CONNECTICUT GREEN BANK

EVERSOURCE ENERGY

UI An AVANGRID Company

energy storage SOLUTIONS

Passive Dispatch Compliance Workshop 2025

Contractor Training

For a more in-depth overview of the program:

Feb 27 2025

Energy Storage Solutions: February Contractor Training

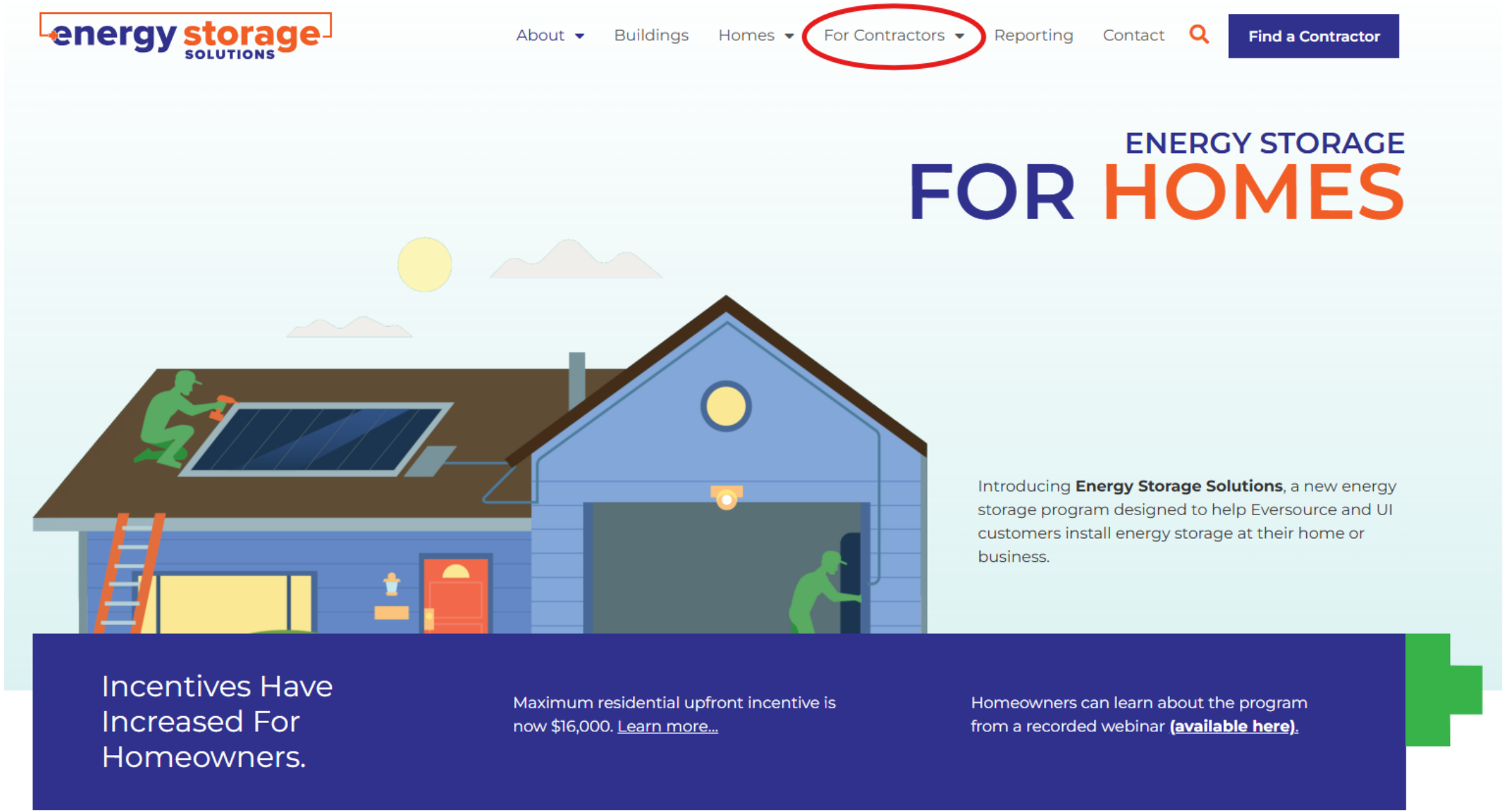
Microsoft Teams

Mar 27 2025

Energy Storage Solutions: March Contractor Training

Microsoft Teams

Website Walkthrough



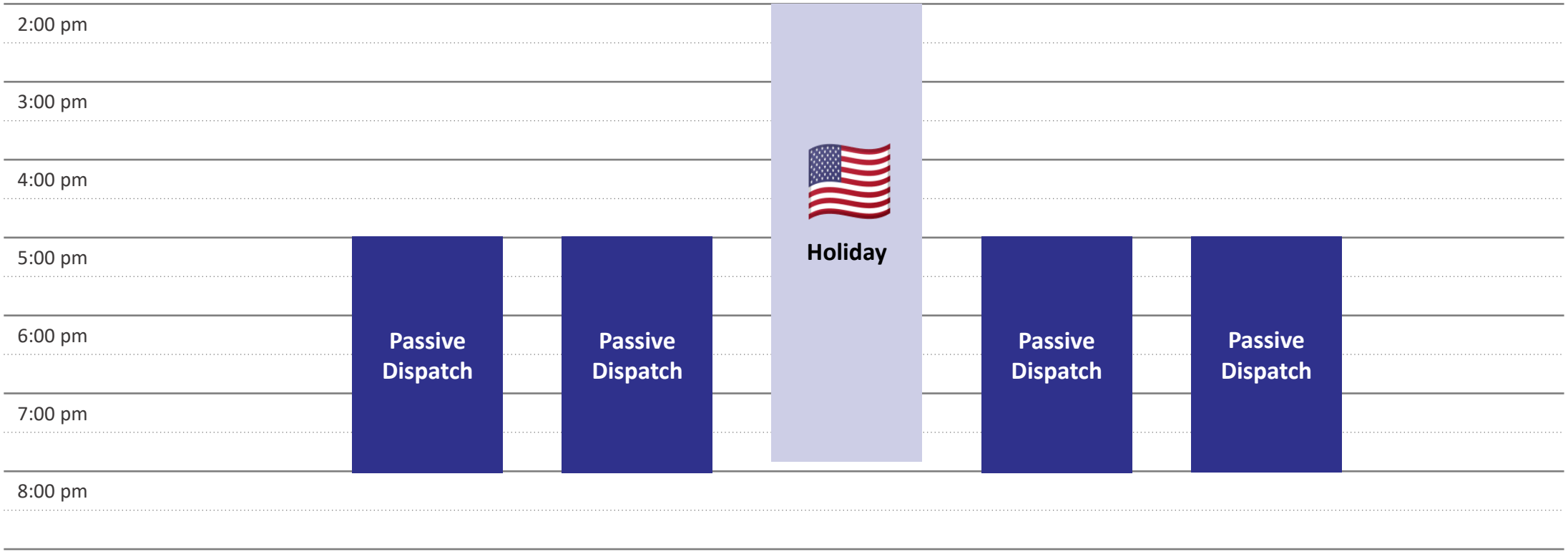
Program Design

- Customer Classes:
  - Residential customer classes: Standard, Underserved, and Low-Income Households
  - Commercial/industrial customer classes: Small, Medium, Large (based on demand)
