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Rhode Island Energy™
a PPL company

March 14, 2025

VIA ELECTRONIC MAIL AND HAND DELIVERY

Stephanie De La Rosa, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket No. 24-06-EE – The Narragansett Electric Company d/b/a Rhode Island Energy
System Reliability Procurement Investment Proposal for
Electric Demand Response 2024-2026 – ConnectedSolutions
2024 Year-End Report

Dear Ms. De La Rosa:

On behalf of The Narragansett Electric Company d/b/a Rhode Island Energy (the "Company"), and in accordance with the Rhode Island Public Utilities Commission's decision at its Open Meeting on July 1, 2024, I have attached an original and nine (9) copies of the Company's 2024 Year-End Report in the above-referenced docket.

The Company is also providing the Excel versions of the following attachments:

- Attachment 1: BYOT and BES DR Event Scorecard_2024
- Attachment 2: Appendix K – AESC 2024-RES Battery-BYOT and CI Daily Dispatch-Targeted RI 2024

Thank you for your attention to this matter. If you have any questions, please contact me at 401-578-2700.

Very truly yours,

Celia B. O'Brien

Attachment

cc: Docket No. 24-06-EE Service List

The Narragansett Electric Company
d/b/a Rhode Island Energy

2024 ConnectedSolutions Year-End Report

March 14, 2025

Docket No. 24-06-EE

Submitted to:
Rhode Island Public Utilities Commission

Submitted by:

Rhode Island Energy™
a PPL company

Table of Contents

Attachments: The Company is providing the Excel versions of the following attachments:

Attachment 1: BYOT and BES DR Event Scorecard_2024
Attachment 2: Appendix K – AESC 2024-RES Battery-BYOT and CI Daily Dispatch-Targeted RI 2024

I. Overview

This report details The Narragansett Electric Company d/b/a Rhode Island Energy's ("Rhode Island Energy" or the "Company") electric demand response ("DR") program implementation details, costs, and savings during the 2024 program year. Rhode Island Energy's System Reliability Procurement ("SRP") Investment Proposal for Electric Demand Response, filed with the Rhode Island Public Utilities Commission ("PUC") in Docket No. 24-06-EE on February 8, 2024, and approved by PUC at its Open Meeting on July 1, 2024, describes the Company's electric DR program, branded **Connected**Solutions. The objective of the Company's **Connected**Solutions program is to reduce regional coincident peak demand using five major program design principles: technologically agnostic encouragement of diffuse and diverse participation for reliable response; right-sized incentives; compliance with Least Cost Procurement ("LCP") Standards; facilitation of easy participation; and creation of shared value. The estimated program implementation costs, including regulatory allocations, for the 2024 **Connected**Solutions season were approximately $7.93 million.

Excluding regulatory allocations to the Rhode Island Office of Energy Resources ("OER"), Rhode Island Energy has estimated that it has incurred costs in the amount of $7,768,044 in 2024. The Company has estimated the total spend attributed to the Residential and Small Business track to be $3,640,167 and the total spend attributed to the Commercial and Industrial ("C&I") track to be $4,127,876. The allocated 2024 program implementation spend, approved during the PUC's July 1, 2024 Open Meeting, was $8,996,500. The estimated $1.23 million remaining within the approved 2024 budget allocation is attributable to delays in launching the Residential Electric Vehicle Demand Response pathway, pending Residential Battery Energy Storage incentive payments, as well as performance calculation methodology adjustments and underperformance within the C&I pathways. The Company intends to distribute the remaining 2024 budget allocation primarily to customer incentives for the 2025 and 2026 program years, as a way to increase participation and maximize spending efficiency.

The estimated program implementation benefits for the 2024 **Connected**Solutions season were approximately $11.70 million. This value was derived from the assumed program participation levels and estimated dollars per kilowatt savings. After updating the Benefit Cost Assessment ("BCA") model with actual 2024 performance, total benefits are estimated at $9.79 million. When the original BCA model was developed, it did not account for Scaling Factors used by Avoided Energy Supply Components ("AESC") for the uncleared resources. Assuming Scaling Factors with three years of program reduction, total benefits are estimated at $7.94 million. Assuming more conservative Scaling Factors with only one year program reduction, total benefits are estimated at $7.05 million.

II. Summer 2024 in Review

The overview below of ISO New England's ("ISO-NE") power system forecast and weather data help give a clear and accurate picture of how the program works in response to high temperatures effect on regional power demand. The Company, along with other New England utilities, determine when and how long a demand response event will last, based on several factors: grid demand projections and forecasting, weather conditions, and historical loads.

> New England's power grid operated reliably in June, July, and August including two hot periods that contributed to tight system conditions. Summer 2024 as a whole was relatively mild, with average regional temperatures 1.5° F above normal. New Englanders consumed about 5% more electricity this summer than last summer, 33,279 gigawatt-hours (GWh) in June, July, and August of 2024 versus 31,787 GWh during the same period in 2023[1].

Figure 1 below represents the ISO-NE actual, forecasted, and all-time peak demand. The green bar shows the 2024 summer consumer demand "peak" was on July 16 between 5:00 PM and 6:00 PM. During this hour, demand reached 24,816 MW when the regional average temperature was 91° F. The gray, 50-50 forecast bar represents the ISO-NE forecasted 2024 summer peak of 24,553 MW under typical weather conditions. The actual 2024 summer peak was roughly in line with the forecast. In comparison, the 2023 summer peak is represented by the purple bar at 24,016 MW.

[1] ISO New England News Wire. Summer 2024 recap: Grid reliability maintained through heat waves, 2024. https://isonewswire.com/2024/10/11/summer-2024-recap-grid-reliability-maintained-through-heat-waves/

