

C&I Demand Response Programs

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We look forward to hearing from you

Please put all your questions into the questions section with this icon.



Q&A



Demand Response Agenda

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Why Demand Response

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Q&A

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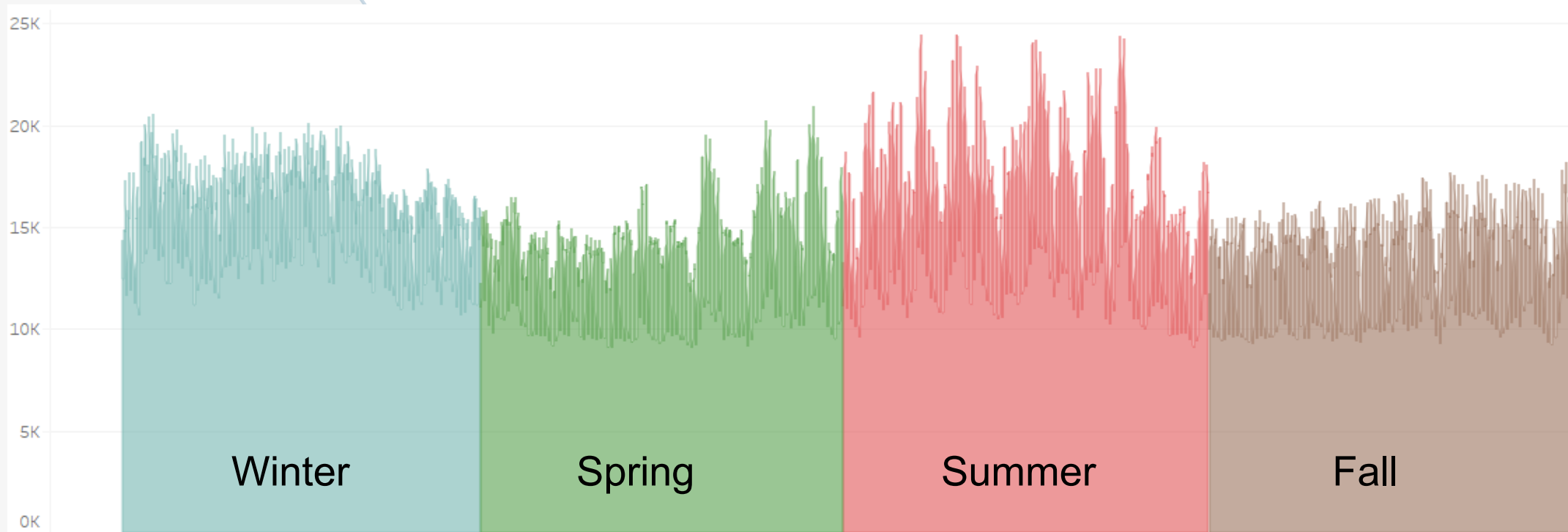
Ways to Participate