- Systems installed through this program can receive two incentives:

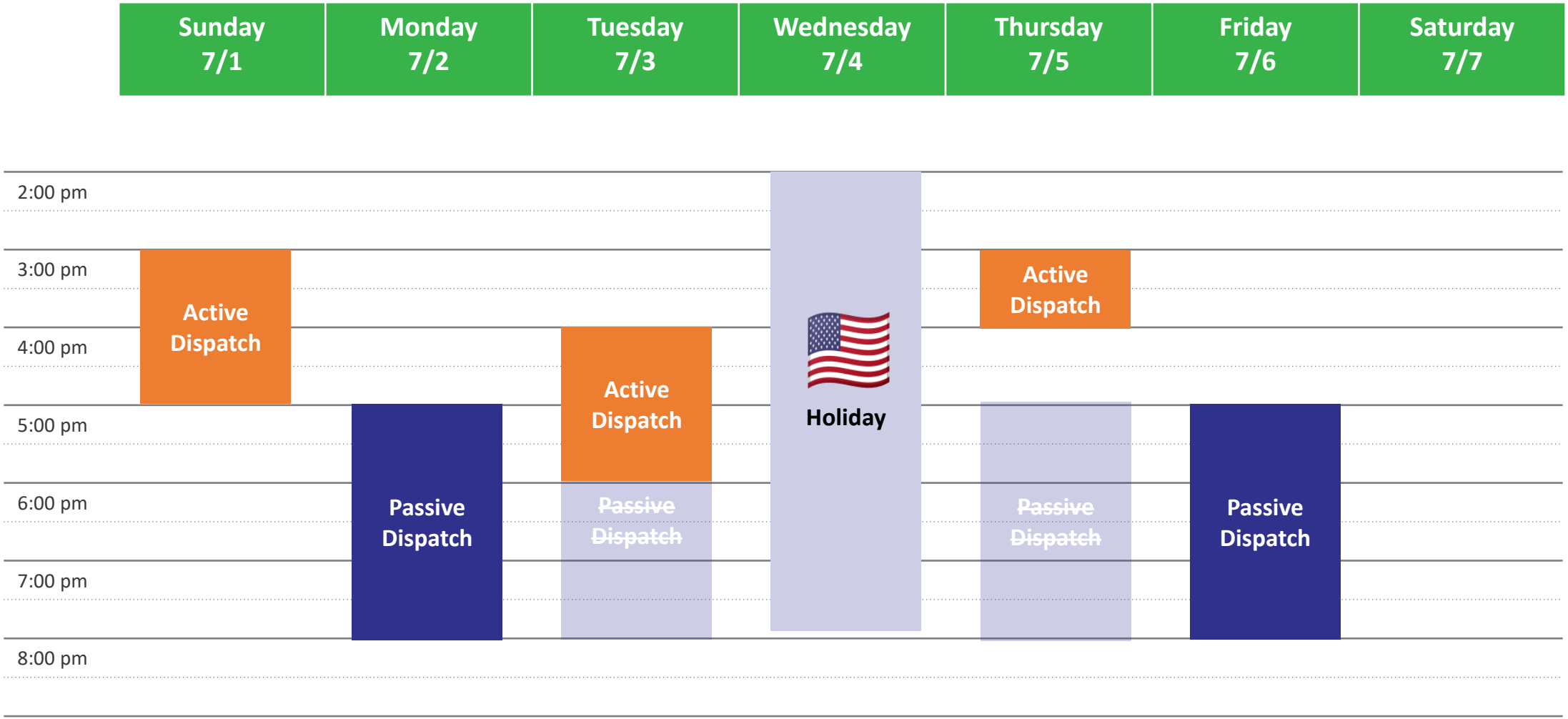
Program Element	Design Item	Summer	Winter
Performance-Based Incentive (Active Dispatch)	Events per Season	30 to 60	1 to 5
	Months	June through September	November through March
	Event Duration	1 - 3 hours	1 - 3 hours
	Anticipated Dispatch Window	Noon to 9 PM (All Days)	Noon to 9 PM (All Days)
Upfront Incentive (Passive Dispatch)	Events per Season	All non-holiday weekdays (~60)	N/A
	Months	June, July & August	N/A
	Event Duration	**3 Hours**	N/A
	Anticipated Dispatch Window	**5 PM to 8 PM**	N/A