Figure 1: Actual, Forecast, and All-Time Peak Demand ISO-NE

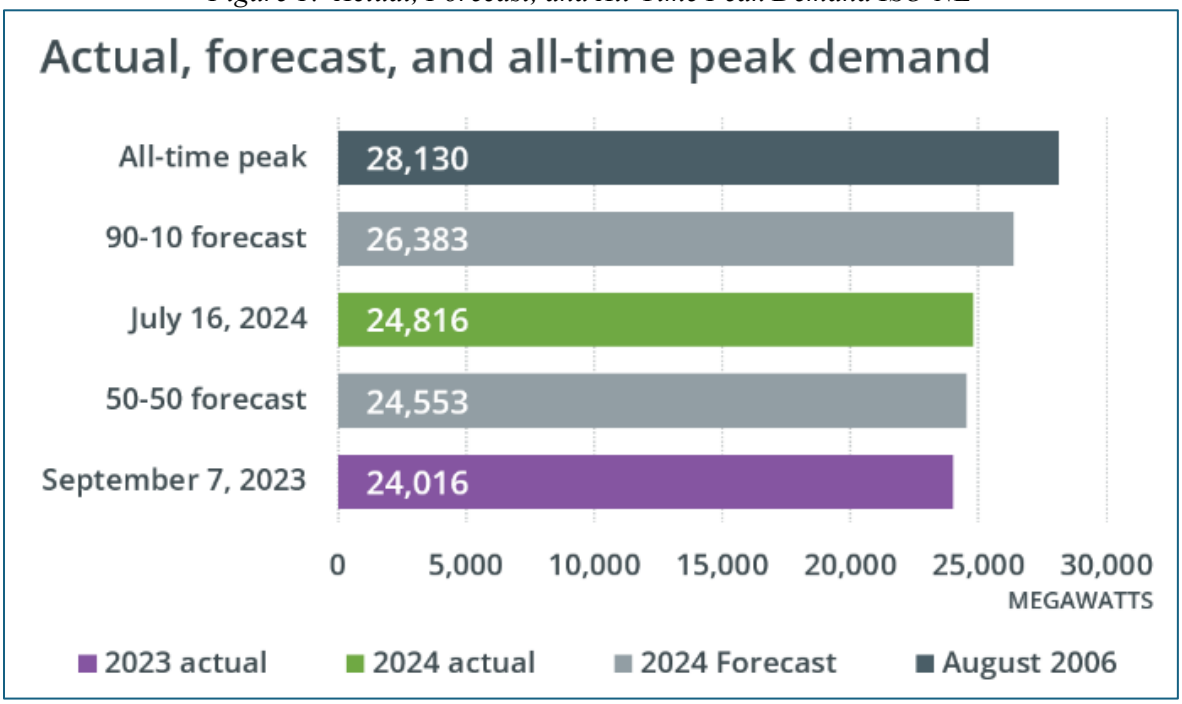
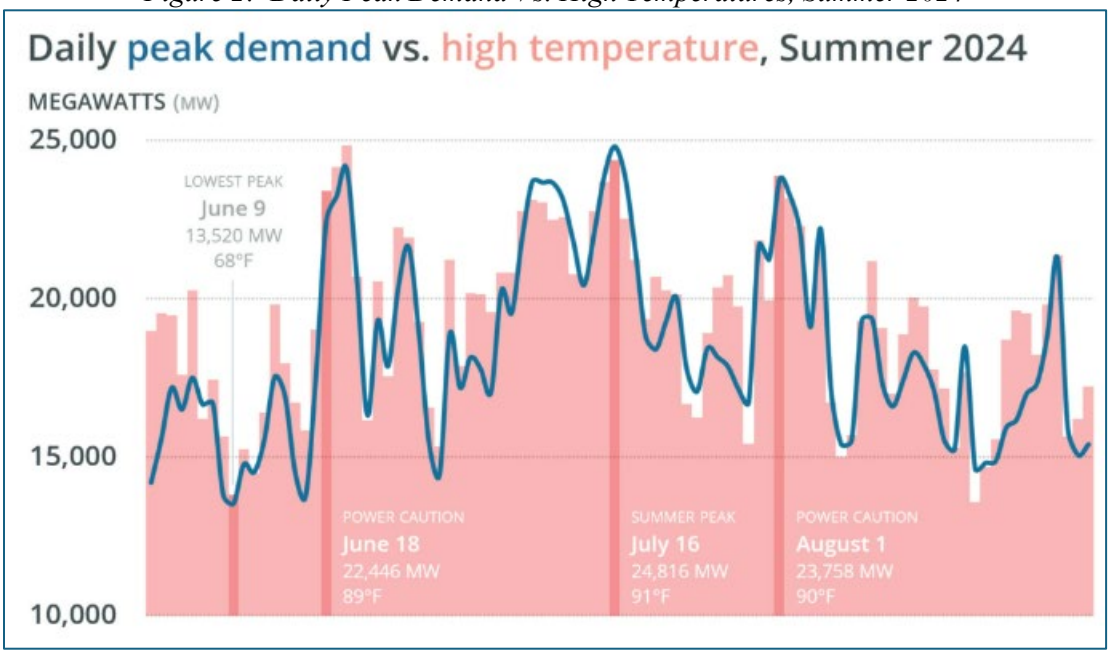


Figure 2 below illustrates the relationship between daily peak electricity demand and high temperatures across the summer months. It shows that higher temperatures generally correlated with increased electricity demand, particularly on days when temperatures spiked during heatwaves. Notably, the figure emphasizes how severe heat waves led to significant peaks in demand, as air conditioning usage spiked in response to the increased temperatures. Use of the **Connected**Solutions Program, other demand response programs, and operational measures helped balance supply and demand during these peak periods.

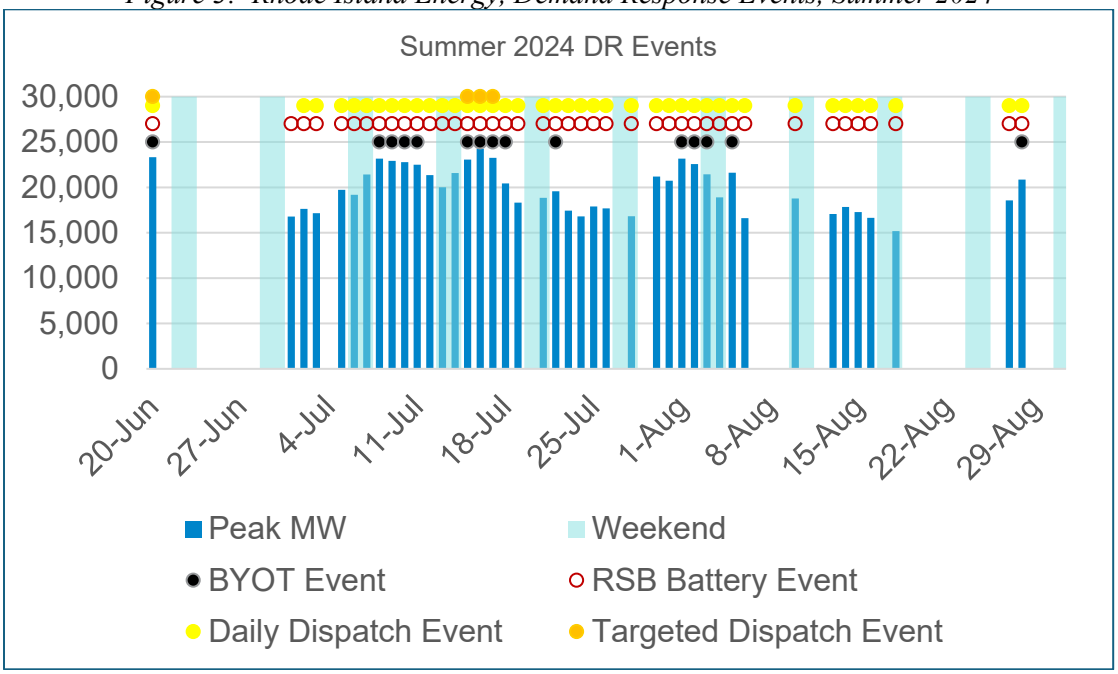
Figure 2: Daily Peak Demand Vs. High Temperatures, Summer 2024



Summer 2024 Rhode Island Energy Demand Response Events

The 2024 **Connected**Solutions season ran from June 1 through September 30. The Company scheduled DR events during 42 calendar days. Overall, the Company called 42 Residential Battery Energy Storage ("BES"); 41 C&I Daily Dispatch; 15 Bring Your Own Thermostat ("BYOT"); and 4 C&I Targeted Dispatch events. The Company called most events during July and August, targeting the highest 40 daily peaks. Participants curtailed energy for two- or three-hour event periods and many events were called between 5:00 PM and 7:00 PM. The ISO-NE peak hour occurred on July 17, during which the Company dispatched all Residential and C&I DR pathways.

Figure 3: Rhode Island Energy, Demand Response Events, Summer 2024



III. Residential and Small Business ("RSB") Pathways

To participate in the RSB pathways, customers must be in rate classes A-16, A-60, or C-06; customers in other rate classes are ineligible to participate in RSB pathways. Participants in the RSB track may stack incentives through setting back thermostats, discharging BES systems, curtailing electric vehicle charging, or voluntarily pre-loading or deferring electricity consumption.

Bring Your Own Thermostat Pathway Overview

Under the BYOT pathway, customers provide their own thermostat and enroll through designated thermostat providers. To participate, a customer must have a qualified thermostat controlling their central air conditioning systems. In 2024, the program supported 32 thermostat models from seven participating thermostat providers: Alarm.com, ecobee, Honeywell Home, Lux, Nest, Sensi, and Vivint.

The Company called fifteen DR events in 2024, yielding an average demand reduction of 9.43MW. An average of 11,926 devices participated per event. As of September 30, 2024, 12,828 thermostats were enrolled in the program and as of December 31, 2024, 14,163 thermostats were enrolled in the program.