3

2022 Results

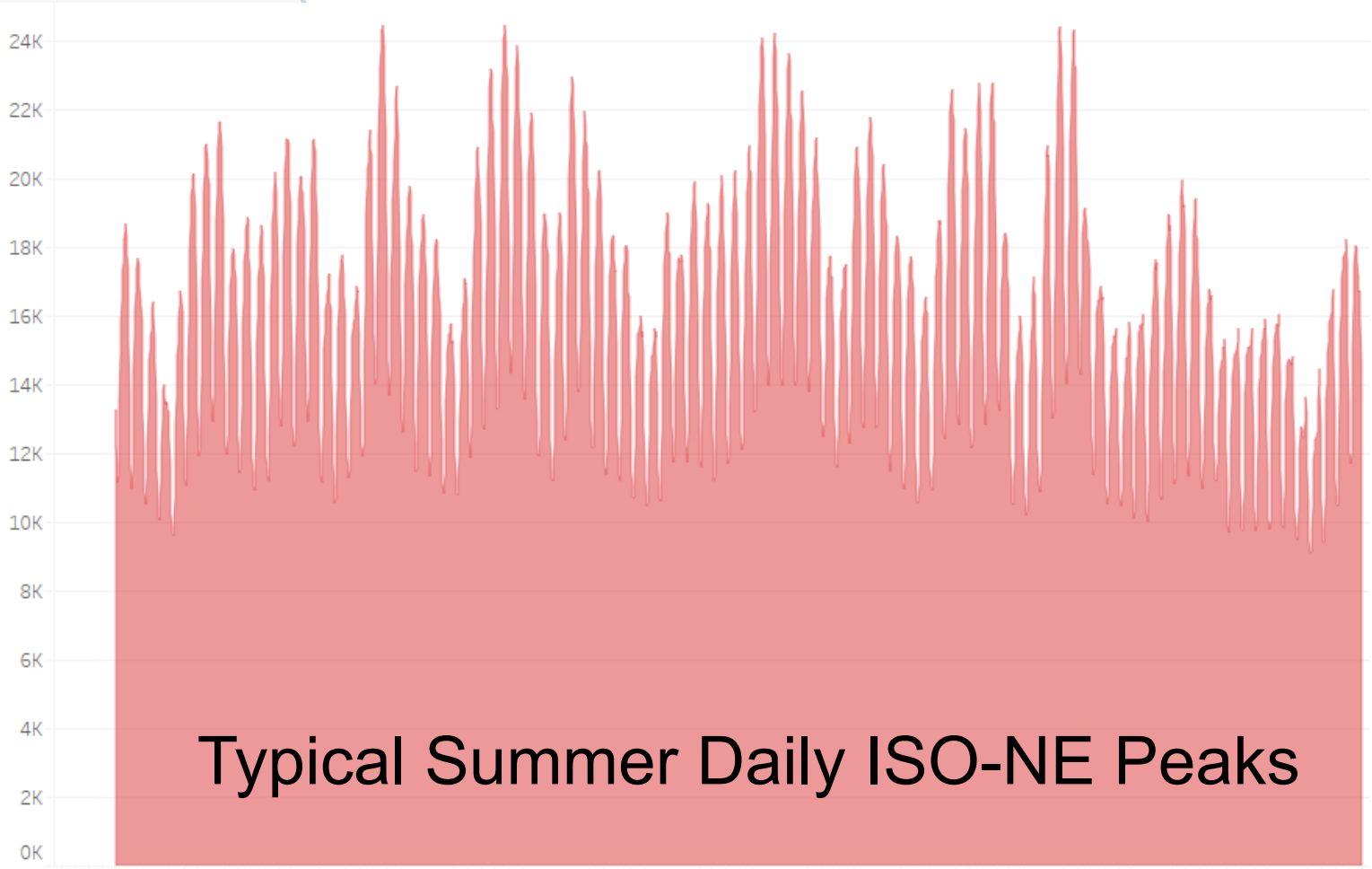
What Is Demand Response and Why Do We Do It?

“The top 10% of hours during the year, on average, accounted for 40% of the annual electricity spend...”



The whole grid is sized to meet the peak.

What do Summer Peaks look like?