Passive Dispatch

Sunday 7/1	Monday 7/2	Tuesday 7/3	Wednesday 7/4	Thursday 7/5	Friday 7/6	Saturday 7/7



Passive and Active Dispatch



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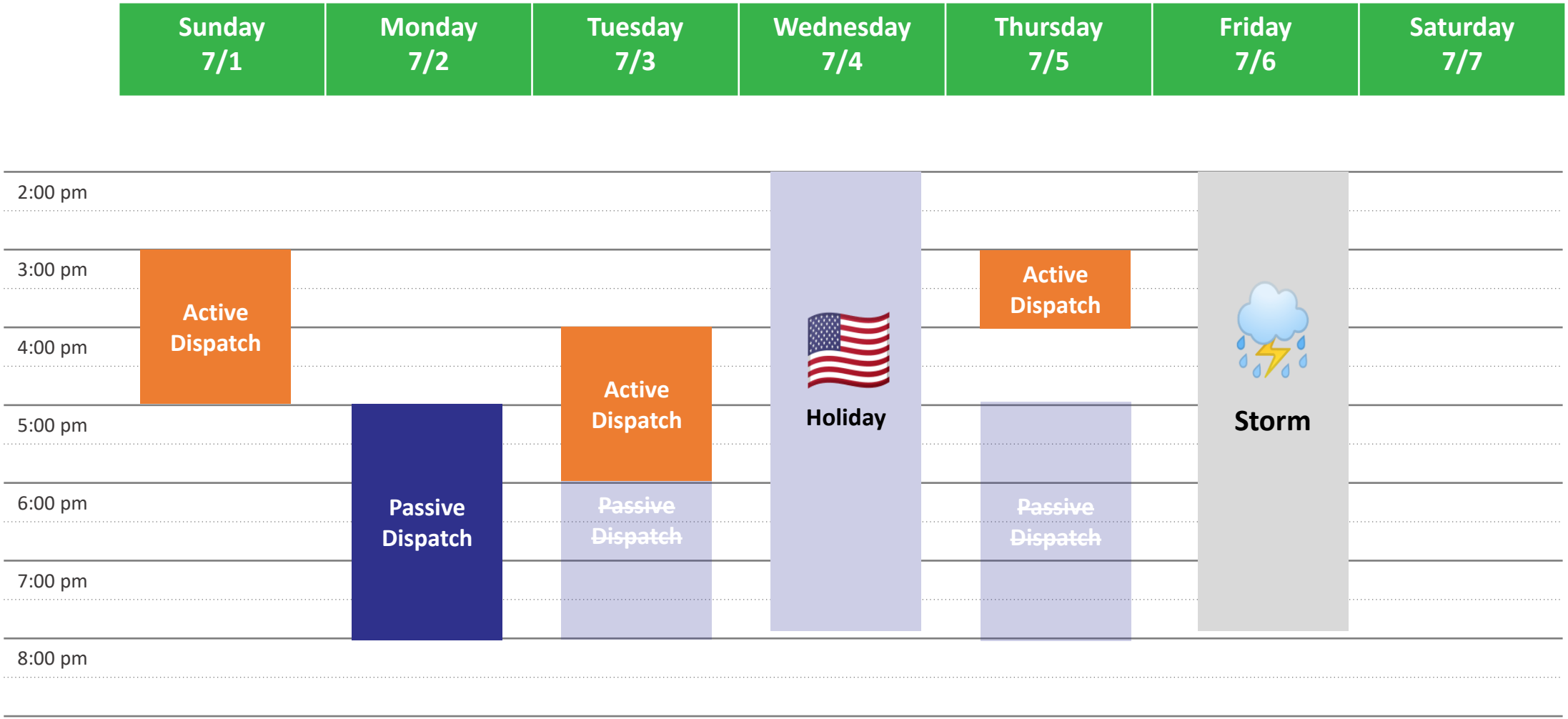
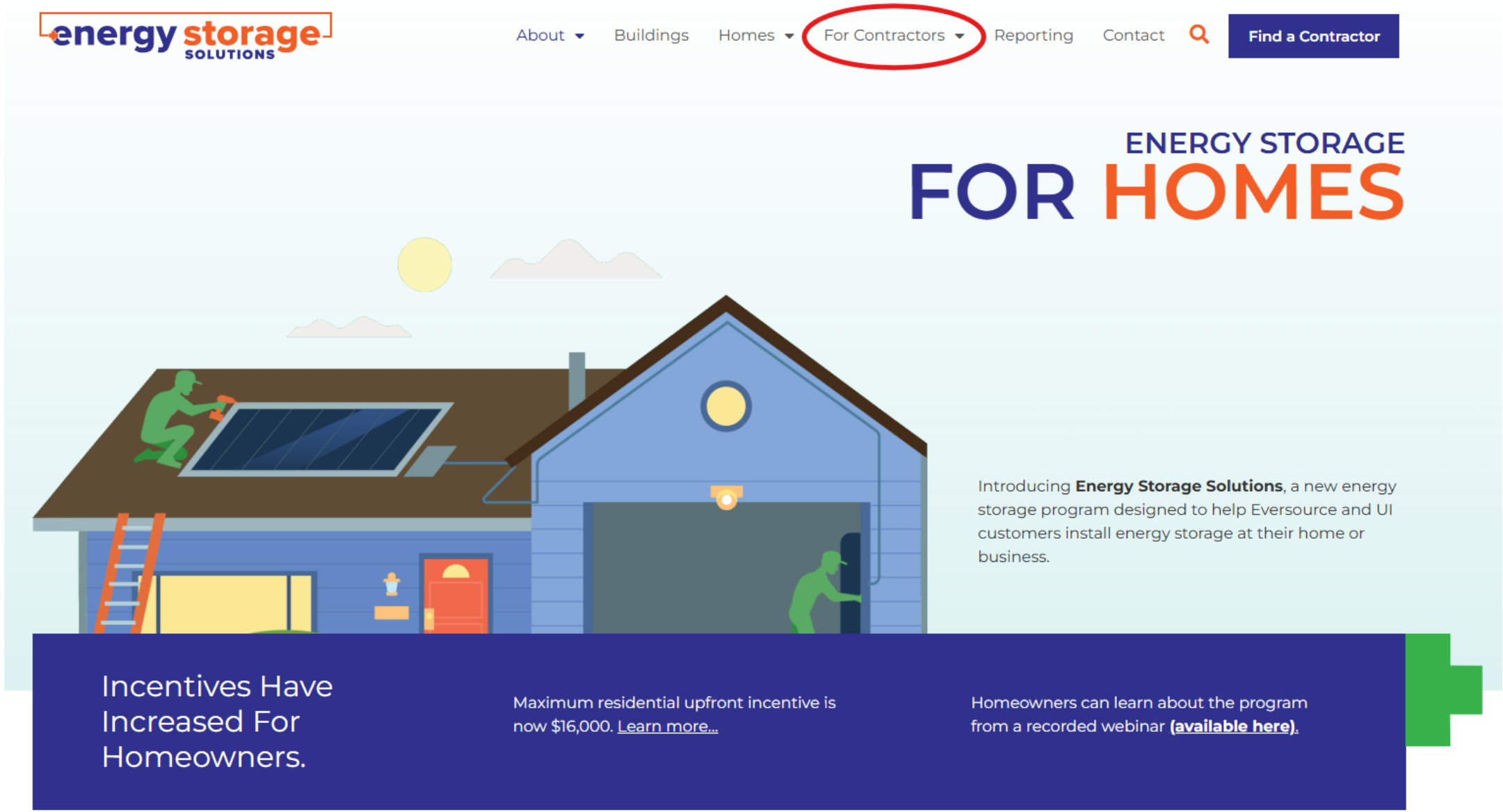


Website Walkthrough



Contractor Resources

Customer Enrollment

Once approved as an Eligible Contractor, you may access the **Customer Enrollment Platform** to submit enrollment of an existing battery system into their name should use the **Ownership Transfer Form**.