BYOT Season Summary

Between June 1 and September 30, 2024, the **Connected**Solutions program successfully reduced electricity demand during peak periods through smart thermostat adjustments. There were 15 BYOT DR events called and events lasted for two or three hours. The average load shed per device ranged from 0.50 kW to 0.89 kW. The BYOT pathway saw significant growth with 14,163 devices enrolled and an average load shed per device of 0.67 kW.

Table 1: 2024 Residential BYOT Enrollment Goals vs. Actual Enrollments

	(a)	(b)		(c)		(d)	
(1)	**Program Offering**	**Target (End of 2024 Calendar Year)**		**Progress at end of summer (September 30, 2024)**		**Progress at end of year (As of December 31, 2024)**	
(2)		Device Enrollments	Load Shed (per device)	Device Enrollments	Load Shed (per device)	Device Enrollments	Load Shed (per device)
(3)	BYOT	15,379	0.65 kW	12,828	0.67 kW	14,163 92% of Target Reached	0.67 kW Target Exceeded

BYOT Event Results

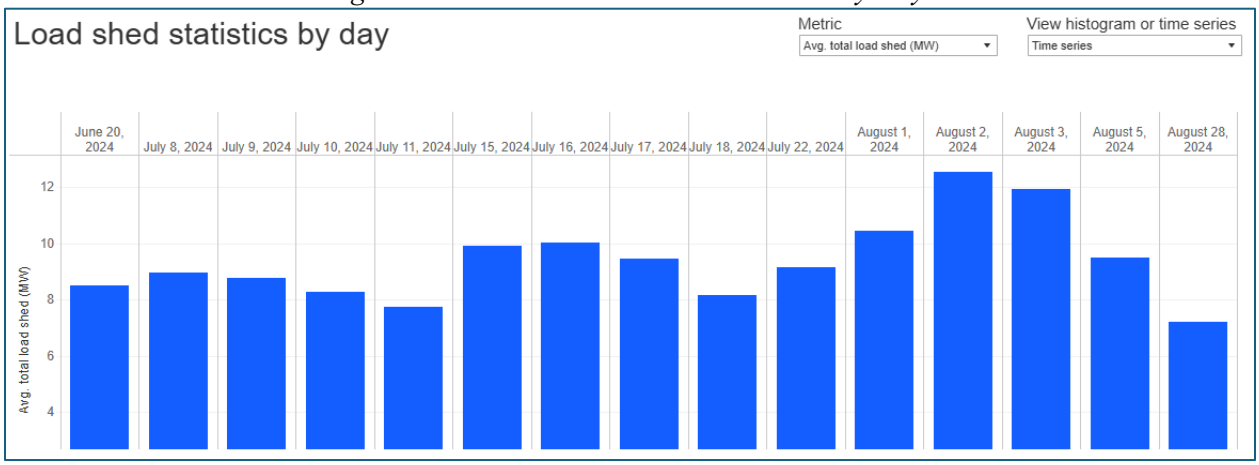
Please see Attachment 1 for a full BYOT DR Event Scorecard. A high-level snapshot of the 2024 season statistics is provided below:

- Average devices per event: 11,926
- Load shed/device (kW): 0.67
- Highest load shed/device (kW): 0.89 (Event on August 2)
- Average hourly load shed (MW): 9.38
- Max hourly load shed (MW): 13.69 (Event on August 3)
- Max coincident load shed (MW): 16.15 (Event on August 2)
- Highest total energy shifted (MWh): 33.65 (Event on August 3)

Higher savings typically are correlated with higher temperatures (80° F and above), the Temperature Humidity Index ("THI"), and increased energy demand. This can be seen when temperatures exceeded 80°F during event days on August 2 and August 3, 2024, as shown in Figure 4, below. The maximum coincident peak load reduction occurred on August 2, 2024, with a total of 16.15 MW. The 2024 ISO-NE system peak was on July 16, 2024; the BYOT

event on this date also resulted in a 10.04 MW average load shed and a maximum coincident peak load reduction of 15.80 MW.

Figure 4: BYOT 2024 Load Shed Statistics by Day



BYOT Enrollments and Marketing

ConnectedSolutions BYOT marketing was designed to recruit and engage customers year-round. In May and June 2024, because of the pending PUC decision on the program, the Company paused its marketing efforts.

The Company's webpage and enrollment microsite provides customers with program information, including program eligibility requirements, FAQs, contact information, links to purchase thermostats, and links to enroll thermostats by thermostat provider.

Figure 5: BYOT Enrollments in 2024

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Accepted Gross	300	244	251	237	296	350	**486**	294	212	**498**	360	**450**
Unenrolled Removed	35	38	66	54	70	112	217	106	81	84	62	110
Net Enrolled	265	206	185	183	226	238	269	188	131	414	298	340

In 2024, even with the pause in program marketing, the increase in enrollments could be attributed to a few efforts as indicated by bold numbers in Figure 5: BYOT Enrollments in 2024, above:

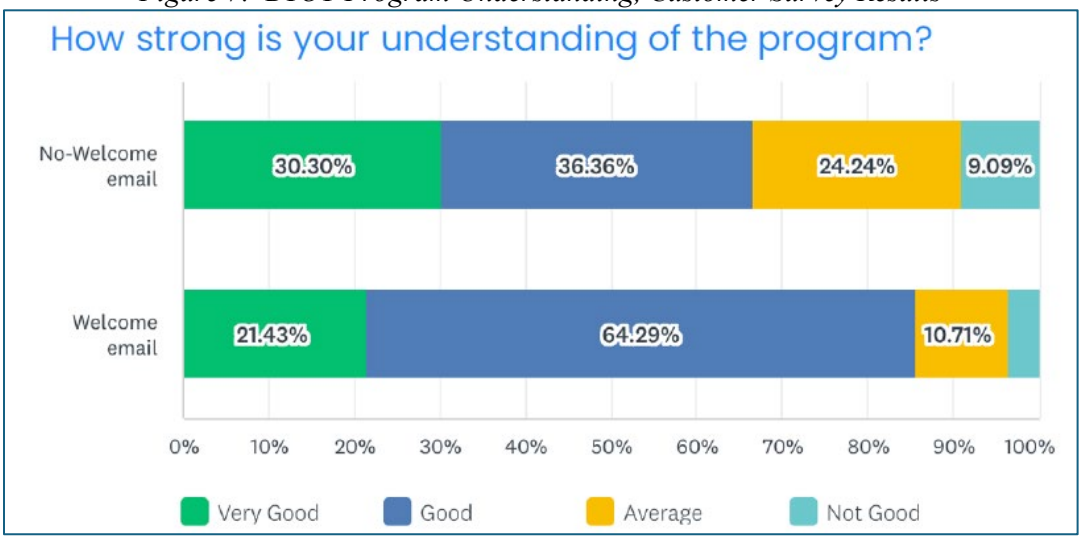
- Increased incentive from $25 per device to $50 per device in July
- Postcard and email collaboration launched in October
- Strong performance from Black Friday

Promotional emails continue to be used for targeting increased enrollments. Customer engagement email campaigns were used to encourage customer participation (Figure 6: BYOT Example of Welcome Email). Assets were comprised of the following emails: season start welcome back email, and a post season participation summary.

Figure 6: BYOT Example of Welcome Email

Figure 7: BYOT Program Understanding, Customer Survey Results demonstrates that welcome emails improved customers' understanding of the program. Additionally, customers who received a welcome email were 14.5% less likely to unenroll within 90 days of initial enrollment.

Figure 7: BYOT Program Understanding, Customer Survey Results



Battery Energy Storage Pathway Overview

Under the BES pathway, customers participate with their BES system controlled by an approved battery implementer. In 2024, 13 approved battery implementers were supported by the **Connected**Solutions program: Enphase, Emporia, Fortress Power, FranklinWH, Generac (formerly Pika Energy), Panasonic, Qcells, SolarEdge, Sol-Ark, Sonnen (paired with Outback inverter), SunPower, Sunrun, and Tesla. The Company called forty-two BES DR events in 2024, yielding an average demand reduction of 5.29 MW.[2] An average of 900 devices participated per event. As of December 31, 2024, 926 battery energy storage systems were enrolled in the program.