Typical Summer Daily ISO-NE Peaks

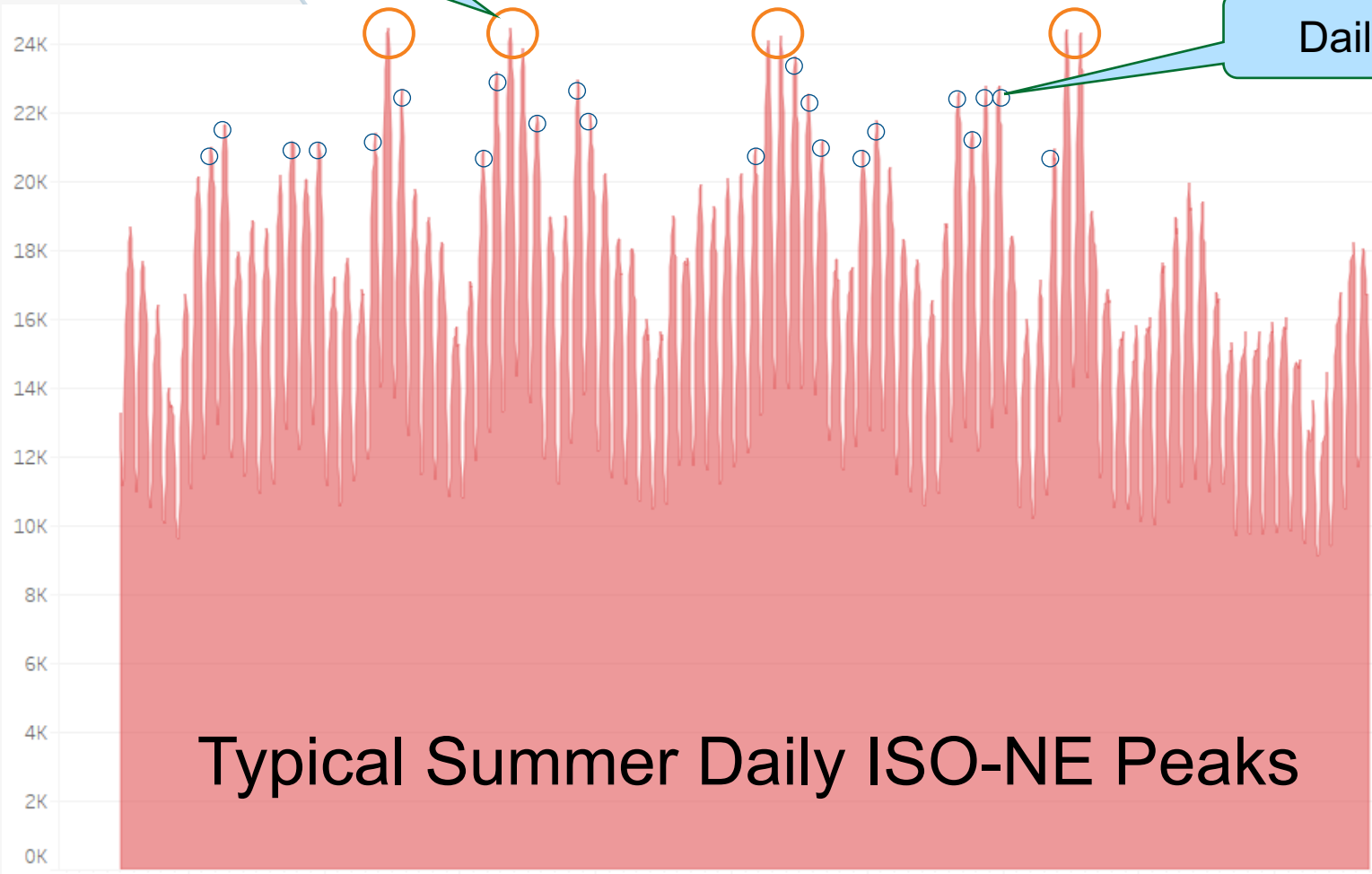
June

July

August

Targeted Events

Daily Events

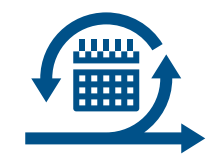


Commercial /Industrial Programs

Targeted Dispatch



C&I Daily Dispatch



Two Ways to Participate

Winter Dispatch has been discontinued

| | Program Parameters |
|--------------------------|---|
| Targeted Dispatch | <ul style="list-style-type: none">• 3 - 8 events per summer• 3 hours per event (Typically 4-7pm)• \$35/kW-summer - Curtailment• +\$10/kW weekend bonus |
| Daily Dispatch | <ul style="list-style-type: none">• 30 - 60 events per summer• 2 - 3 hours per event• \$200/kW-summer Batteries C&I |