For more information, please visit the **Contractor FAQ page**.

Program Materials

- Program Manual (**New 1/24/25**)
- Eligible Contractor Training Webinar Slides (12/5/24)
- Cobranding Terms and Conditions Form
- Residential Program Flyer (coming soon)
- Commercial Program Flyer (coming soon)

Regulatory

- PURA Final Decision – Year 4 Annual Review (2024)
- PURA Final Decision – Year 3 Annual Review (2023)
- PURA Final Decision – Year 2 Annual Review (2022)
- Application Process Working Group (2024)

Installation and Inspection

- Inspection Checklist Roll Out (NEC 2020) (11/2/23)
- Residential Label Guide NEC 2020
- Energy Storage Siting and Safety Resources
- Eversource Interconnection | Hosting Capacity Map
- UI Interconnection | Hosting Capacity Map

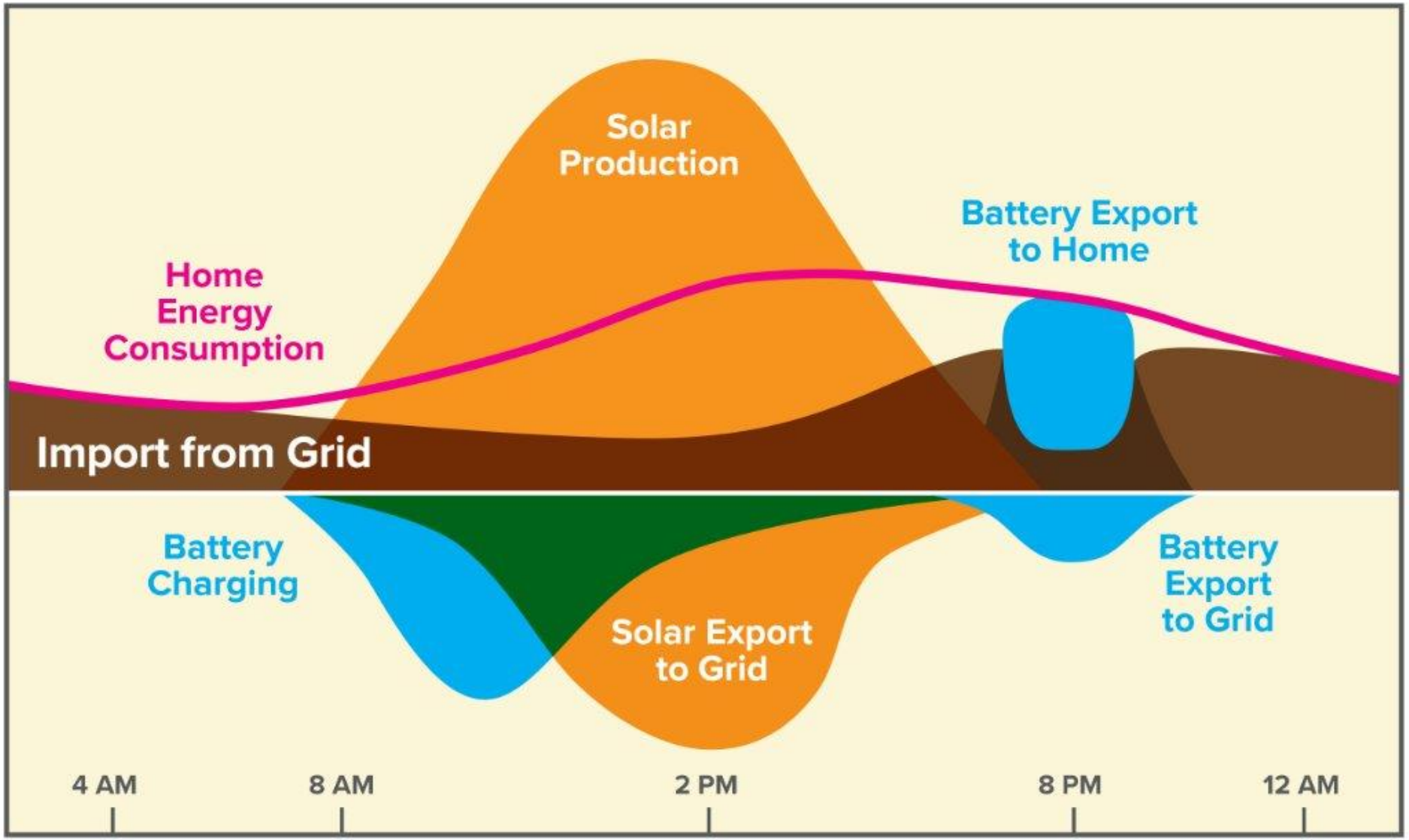
Incentives and Incentive Adders

- Incentive Estimate Calculator Version 6.0.3 (12/13/24)