BES Season Summary

Between June 1, 2024, and September 30, 2024, the **Connected**Solutions program successfully reduced electricity demand during peak periods through BES discharges. There were 42 BES DR events called and events lasted for two or three hours. The estimated average load shed per device was 5.29kW.

[2] Estimated since all battery performance results are not final.

Table 2: 2024 Residential BES Enrollment Goals vs. Actual Enrollments

	(a)	(b)		(c)		(d)	
(1)	**Program Offering**	**Target (End of 2024 Calendar Year)**		**Progress at end of summer (September 30, 2024)**		**Progress-to-date (As of December 31, 2024)**	
(2)		Device Enrollments	Load Shed (per device)	Device Enrollments	Load Shed (per device)	Device Enrollments	Load Shed (per device)
(3)	BES	862	5.84 kW	880	5.29 kW	926 107% of Target Exceeded	5.29 kW Below Target

BES Event Results

Here is a snapshot of statistics:

- Average number of reporting devices: 900
- Load shed per device (kW): 5.29
- Average hourly load shed (MW): 4.75
- Max hourly load shed per event (MW): 5.60 (Event on August 27)

As shown in Table 3: Average BES Load Shed/Enrollment by Partner (kW), the average load shed per enrollment varies significantly by battery implementer. The reasons for this are due to several factors: (1) battery system size and capacity, (2) discharge power limits, and (3) customer preference and settings. Different manufacturers provide batteries with varying energy storage capacities. Larger batteries (i.e., Tesla Powerwall) can discharge more power than smaller ones, leading to a higher average load shed per enrollment. Some battery models have lower maximum discharge rates, limiting how much power they can provide during an event. It is typically recommended for customer systems to have 80% minimum state of charge to retain battery backup. If a customer reserves more of their battery for emergencies, less energy is available for demand response.

Table 3: Average BES Load Shed/Enrollment by Partner (kW)

	(a)	(b)
	Battery Partner	**2024 Average Load shed/enrollment (kW)**
(1)	Tesla	6.95
(2)	Enphase	4.25

	(a)	(b)
	Battery Partner	**2024 Average Load shed/enrollment (kW)**
(3)	Generac	4.16
(4)	Sunnova	4.15
(5)	SolarEdge	3.38
(6)	Sunpower	3.28
(7)	Sol-Ark	3.16
(8)	Sonnen	2.63
(9)	Sunrun	2.43

BES Enrollments and Educational Outreach
Stakeholder meetings play a critical role in shaping the Company's customer-facing programs. In 2024, the Rhode Island Office of Energy Resources ("OER") hosted several Solar Stakeholder Meetings during which the Company engaged stakeholders throughout the SRP and **Connected**Solutions development and implementation process for the 2024-2026 program years.

Meetings were held on April 29, September 10, and October 16. The discussions focused on the needs and wishes of the solar community. The Company presented on **Connected**Solutions program structure, incentive design, and incentive calculations. By engaging in discussions with solar companies, they can provide important feedback on the program and learn about the program's ins and outs. These interactions aim to increase accuracy in **Connected**Solutions messaging to our customers. The Company tries to ensure solar companies accurately communicate program benefits, requirements, and realistic potential customer incentive earnings.

Electric Vehicle Demand Response ("EVDR") Pathway Overview
Under the EVDR pathway, customers provide their own electric vehicle ("EV") or EV Charger and enroll through a designated approved provider. The EVDR pathway was launched on October 22, 2024. In 2024, five EVs and EV chargers were supported by the program: Tesla, ChargePoint, Emporia, EvoCharge, and Wallbox.

The Company did not call any DR events in 2024 because the program launched after the summer season.

EVDR Season Summary
While the EVDR pathway did not capture any load reduction benefits during summer 2024, recruitment efforts are underway to prepare for summer 2025.

Table 4: 2024 Residential EVDR Enrollment Goals vs. Actual Enrollments

	(a)	(b)		(c)		(d)	
(1)	**Program Offering**	**Target (End of 2024 Calendar Year)**		**Progress at end of summer (September 30, 2024)**		**Progress-to-date (As of December 31, 2024)**	
(2)		Device Enrollments	Load Shed (per device)	Device Enrollments	Load Shed (per device)	Device Enrollments	Load Shed (per device)
(3)	EVDR	500	0.32 kW	0	0 kW	131 26.2% of Target Reached	0 kW Program launch after summer season

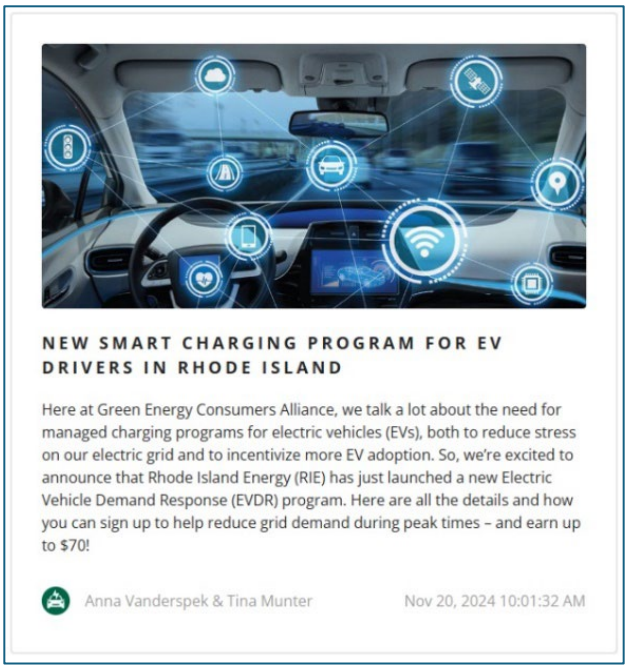
EVDR Event Results
None.

EVDR Enrollments, Educational Outreach and Marketing
The EVDR pathway launched on October 22, 2024. The Company focused efforts on encouraging participation through targeted education, streamlined enrollment, and marketing initiatives. Pre-launch, the Company engaged with state agencies and EV advocacy groups to discuss **Connected**Solutions, programmatic goals, brainstorm ideas, and identify opportunities to engage with EV owners.

The Company provided a stakeholder outreach toolkit to state agencies, EV advocacy groups, and legislators which included a program guide, factsheet, FAQs, brief slide deck, customizable templates for newsletter and social media content, and messaging to support outreach. These efforts helped expand the reach of connecting with EV owners and encouraged them to enroll. Two state agencies and one advocacy group included outreach materials in newsletters, social media posts, blogs, and webinars. An example is provided in Figure 8: Blog Post by Green Energy Consumers Alliance, November 2024.

The Company partnered with Green Energy Consumers Alliance to host a webinar on December 13 "Save on EV Charging, New Demand Response Program in RI." The partnership was identified during a brainstorm session to discuss the **Connected**Solutions Program and alignment with Green Energy Consumers Alliance's Shave the Peak program and electric vehicle educational initiatives. The Company also worked with OER to collaborate and align messaging within the State's PowerUpRI rebate program and inform those wanting to install a residential EV charging station in the **Connected**Solutions program (included on Page 5 of PowerUpRI Guidance Document).

Figure 8: Blog Post by Green Energy Consumers Alliance, November 2024



NEW SMART CHARGING PROGRAM FOR EV DRIVERS IN RHODE ISLAND

Here at Green Energy Consumers Alliance, we talk a lot about the need for managed charging programs for electric vehicles (EVs), both to reduce stress on our electric grid and to incentivize more EV adoption. So, we're excited to announce that Rhode Island Energy (RIE) has just launched a new Electric Vehicle Demand Response (EVDR) program. Here are all the details and how you can sign up to help reduce grid demand during peak times – and earn up to $70!