Usually Manual

Temperature setback ~3F

VFD speed limiting

Early setback

Process Changes

Rarely Lighting

Generation



Usually Automatic

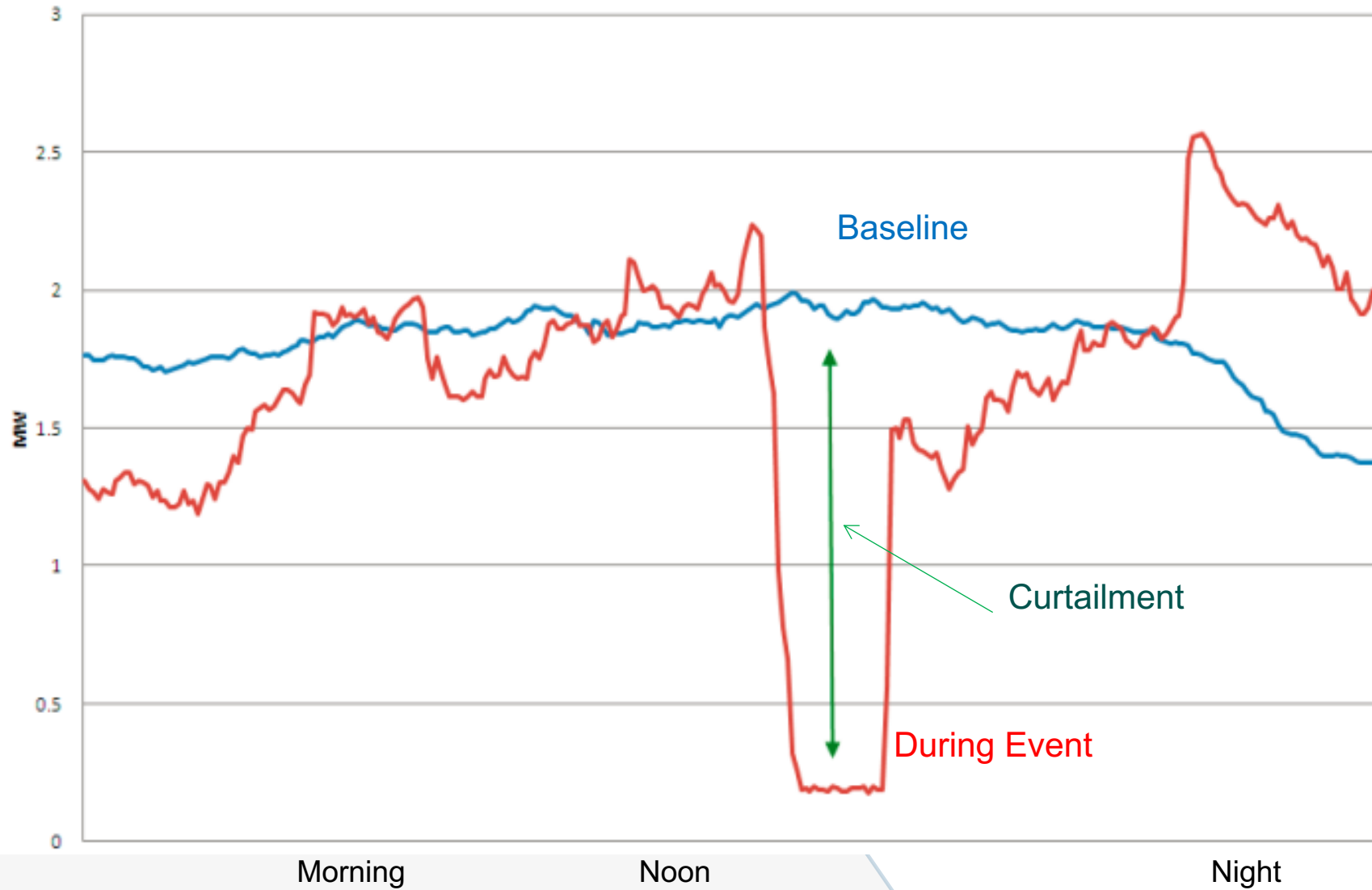
Batteries

Flywheels




Thermal Storage

Industrial Freezers

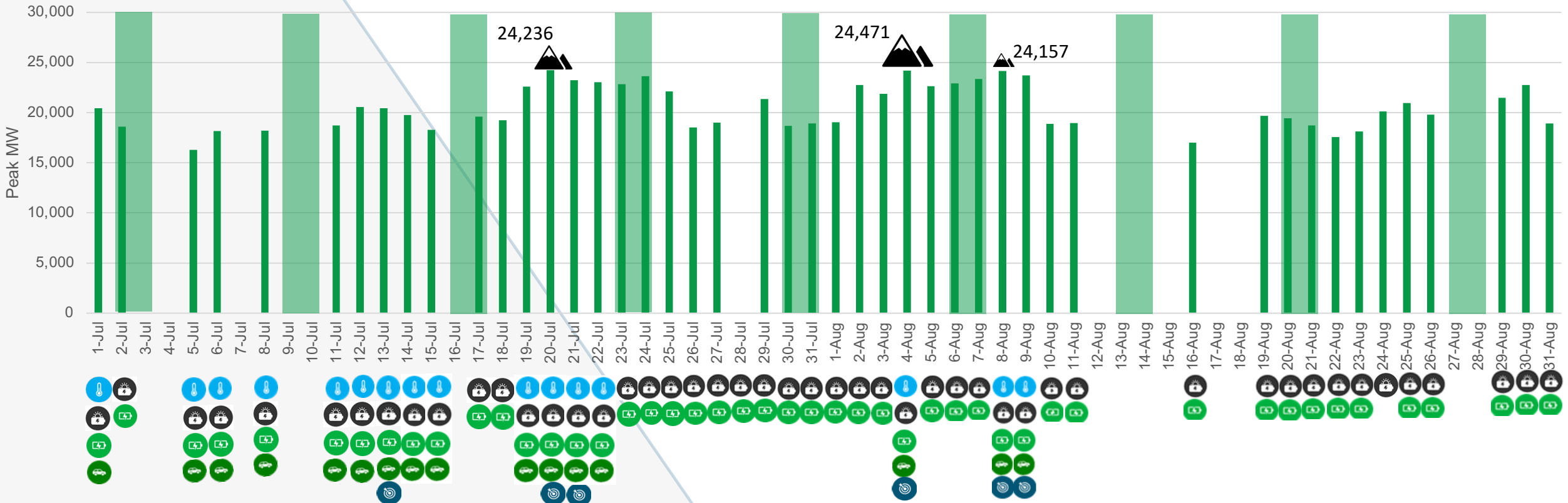
How Performance is Calculated



Events – Summer 2022

Targeted = 
 Resi Battery = 
 Daily Storage = 
 Electric Vehicle = 
 Thermostat = 
 Peak Hit = 
 Weekend = 