- 2025 Upfront Payment Schedule
- ESS Summer 2024 Events List
- ESS Summer 2023 / Winter 2023-2024 Events List
- Low-Income Verification Process
- Low-Income Affidavit
- Underserved Communities List
- Eversource Grid Edge Map
- UI Grid Edge Map
- Decommissioning Plan Template (**New 1/24/25**)
- Resiliency Plan Template (1/20/2023)

Program Data Release and Terms and Conditions

- C&I Data Release and Terms and Conditions (8/1/2022)
- Residential Terms and Conditions **(only use if your OEM is not listed below)**
- **Residential OEM-Specific Terms and Conditions:**
  - Cadenza (10/24/2023)
  - Enphase (8/10/2022)
  - Fortress Power (8/1/2023)
  - FranklinWH (8/1/2023)
  - Generac (8/16/2022)
  - SunPower (8/26/2022)
  - Sol-Ark (7/27/2023)

Peak Load Reduction



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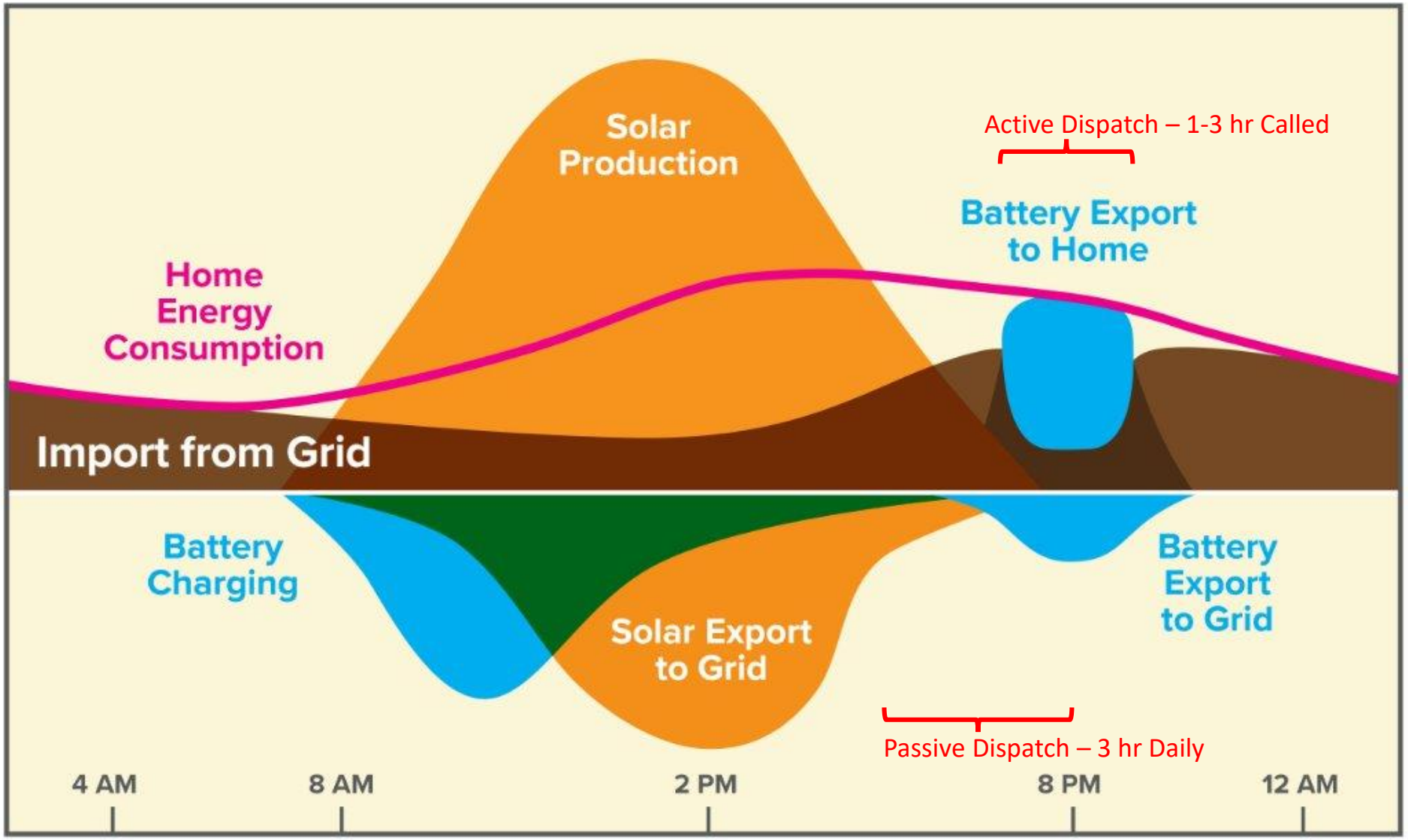