Anna Vanderspek & Tina Munter Nov 20, 2024 10:01:32 AM

EV Charging Manufacturer ChargePoint also sent direct emails to ChargePoint account holders informing them of the program on December 3, 2024. The Company reviews and approves language included in these messages before they are sent; an example can be seen in Figure 9: ChargePoint Customer Email, December 3 2024. EV Charging Manufacturer Emails to customers, like ChargePoint, resulted in the largest jump in enrollments (Figure 10: EVDR Enrollment Trends, October 2024 - December 2024 EV Charging Manufacturer targeted email sends will continue throughout the year.

Figure 9: ChargePoint Customer Email, December 3, 2024

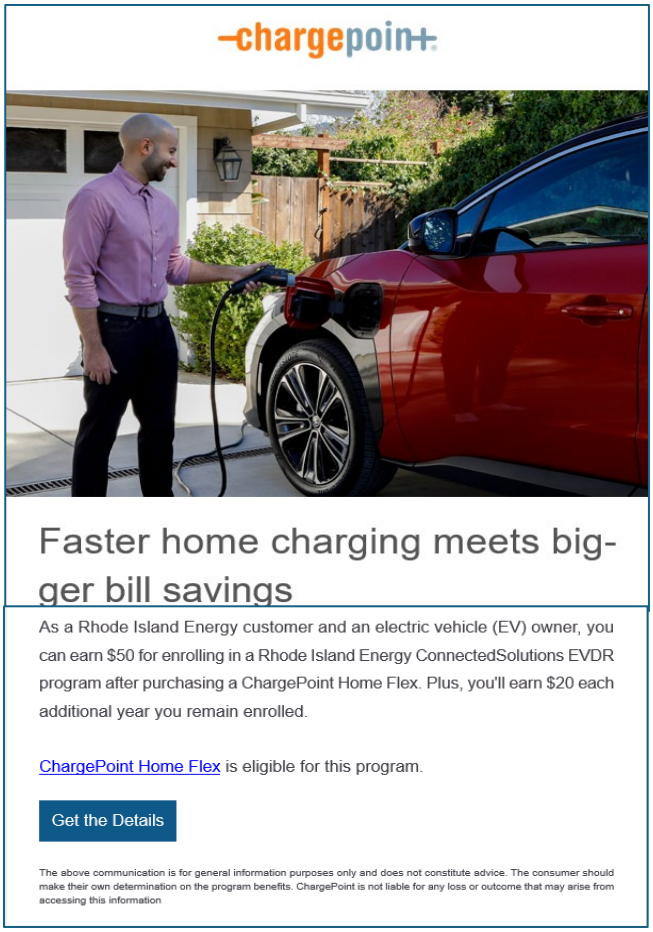
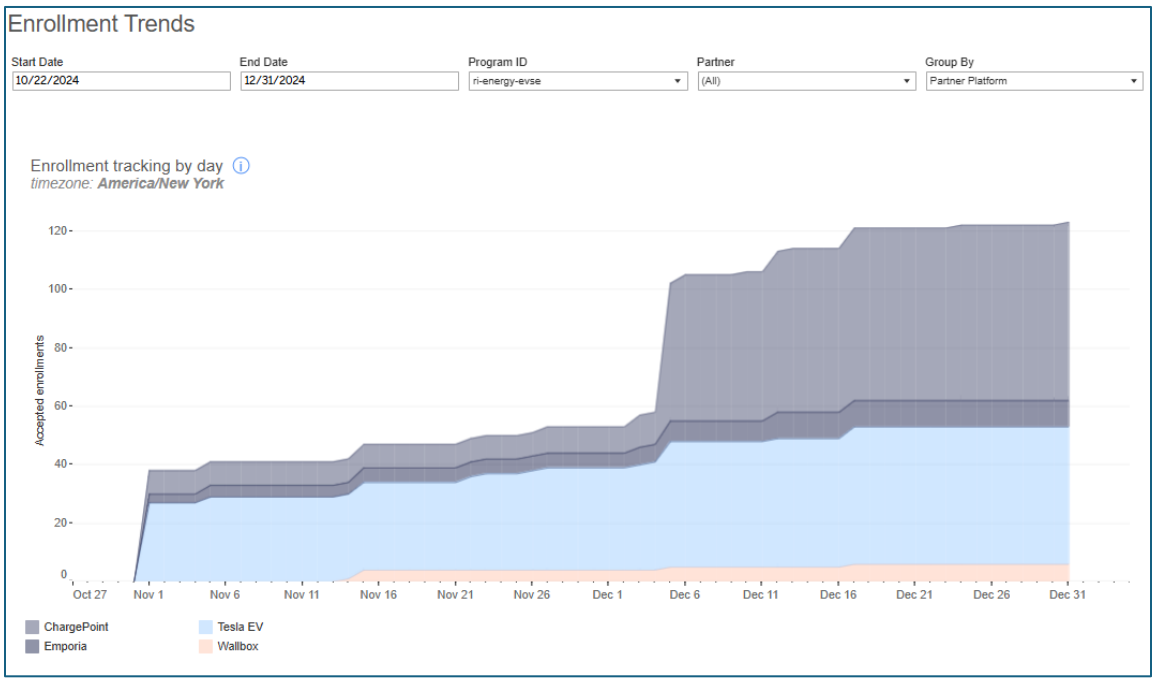


Figure 10: EVDR Enrollment Trends, October 2024- December 2024



RSB Performance Results

The Company issued $2,672,434 of estimated total 2024 RSB incentive payments. Residential Participant Incentive costs incurred are estimated and subject to updates in future iterations of **Connected**Solutions annual reporting. The RSB Incentive HEAT loan included in incentives is considered to be contained within the first year of an eligible participant's participation and included in future years of participation. The Three-Year **Connected**Solutions report will reflect actual and final expenditures.

*Table 5: 2024 RES **Connected**Solutions Expected vs. Actual Season Performance Results and Incentives*

		(a)	(b)	(c)	(d)	(e)	(f)
(1)		**Expected Load Shed per device (kW)**	**Estimated Actual Load Shed per device (kW)**	**Percent Realized (%)**	**Expected Incentives ($000)**	**Estimated Actual Incentives ($000)**	**Estimated Percent Realized (%)**
(2)	BYOT	0.65	0.67	103.07%		$313	
(3)	BES	5.84	5.29	90.58%		$2,359	
(4)	EVDR	0.32	0.00	0.00%		$0	
(5)	Total	6.81	5.96	87.52%	$2,520	$2,672	106.03%

IV. Commercial & Industrial Pathways

C&I Overview:
To participate in the C&I pathways, customers must be in rate classes C-06, G-02, or G-32; customers in other rate classes are ineligible to participate in C&I pathways. Participants may enroll in either the Daily Dispatch or Targeted Dispatch pathways, or they may enroll in both pathways ("Dual Enrolled"). C&I **Connected**Solutions participants may either enroll through an approved Curtailment Service Provide ("CSP") to manage their enrollment, or they may enroll on their own as a Direct Participant.

A total of 144 C&I customers were enrolled to participate in the 2024 **Connected**Solutions program season. Out of those 144 participants, eleven were enrolled in the Daily Dispatch pathway, 86 were enrolled in the Targeted Dispatch pathway, and 47 were Dual Enrolled in both the Daily Dispatch and Targeted Dispatch pathways. Of these enrollments, participants committed to about 25.2 MW and 54.0 MW of average hourly load shed for the Daily Dispatch and Targeted Dispatch pathways, respectively.