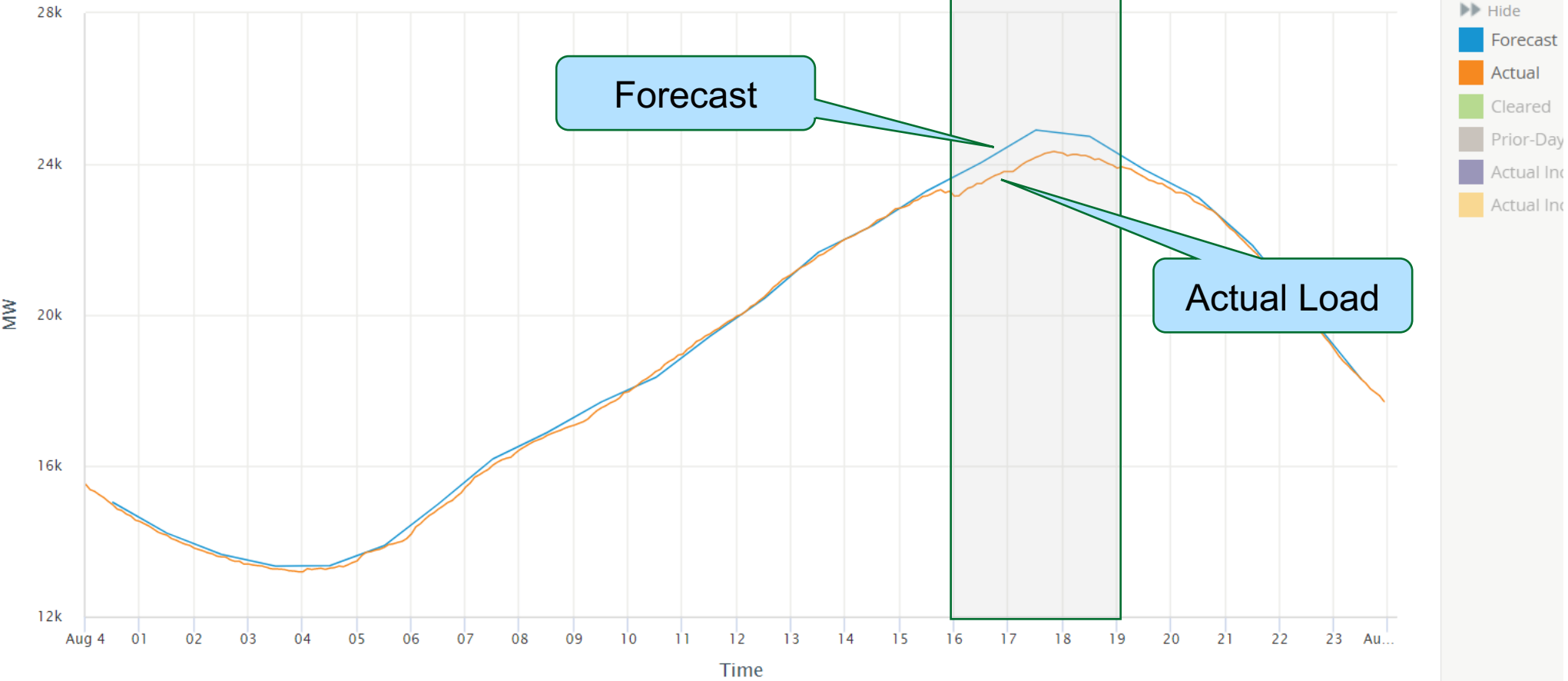
DR Events Summer 2022



Effect on the ISO-NE Grid on Summer Peak

from ISO-NE website
Peak Day 8/4/2022

Date: 08/04/2022



* From ISO-NE.com

| CT Programs | TOTAL SITES ENROLLED | TOTAL CUSTOMERS ENROLLED |
|--------------------------|----------------------|--------------------------|
| Targeted Curtailment | 331 | 136 |
| Targeted Thermal Storage | 1 | 1 |
| Battery Storage (Daily) | 5 | 2 |
| | | |
| TOTAL | 351 | 153 |

| CT Programs | TOTAL kW CURTAILED | INCENTIVES PAID |
|--------------------------|--------------------|--------------------|
| Targeted Curtailment | 63,300 | \$3,284,512 |
| Targeted Thermal Storage | 1,200 | \$93,750 |
| Battery Storage (Daily) | 300 | \$82,013 |
| | | |
| TOTAL | 64,800 | \$3,460,275 |

2022 Summer Demand C&I – CT Results

Avangrid - CT 2022 C&I DR Programs Results



Demand Response Programs

Program Overviews

- Electrical Automated Demand Response (ADR) Program intended to reduce peak electrical demand for energy provider
- Natural Gas Demand Response Program utilizes voluntary participation to reduce natural gas use during energy event days