Energy Storage Solutions

Year 4 Program Modifications

Topic	Year 3	Year 4
Passive Dispatch Discharge Window	3PM to 8PM	5PM to 8PM
Passive Compliance Requirements	• Dispatch 80% of BESS nameplate kWh • Uniform dispatch across event hours	• Dispatch BESS available kWh • Relaxed uniform dispatch requirements
Passive Incentive Clawback	10% of upfront incentive clawed back if compliant with fewer than 90% of Passive event hours	If compliant with fewer than 90% of Passive event hours, 10% clawback is prorated to actual % shortfall

Passive Dispatch System Programing

Battery System Performance Goals:

1. Target the system dispatch to the 5pm-8pm Passive event window

2. Adjust system discharge rate during an event to dispatch available energy evenly across the 3 hour Passive window

3. When a Passive event is replaced by a called Active event, ensure system discharges during Active event window

4. If system has Outage Protection software, keep a record of all instances where a system did not participate in a Passive or Active event due to Outage Protection software

PURA Final Decision 24-08-05 - Passive Dispatch Performance Calculation

Purpose	Formula Component
To ensure customers still receive credit for dispatching less than the required amount and to relax the Program's uniform dispatch requirements, values may be less than 1 but no greater than 2. These values will then be summed across all passive dispatch event hours. An optimal score would be 1 for each hour [33].	**Σ** (the energy discharged during a passive dispatch called event hour) / ((1/3) * (system's available capacity at the start of the respective passive dispatch event – 20% of nameplate capacity)) [The allowable range for each passive dispatch hour's score is 0 to 2 and scores that calculate as greater than 2 will be capped at 2.] +
To fully incentivize peak reduction through active dispatch participation[34].	(all active dispatch event hours called to replace a cancelled passive dispatch event in which a BESS discharged at least some portion of its available energy) +
To ensure customers are not penalized for passive events canceled by the Program Administrators.	(all passive dispatch hours cancelled by the Program Administrators that were not replaced by an active dispatch event) +
To prevent penalties for OEM-triggered storm events that are beyond the customer's control, allowing system usage during power outages.	(all passive dispatch event hours called, and all active dispatch event hours called to replace a passive dispatch event, in which a battery could not perform because it was responding to an OEM-triggered severe storm event, provided the dispatch hour was not also cancelled by the Program Administrators) /
To include all possible passive dispatch hours, if no events were canceled.	(total possible passive dispatch hours in a given season)

Passive Dispatch Performance Calculation

The entire calculation used to score **Passive Dispatch Season Performance** is:

$$Passive\ Dispatch\ Season\ \% = \frac{A + B + C + D}{E}$$

A = Sum of Passive event scores for season
B = Passive dispatch hours replaced by Active events
C = All Passive dispatch hours canceled by the Program Administrators that were not replaced by an Active dispatch event
D = All Passive dispatch event hours called, and all Active dispatch event hours called to replace a Passive dispatch event in which a battery could not perform because it was responding to an OEM-Triggered Severe Storm event, provided the Dispatch hour was not also canceled by the Program Administrators
E = Total potential Passive dispatch hours for the season

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B = Passive dispatch hours replaced by Active events

C = All Passive dispatch hours canceled by the Program Administrators that were not replaced by an Active dispatch event

D = All Passive dispatch event hours called, and all Active dispatch event hours called to replace a Passive dispatch event in which a battery could not perform because it was responding to an OEM-Triggered Severe Storm event, provided the Dispatch hour was not also canceled by the Program Administrators

E = Total potential Passive dispatch hours for the season

Passive Dispatch Performance Calculation

A = Sum of Passive event scores for season

Formula Component
Σ (the energy discharged during a passive dispatch called event hour) / ((1/3) * (system's available capacity at the start of the respective passive dispatch event – 20% of nameplate capacity)) [The allowable range for each passive dispatch hour's score is 0 to 2 and scores that calculate as greater than 2 will be capped at 2.] +

Scoring for each passive dispatch hour:

$$\frac{kWh\ discharged\ over\ passive\ dispatch\ hour}{\frac{1}{3} * (Available\ kWh - 20\% * BESS\ Nameplate\ Capacity)}$$

If score calculated above is greater than 2, it will be capped at 2.