Daily Dispatch and Targeted Dispatch Pathways Season Summary:
From June 1 through September 30, 2024, Rhode Island Energy dispatched a total of 45 C&I DR events: 41 Daily Dispatch events and four Targeted Dispatch events. Daily Dispatch participants curtailed for 2- or 3-hour event periods, while Targeted Dispatch participants curtailed for three-hour event periods. C&I participants curtailed 23.1 MW of average hourly load shed throughout the 2024 DR season. Participants in the Daily Dispatch pathway delivered 11.4 MW of average hourly load shed; participants in the Targeted Dispatch pathway delivered 11.7 MW of average hourly load shed.

C&I Performance Results:
Based on historical performance results and new 2024 enrollments, the Company had estimated that C&I DR participants would deliver about 15.4 MW and 12.9 MW of Daily Dispatch and Targeted Dispatch curtailment, respectively.

Following the conclusion of the 2024 **Connected**Solutions season, the Company used C&I metered interval data to calculate actual participant performances and performance-based incentive payments. Beginning for the 2024 season, the Company adjusted the C&I performance calculation methodology to include negative event performances in the calculation of participants' seasonal average hourly load shed results, or final performance. A negative event performance indicates that the participant utilized more energy during the event, as compared to their baseline energy usage during non-event days. This signals that the customer did not participate in that particular demand response event. Under the circumstance in which a participant's overall 2024 average performance was negative, Rhode Island Energy assigned the customer a final performance value of 0 kW, and the customer received no performance incentive for the 2024 season. In previous program years, rather than including negative event

performances in a participant's seasonal average load shed calculation, negative event performances were adjusted to be 0 kW of average hourly load shed. This adjustment occurred prior to the calculation of a participant's seasonal average load shed, therefore increasing the final performance result and incentive payout to the customer. The Company felt that including negative event results in the calculation of participants' final performances more accurately depicts each C&I participant's overall load shed throughout the **Connected**Solutions season.

Because of this adjustment, the actual results for the 2024 season were lower than the Company had originally expected. Excluding only the results for participants who had a negative overall average performance, the average hourly load shed was 11.4 MW from Daily Dispatch and 11.7 MW from Targeted Dispatch, totaling about 23.1MW of average C&I hourly load shed (Final Load Shed). These results still include negative, *individual* event performances for participants whose overall seasonal hourly load shed was positive. Comparatively, including all positive and negative individual event results, the average hourly load shed was about 11.4 MW and 11.3 MW from the Daily Dispatch and Targeted Dispatch pathways, respectively (Net Load Shed). Comparing these numbers with the 2023 performance methodology (adjusting all negative, individual event performances to be 0 kW of load shed and then calculating each participant's seasonal performance), produced an average hourly load shed of about 11.9 MW and 12.1 MW from the Daily Dispatch and Targeted Dispatch pathways, respectively (Gross Load Shed). Table 6 below summarizes these Net, Gross, and Final performance results.

*Table 6: 2024 C&I **Connected**Solutions Average Hourly Gross vs. Net vs. Final Load Shed*

	(a)	(b)	(c)	(d)
(1)		**Final Load Shed (kW)**	**Net Load Shed (kW)**	**Gross Load Shed (kW)**
(2)	Daily Dispatch	11,384	11,384	11,900
(3)	Targeted Dispatch	11,698	11,313	12,135
(4)	Total	23,082	22,697	24,035

Rhode Island Energy does not monetarily penalize participants for individual, negative event performances. Instead, all event performances are included in the overall average performance calculation, causing a participant's seasonal load shed and incentive payment to decrease if they had any events with a negative performance. Participants with an *overall* negative performance received no incentive payment for the 2024 season. The Company issued $3,820,336 in total for 2024 C&I incentive payments. Of that total amount, $3,410,916 was paid to Daily Dispatch participants and $409,420 was paid to Targeted Dispatch participants. The "Final Load Shed" results described above, directly correlate to the final 2024 incentive payments, as shown in Table 7 below.

*Table 7: 2024 C&I **Connected**Solutions Expected vs. Actual Season Performance Results and Incentives*

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
(1)		**Expected Load Shed (MW)**	**Actual Load Shed (MW)**	**Percent Realized (%)**	**Expected Incentives ($000)**	**Actual Incentives ($)**	**Percent Realized (%)**
(2)	Daily Dispatch	15.37	11.38	74%	$4,587	$3,411	74%
(3)	Targeted Dispatch	12.86	11.70	91%	$450	$409	91%
(4)	Total	28.23	23.08	82%	$5,037	$3,820	76%

C&I Enrollments and Outreach

In 2024, Rhode Island Energy had contracts with five CSPs: CPower, Enel X, Leap, Parsons, and Voltus. The CSPs execute the majority of customer-facing outreach for the C&I track of the **Connected**Solutions program, while the Company's account executives perform outreach to customers as well. Although customers do have the option to directly enroll in the program themselves, most participants have elected to enroll through one of the Company's approved CSPs. Prior to and throughout the 2024 season, the Company maintained communication with each CSP through emails and virtual meetings to review current enrollments, program availability, and the enrollment pipeline.

V. ConnectedSolutions Budgets and Expenditures

2024 Cost Incurrence

Estimated Actual 2024 Program Spend

Please see Table 8 below for the 2024 **Connected**Solutions program year's estimated cost incurrence. The Residential Program Planning and Administration ("PP&A") and Marketing costs represent the estimated program spend through the 2024 calendar year. The Residential Rebates and Other Customer Incentives and Sales, Tech Assist & Training ("STAT") costs represent the estimated program spend from January 1 through September 30, 2024. Residential Incentive and STAT costs incurred from October 1 through December 31, 2024, are attributable to savings that will be realized during the 2025 **Connected**Solutions season and therefore will be included in the 2025 Year-End Report.

All C&I costs are representative of estimated spending during the 2024 calendar year, because all of the savings associated with these costs were achieved during the 2024 **Connected**Solutions season.

*Table 8: 2024 **Connected**Solutions Estimated Cost Incurrence*

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
(1)		**Program Planning & Administration**	**Marketing**	**Rebates and Other Customer Incentives**	**Sales, Tech Assist & Training**	**Implementation**	**Grand Total**
(2)	**Residential**	**$74,635**	**$31**	**$2,672,434**	**$893,067**	**$3,640,167**	**$3,640,167**
(3)	Residential ConnectedSolutions	$74,635	$31	$2,672,434	$893,067	$3,640,167	$3,640,167
(4)	**Commercial & Industrial**	**$57,540**	**$0**	**$3,820,336**	**$250,000**	**$4,127,876**	**$4,127,876**
(5)	C&I ConnectedSolutions	$57,540	$0	$3,820,336	$250,000	$4,127,876	$4,127,876
(6)	**Portfolio**	**$0**	**$0**	**$0**	**$0**	**$161,937**	**$0**
(7)	OER	$0	$0	$0	$0	$161,937	$0
(8)	**Total**	**$132,176**	**$31**	**$6,492,770**	**$1,143,067**	**$7,929,981**	**$7,768,044**

*Note that Residential Incentive and STAT costs incurred are estimated and subject to updates in future iterations of **Connected**Solutions annual reporting. The RSB Incentive HEAT loan included in Rebates and Other Customer Incentives is considered to be contained within the first year of an eligible participant's participation and sunk in future years of participation. The Three-Year **Connected**Solutions report will reflect actual and final expenditures.

Cumulative Collections from SRP Factor

Collections from the SRP factor began in August 2024. The cumulative collections from August 2024 through December 2024 for the SRP factor were $4,095,538.73.

2024 Achieved Savings

Original benefits for 2024 were estimated at $11.70 million, as shown in Table 9. This value was derived from the assumed program participation levels and estimated dollars per kilowatt savings at the time of program approval (July 1, 2024). After updating the previous BCA model with actual 2024 performance results, the total benefits are estimated at $9.79M (see Table 10). This value was assumed utilizing the same dollars per kilowatt savings model.[3] When the original BCA model was developed, it did not account for scaling factors used for the uncleared resources. Concept of the Demand Response Scaling Factor and its impact on benefits estimations are discussed below.