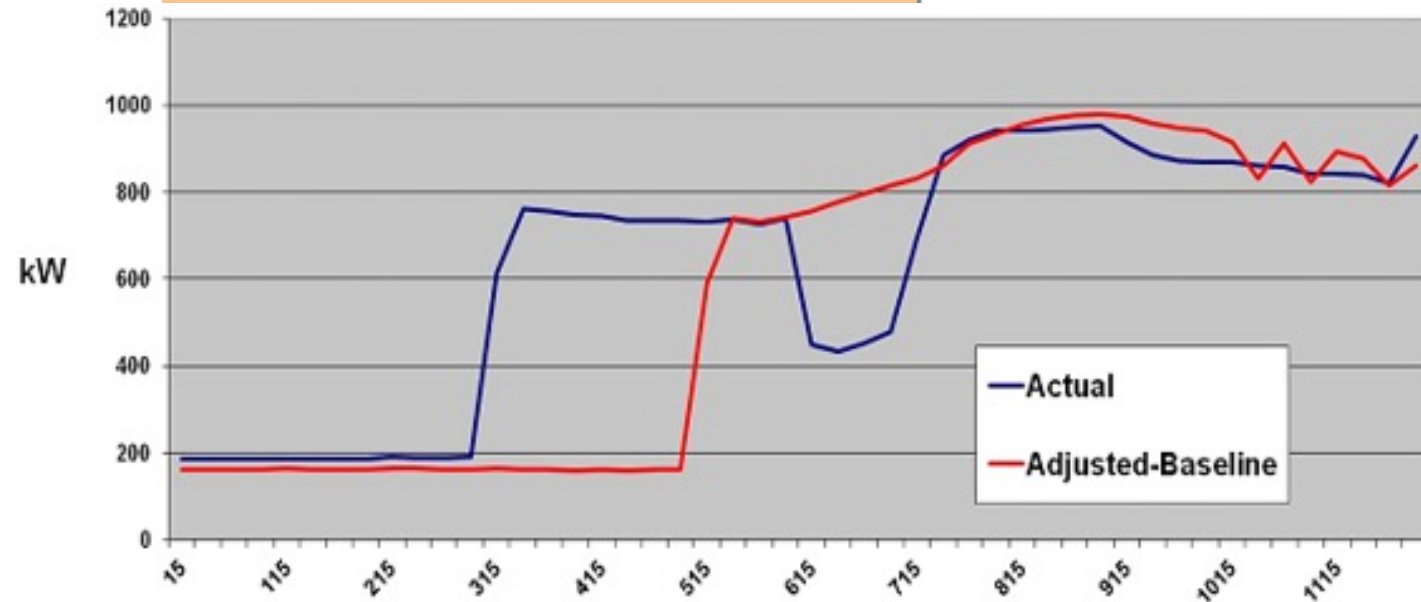
What are benefits?

- Zero cost to participate
- Our team handles the entire process
- Earn incentives for participation
- No penalties for lack of or reduced performance during events
- Contributes toward sustainability efforts



Electrical Event Overview

- UI identifies requirement for event
- Notification of event sent to customer minimum of 24hrs prior via text, email
- Customer can opt out anytime – before or during an event
- Customers BMS implements pre-approved measures, such as:
 - BMS implements pre-approved measures:
 - Turn off/turn down drives, pumps, fans, and other equipment
 - Pre-cooling buildings in early morning hours
 - Reset chilled water temp or demand limit
- When event is over, normal settings are gradually restored



ADR Incentive Payments

- UI Covers 100% of the costs to participate
- Your company works closely with UI/Honeywell ADR Program team to determine optimal load reduction strategies
- Events will last between 2 and 3 hours
- Incentives are 100% performance based

| Performance Period | Timeframe | Max Events | Incentive per Reduced kW: |
|--------------------|-------------------|------------|---------------------------|
| Winter | June to September | 6 | \$50.00 |
| Summer | December to March | 12 | |

