiding in-state fossil-based peaking generation. The EDCs shall investigate which locations maximize the benefits of avoided peaking generation provided by electric storage systems. Lastly, the EDCs shall investigate the desirability and effectiveness of each of the following in avoiding in-state fossil peaking generation:

- Additional or different performance-based incentives, for which either the EDCs or the CGB shall recommend a methodology for determining the appropriate adder level; and/or
- An enhanced, localized marketing campaign.

The EDCs shall provide recommendations for adoption starting January 1, 2023 for each of the methods listed above. The EDCs shall report its recommendations to the Authority on or before January 3, 2022.

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<sup>27</sup> See, RFPD Response, Green Resiliency: Program Design Proposal, AmeriZone, dated July 31, 2020, [http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/5b5953b4d711f265852585b6005ac839/\\$FILE/Green%20Resiliency%20Program%20Proposal.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/5b5953b4d711f265852585b6005ac839/$FILE/Green%20Resiliency%20Program%20Proposal.pdf).