[3] The only exceptions are thermostats, which in addition to demand savings (measured in kW) also generate energy savings (measured in kWh). Actual kW savings per thermostat were measured at 0.67 kW per vs 0.65 kW assumed originally. Once converted from energy ($/kWh) to demand savings ($/kW), this led to slightly lower per kW savings (summer Peak energy savings dropped from $0.64 per kW to $0.62 per kW).

*Table 9: Original 2024 **Connected**Solutions Estimated Benefits*

		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
		Benefits (000's)											
			Capacity				Energy						
			Summer	Capacity			Summer		Winter		Electric	Avoided	Energy
		Total	Generation	DRIPE	Transmission	Distribution	Peak	Off Peak	Peak	Off Peak	Energy DRIPE	RNS	Price
	Residential												
(1)	BYOT repeat	$1,949	$511	$161	$99	$888	$5	$0	$0	$0	$0	$285	$0
(2)	BYOT first	$685	$180	$57	$35	$312	$2	$0	$0	$0	$0	$100	$0
(3)	EVDR repeat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(4)	EVDR first	$42	$11	$3	$2	$19	$0	$0	$0	$0	$0	$6	$0
(5)	Battery 200	$35	$9	$3	$2	$15	$0	$0	$0	$0	$0	$5	$2
(6)	Battery 225	$80	$20	$6	$4	$35	$0	$0	$0	$0	$0	$11	$4
(7)	Battery 400	$1,271	$319	$101	$62	$554	$0	$0	$0	$0	$0	$178	$59
(8)	**Subtotal**	**$4,063**	**$1,050**	**$331**	**$204**	**$1,823**	**$6**	**$0**	**$0**	**$0**	**$0**	**$585**	**$64**
	Commercial & Industrial												
(9)	TD	$3,400	$894	$282	$173	$1,553	$0	$0	$0	$0	$0	$498	$0
(10)	DD 275	$377	$99	$31	$19	$172	$0	$0	$0	$0	$0	$55	$0
(11)	DD 300	$3,858	$1,014	$320	$197	$1,761	$0	$0	$0	$0	$0	$565	$0
(12)	**Subtotal**	**$7,635**	**$2,008**	**$633**	**$389**	**$3,486**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,118**	**$0**
(13)	**Grand Total**	**$11,697**	**$3,058**	**$964**	**$593**	**$5,309**	**$6**	**$0**	**$0**	**$0**	**$0**	**$1,703**	**$64**
(14)	**Avoided Electric Bill Cost ($/kW)**		$ 69.11	$ 21.79	$ 13.40	$ 120.00	$ 0.64	$ -	$ -	$ -	$ 0.03	$ 38.50	$ 12.73
											Total for Batteries ($/kW)		**$ 275.53**
											Total for Thermostats ($/kW		**$ 263.47**
											Total for the Rest ($/kW)		**$ 262.80**

*Table 10: Updated 2024 **Connected**Solutions Estimated Benefits*

		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
		Benefits (000's)											
			Capacity				Energy						
			Summer	Capacity			Summer		Winter		Electric		Energy
		Total	Generation	DRIPE	Transmission	Distribution	Peak	Off Peak	Peak	Off Peak	Energy DRIPE	Avoided RNS	Price
	Residential												
(1)	BYOT repeat	$1,984	$520	$164	$101	$904	$5	$0	$0	$0	$0	$290	$0
(2)	BYOT first	$280	$74	$23	$14	$128	$1	$0	$0	$0	$0	$41	$0
(3)	EVDR repeat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(4)	EVDR first	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(5)	Battery 200	$23	$6	$2	$1	$10	$0	$0	$0	$0	$0	$3	$1
(6)	Battery 225	$41	$10	$3	$2	$18	$0	$0	$0	$0	$0	$6	$2
(7)	Battery 400	$1,396	$350	$110	$68	$608	$0	$0	$0	$0	$0	$195	$65
(8)	**Subtotal**	**$3,725**	**$960**	**$303**	**$186**	**$1,668**	**$5**	**$0**	**$0**	**$0**	**$0**	**$535**	**$68**
	Commercial & Industrial												
(9)	TD	$3,074	$808	$255	$157	$1,404	$0	$0	$0	$0	$0	$450	$0
(10)	DD 275	$44	$12	$4	$2	$20	$0	$0	$0	$0	$0	$6	$0
(11)	DD 300	$2,948	$775	$244	$150	$1,346	$0	$0	$0	$0	$0	$432	$0
(12)	**Subtotal**	**$6,066**	**$1,595**	**$503**	**$309**	**$2,770**	**$0**	**$0**	**$0**	**$0**	**$0**	**$889**	**$0**
(13)	**Grand Total**	**$9,791**	**$2,556**	**$806**	**$495**	**$4,437**	**$5**	**$0**	**$0**	**$0**	**$0**	**$1,424**	**$68**
(14)	**Avoided Electric Bill Cost ($/kW)**		$ 69.11	$ 21.79	$ 13.40	$ 120.00	$ 0.62	$ -	$ -	$ -	$ 0.03	$ 38.50	$ 12.73
											Total for Batteries ($/kW)		**$ 275.53**
											Total for Thermostats ($/kW)		**$ 263.45**
											Total for the Rest ($/kW)		**$ 262.80**

DR Scaling Factor

The AESC study reports[4] differentiating impacts of load reduction measures that directly bid in ISO-NE Forward Capacity Market ("FCM") and those that do not bid in the FCM. The latter are referred as "uncleared" resources. Uncleared resources do not receive capacity payments; however, they reduce the aggregate amount of capacity that is required, and hence the price of that capacity. Impacts of uncleared capacity and associate capacity Demand Reduction Induced Price Effect ("DRIPE") are estimated differently than other avoided cost categories. These key differences are as follows:

- For uncleared resources, benefits do not accrue until after the measure has been in effect for a few years and benefits continue to accrue for several years after the measure ceases to be active, as the load reduction moves through the 15 years of data used in the ISO load-forecast regression.

- Because uncleared capacity and capacity DRIPE describe an effect that fades out over time because of the market's responses to that effect, avoided costs should be summed over the entire study period, regardless of measure's lifetime.[5]

- The effect of uncleared capacity for demand response will vary with the number days peak load is reduced and the number of years for which the load reduction continues.

Unlike the energy efficiency measures that save energy according to a consistent pattern throughout the year, demand response resources are designed to provide savings during specific time periods (e.g., summer peak hours). Demand response resources are subject to customer responsiveness, which can fluctuate with a customer's annual participation in a demand response program and with each demand response event called. As a result, demand response resources typically have shorter and more variable durations, both in terms of measure lives and annual hours of operation. According to AESC, because of this variability, uncleared measures may not have a "full" effect on the load forecast. This implies that their uncleared benefits should be scaled according to how frequently the measures are expected to operate (and, as a result, impact the load forecast).