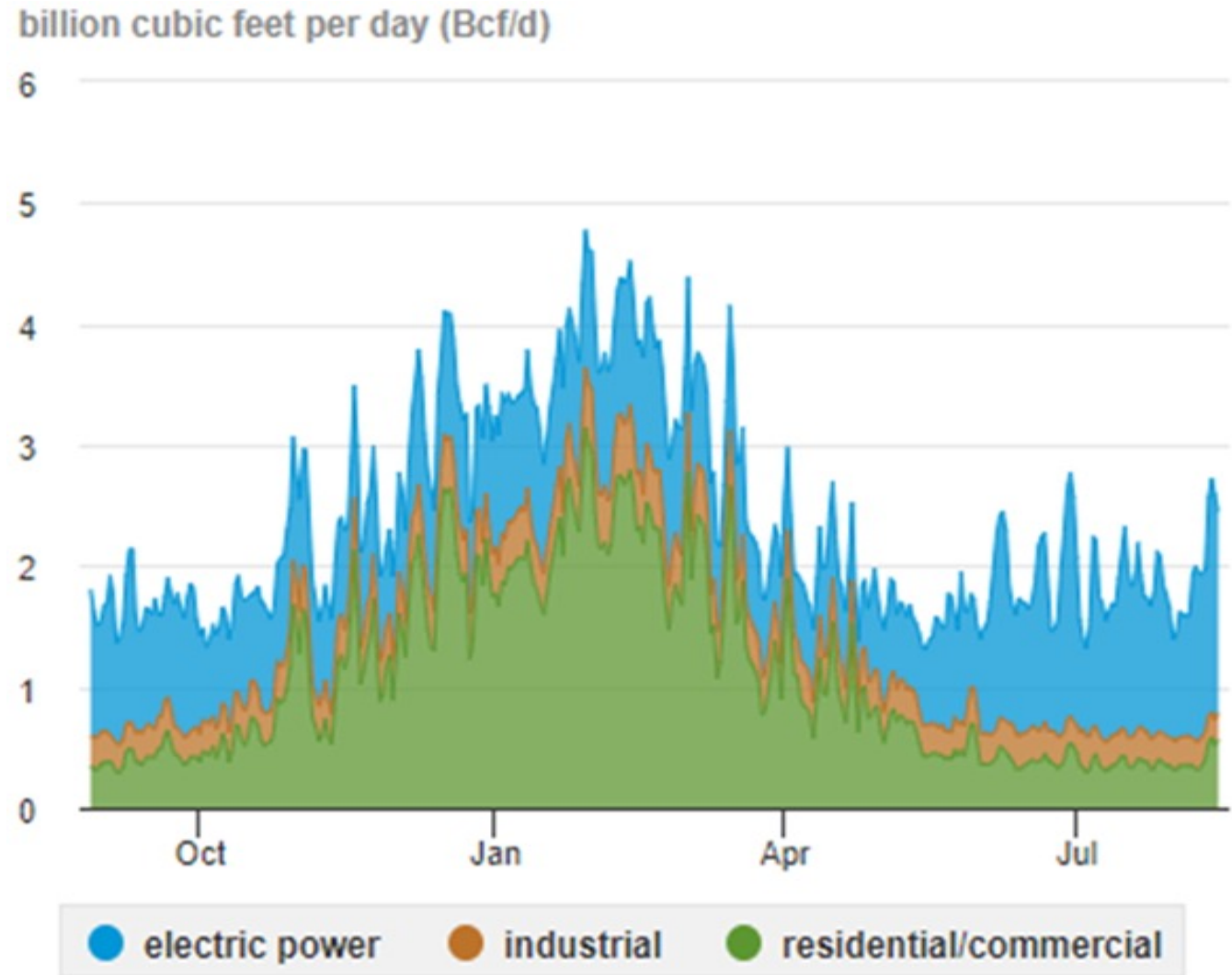
Gas Demand Response

- **DR Survey:** No-cost DR survey conducted
- **DR Measures:** Review identified DR measures
- **DR Strategies:** Voluntary gas load curtailment or reduction of gas during event days
 - Pre-heat spaces
 - Decrease temperature set points
 - Decrease plant water temperature
 - Reduce / Eliminate outside air, where applicable
- **DR contract:** Review and agree
- Minimum enrollment value of 50 CCF of reduction per 24hr event period



Gas Event Overview & Incentive

- Notification of event sent up to 24hrs prior via text, email, or call
- Ability to opt out at anytime – before or during an event
- Customers are responsible for their participation strategy on gas DR event days
- DR Event Length – 24 hours (ex. 10 am - 10 am the following day)
- Events per season – up to 6 events
- Event likely when outside average daily temperature is forecasted at 18 deg. F. or below
- \$10 per CCF of load relief per 24 hr. event
- Incentive Payment is performance based
- DR season is November 1 through March 31



Summer 2022 Summary

Events called from 5 pm – 7 pm

ADR measures typically HVAC, lighting and process

29 customers participated @ **1,024kW**, total incentives of **\$29,039**

Program enhancements for 2023 include Aggregator enrollment and additional C&I gas DR marketing/recruitment



CT Energy Storage Solutions Program

Rob Whelan & Bill O'Connor

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Energy Storage Agenda

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Program Overview

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Energy Storage Program

Program Overview

9-year program started in 2022 with a deployment goal of 580 MW across the State of CT. by 2030