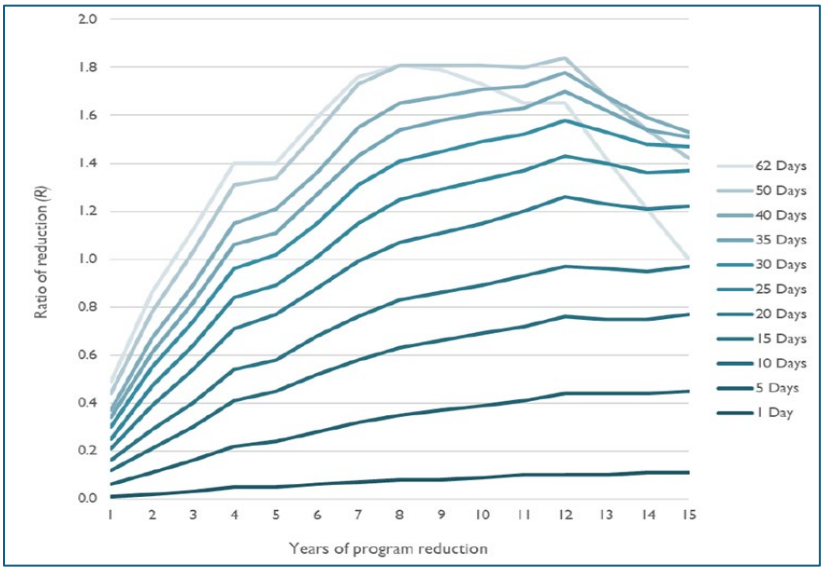
The savings from the "uncleared" amounts do not produce direct savings within the capacity market. These measures, however, still provide indirect system benefits by impacting ISO-NE's forecast of load, which is one of the inputs used to develop prices in the capacity market. According to AESC, for demand response measures these benefits depend on the number of days on which load is reduced each year and the number of years of load reductions. Therefore, initial

[4] Avoided Energy Supply Costs in New England (AESC) reports are at https://www.synapse-energy.com/avoided-energy-supply-costs-new-england-aesc

[5] For example, under AESC 2024, the avoided costs of a 1 MW measured installed in 2024 would be equal to the sum of the values from 2024 through 2060, regardless of whether that measure had a 1-year measure life or a 30-year measure life.

capacity savings need to be adjusted by a Scaling Factor which is denoted as a ratio (R) of the change between forecast peak (ΔF) to the load reduction (ΔL). This ratio could be above or below 1 depending on number of peak days measures are deployed per year as well as number of years they will be used (See Figure 11).

Figure 11: Ratio of forecast reduction to load reduction for various numbers of peak days per year



For the 2024 **Connected**Solutions program year, measures deployed – if participants stay in the program – can last for two additional years, leading to three years of program reductions. On the other hand, if these participants unenroll from the program, their impact will be only for one year of program reduction. As can be seen in Figure 11, this can have a significant impact on the scaling factors. In the original BCA analysis, scaling factors were not applied for the uncleared resources. This may have led to over estimation of the benefits for those resources.

Assuming scaling factors with three years of program reduction, the total estimated benefits are at $7.94 million (see Table 11). Comparatively, assuming more conservative scaling factor with only one year program reduction, total benefits are estimated at $7.05 million (see Table 12). The scaling factors utilized to evaluate achieved savings during the 2024 **Connected**Solutions program year were calculated in Attachment 2 via AESC's Appendix K DR scaling factor calculator.

*Table 11: Updated 2024 **Connected**Solutions Estimated Benefits assuming three-year program reduction*

		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
		Benefits (000's)											
			Capacity				**Energy**						
			Summer	**Capacity**			**Summer**		**Winter**		**Electric**		**Energy**
		Total	**Generation**	**DRIPE**	**Transmission**	**Distribution**	**Peak**	**Off Peak**	**Peak**	**Off Peak**	**Energy DRIPE**	**Avoided RNS**	**Price**
	Residential												
(1)	BYOT repeat	$1,561	$199	$63	$101	$904	$5	$0	$0	$0	$0	$290	$0
(2)	BYOT first	$221	$28	$9	$14	$128	$1	$0	$0	$0	$0	$41	$0
(3)	EVDR repeat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(4)	EVDR first	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(5)	Battery 200	$21	$4	$1	$1	$10	$0	$0	$0	$0	$0	$3	$1
(6)	Battery 225	$38	$8	$3	$2	$18	$0	$0	$0	$0	$0	$6	$2
(7)	Battery 400	$1,291	$270	$85	$68	$608	$0	$0	$0	$0	$0	$195	$65
(8)	**Subtotal**	**$3,132**	**$510**	**$161**	**$186**	**$1,668**	**$5**	**$0**	**$0**	**$0**	**$0**	**$535**	**$68**
	Commercial & Industrial												
(9)	TD	$2,077	$50	$16	$157	$1,404	$0	$0	$0	$0	$0	$450	$0
(10)	DD 275	$40	$9	$3	$2	$20	$0	$0	$0	$0	$0	$6	$0
(11)	DD 300	$2,690	$579	$183	$150	$1,346	$0	$0	$0	$0	$0	$432	$0
(12)	**Subtotal**	**$4,807**	**$638**	**$201**	**$309**	**$2,770**	**$0**	**$0**	**$0**	**$0**	**$0**	**$889**	**$0**
(13)	**Grand Total**	**$7,939**	**$1,148**	**$362**	**$495**	**$4,437**	**$5**	**$0**	**$0**	**$0**	**$0**	**$1,424**	**$68**
(14)	**Avoided Electric Bill Cost ($/kW)**		$ 31.04	$ 9.78	$ 13.40	$ 120.00	$ 0.62	$ -	$ -	$ -	$ 0.03	$ 38.50	$ 12.73
												Total for Batteries ($/kW)	**$ 254.81**
												Total for Thermostats ($/kW)	**$ 207.27**
												Total for the Rest ($/kW)	**$ 208.24**

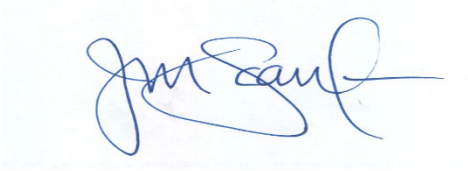
*Table 12: Updated 2024 **Connected**Solutions Estimated Benefits assuming one-year program reduction*

		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
		Benefits (000's)											
			Capacity				**Energy**						
							Summer		**Winter**				
		Total	**Summer Generation**	**Capacity DRIPE**	**Transmission**	**Distribution**	**Peak**	**Off Peak**	**Peak**	**Off Peak**	**Electric Energy DRIPE**	**Avoided RNS**	**Energy Price**
	Residential												
(1)	BYOT repeat	$1,392	$70	$22	$101	$904	$5	$0	$0	$0	$0	$290	$0
(2)	BYOT first	$197	$10	$3	$14	$128	$1	$0	$0	$0	$0	$41	$0
(3)	EVDR repeat	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(4)	EVDR first	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(5)	Battery 200	$18	$2	$1	$1	$10	$0	$0	$0	$0	$0	$3	$1
(6)	Battery 225	$32	$3	$1	$2	$18	$0	$0	$0	$0	$0	$6	$2
(7)	Battery 400	$1,090	$117	$37	$68	$608	$0	$0	$0	$0	$0	$195	$65
(8)	**Subtotal**	**$2,728**	**$203**	**$64**	**$186**	**$1,668**	**$5**	**$0**	**$0**	**$0**	**$0**	**$535**	**$68**
	Commercial & Industrial												
(9)	TD	$2,036	$19	$6	$157	$1,404	$0	$0	$0	$0	$0	$450	$0
(10)	DD 275	$33	$4	$1	$2	$20	$0	$0	$0	$0	$0	$6	$0
(11)	DD 300	$2,249	$244	$77	$150	$1,346	$0	$0	$0	$0	$0	$432	$0
(12)	**Subtotal**	**$4,319**	**$267**	**$84**	**$309**	**$2,770**	**$0**	**$0**	**$0**	**$0**	**$0**	**$889**	**$0**
(13)	**Grand Total**	**$7,048**	**$470**	**$148**	**$495**	**$4,437**	**$5**	**$0**	**$0**	**$0**	**$0**	**$1,424**	**$68**
(14)	**Avoided Electric Bill Cost ($/kW)**		$ 12.71	$ 4.01	$ 13.40	$ 120.00	$ 0.62	$ -	$ -	$ -	$ 0.03	$ 38.50	$ 12.73
												Total for Batteries ($/kW)	**$ 214.99**
												Total for Thermostats ($/kW)	**$ 184.82**
												Total for the Rest ($/kW)	**$ 187.13**

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Joanne M. Scanlon

March 14, 2025
Date

Docket No. 24-06-EE – Rhode Island Energy System Reliability Procurement ("SRP") Investment Proposal for Electric Demand Response 2024-2026 – ConnectedSolutions
Service list 3/3/2025

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