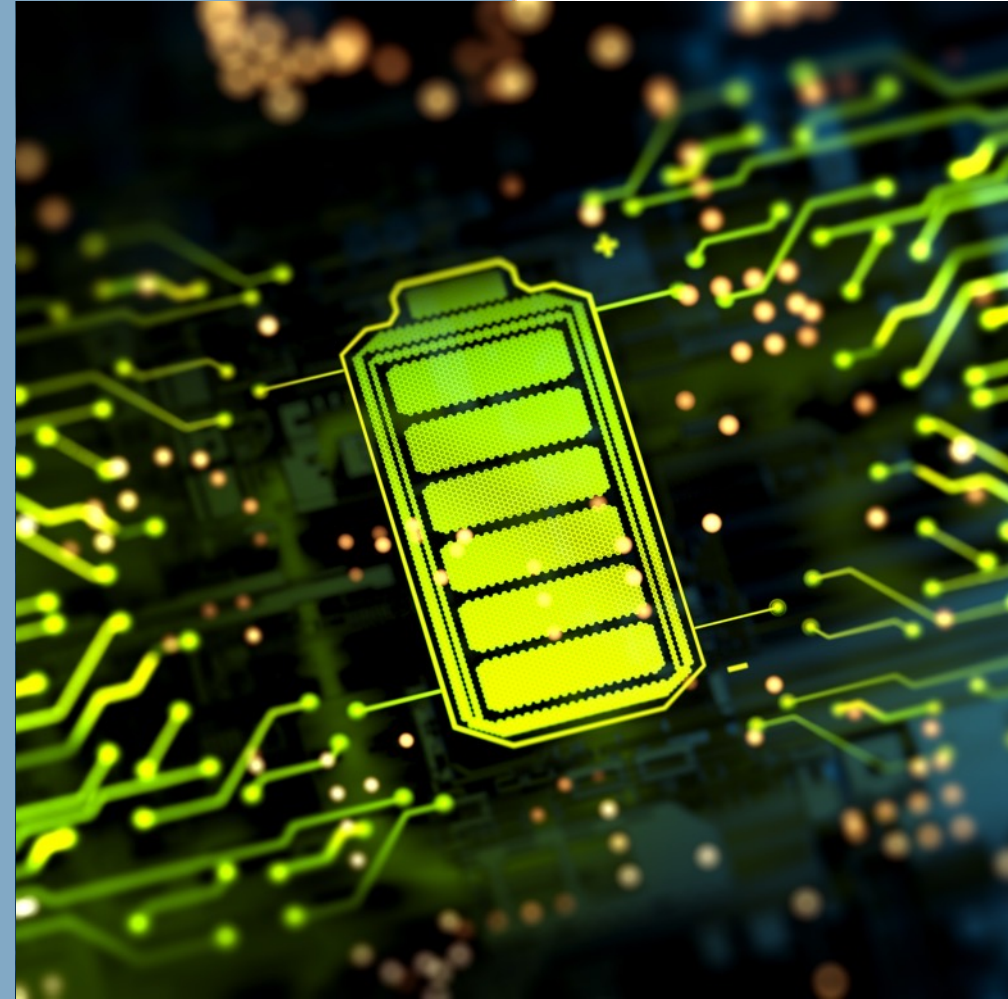
40% of projects need to be in Low Income and Underserved Communities

Program Requirements

Contractors and Third-Party Owners must be approved by the CT. Green Bank.

Project Application must be completed with the CT. Green Bank and an Interconnection Application must be received by the EDC simultaneously.

The **technology being used** (both Battery and Inverter) **must be approved** for use in the program



Upfront Incentive Structure – Non-Residential

- **Must enroll in Passive Dispatch** in order to be eligible for upfront incentives
- **25% upfront adder** for non-residential projects located at critical facilities, small businesses, and grid-edge locations.
- **IRA Solar Tax Credits**
 - **30% of qualified cost** (PV and/or Storage, and Interconnection)
 - Additional **10%-20% adder** if project is in a designated low-income area

| Non-Residential Upfront Incentives (\$/kWh)* | | | |
|--|-----------------------|------------------------|-----------------------|
| Capacity Block (MW)** | Small Commercial Tier | Medium Commercial Tier | Large Commercial Tier |
| 50 | \$200 | \$300 | \$400 |
| | \$170 | \$300 | \$400 |
| | \$130 | \$300 | \$400 |

Small Tier = Annual Peak Demand < 200kW

Medium Tier = Annual Peak Demand 200kW – 500kW

Large Tier = Annual Peak Demand > 500kW

*Upfront incentives are defined based on rated energy capacity of battery (kWh)

**Upfront incentive is limited to 150% of customer peak load or 2MW, whichever is greater

Announcement

The next **100 MW** tranche will open for Commercial and Industrial customers on **March 15, 2023.**

New Requirement

For 2023, upfront incentives are limited to 150% of annual customer peak demand or 2MW whichever is greater.



| Performance Based Incentives (\$/kWh)* | | |
|---|---|---|
| | Summer (\$/kW)* | Winter (\$/kW)* |
| Years 1-5 | \$200 | \$25 |
| Years 6-10 | \$115 | \$15 |
| Term | June 1 st – Sept. 30 th | Nov. 1 st – March 31 st |
| Events per Season | 30 to 60 | 1 to 5** |
| Event Duration | 1 – 3 Hours | |
| Anticipated Dispatch Window | 12pm to 9pm (All Days) | 12pm to 9pm (All days) |
| Reserve Capacity | Not required by program | |
| *Based on average amount of kW exported to grid across number of called events within period. | | |
| ** Event trigger is predicted daily avg. temperature of 18°F | | |

Performance Incentive Structure

- **Active dispatch** events are **optional** for customers
- **Existing battery owners or battery owners that did not sign up for passive dispatch** or receive upfront incentives **are eligible to participate in active dispatch events.**
- To the extent possible, **EDCs provide a 24-hour notice to customers in advance of event** so they can charge/replenish if needed.
- **Incentive payments will be paid to customers 2x per year;** within 60 days of the performance season ending.



Questions

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