Score for 3 Hour Passive Event:

$$\{Hour\ 1\ Score\} + \{Hour\ 2\ Score\} + \{Hour\ 3\ Score\} = Score\ for\ Passive\ Event\ (max\ score\ of\ 3)$$

Passive Dispatch Performance Calculation

Example 1 - Full Nameplate Capacity and Optimal Dispatch Rate

Battery Energy Storage System (BESS) Starting Conditions and Programing:

- Nameplate Capacity: 30kWh
- SOC at Passive Event Start: 100%
- Available Capacity: 30 kWh
- 20% Reserve Capacity: 6 kWh
- Discharge Rate: 8 kW

$$\frac{8\ kWh}{\frac{1}{3} * (30\ kWh - 20\% * 30\ kWh)} =$$

$$\frac{8\ kWh}{8\ kWh} = 1$$

$$Score\ for\ Passive\ Hour = 1$$

Score for 3 Hour Passive Event:

$$\{Hour\ 1\ Score\} + \{Hour\ 2\ Score\} + \{Hour\ 3\ Score\} = 1 + 1 + 1 = \mathbf{3}$$

Passive Dispatch Performance Calculation

Example 2 - Full Nameplate Capacity and Lower than Optimal Dispatch Rate

Battery Energy Storage System (BESS) Starting Conditions and Programing:

- Nameplate Capacity: 30kWh
- SOC at Passive Event Start: 100%
- Available Capacity: 30 kWh
- 20% Reserve Capacity: 6 kWh
- Discharge Rate: 5 kW

$$\frac{5\ kWh}{\frac{1}{3} * (30\ kWh - \ 20\% * 30\ kWh)} =$$

$$\frac{5\ kWh}{8\ kWh} = 0.625$$

$$Score\ for\ Passive\ Hour = 0.625$$

Score for 3 Hour Passive Event:

$$\{Hour\ 1\ Score\} + \{Hour\ 2\ Score\} + \{Hour\ 3\ Score\} = 0.625 + 0.625 + 0.625 = \mathbf{1.875}$$

Passive Dispatch Performance Calculation

Example 3 – Less than Nameplate Capacity and Unadjusted Dispatch Rate

Battery Energy Storage System (BESS) Starting Conditions and Programing:

- Nameplate Capacity: 30kWh
- SOC at Passive Event Start: 50%
- Available Capacity: 15 kWh
- 20% Reserve Capacity: 6 kWh
- Discharge Rate: 8 kW
  (Not adjusted for Available Capacity)

$$\frac{8\ kWh}{\frac{1}{3} * (15\ kWh - \ 20\% * 30\ kWh)} =$$

$$\frac{8\ kWh}{3\ kWh} = 2.67$$

$$Score\ for\ Passive\ Hour = 2\ (Score\ Capped\ at\ 2)$$

Score for 3 Hour Passive Event:

$$\{Hour\ 1\ Score\} + \{Hour\ 2\ Score\} + \{Hour\ 3\ Score\} = \ 2 + 0.333 + 0 = \mathbf{2.333}$$

Passive Dispatch Performance Calculation

Example 4 - Less than Nameplate Capacity and Dispatch Rate Adjusted for Capacity

Battery Energy Storage System (BESS) Starting Conditions and Programing:

- Nameplate Capacity: 30kWh
- SOC at Passive Event Start: 50%
- Available Capacity: 15 kWh
- 20% Reserve Capacity: 6 kWh
- Discharge Rate: 3 kW
  (Adjusted to optimal discharge rate)

$$\frac{3\ kWh}{\frac{1}{3} * (15\ kWh - 20\% * 30\ kWh)} =$$

$$\frac{3\ kWh}{3\ kWh} = 1$$

$$Score\ for\ Passive\ Hour = 1$$

Score for 3 Hour Passive Event:

$$\{Hour\ 1\ Score\} + \{Hour\ 2\ Score\} + \{Hour\ 3\ Score\} = 1 + 1 + 1 = \mathbf{3}$$

Passive Dispatch Performance Calculation

The entire calculation used to score **Passive Dispatch Season Performance** is:

$$Passive\ Dispatch\ Season\ \% = \frac{A + B + C + D}{E}$$

A = Sum of Passive event scores for season
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D = All Passive dispatch event hours called, and all Active dispatch event hours called to replace a Passive dispatch event in which a battery could not perform because it was responding to an OEM-Triggered Severe Storm event, provided the Dispatch hour was not also canceled by the Program Administrators
E = Total potential Passive dispatch hours for the season

Passive Dispatch Clawback Calculation

Passive Dispatch Season Performance values **less than 90% will trigger a claw back**. When the claw back is triggered, the system owner will be responsible for a Violation Fee as follows:

$$\left(1 - \left(\frac{Passive\ Dispatch\ Season\ Performance}{0.9}\right)\right) * (Upfront\ Incentive * 0.1)$$

For systems enrolled mid-season, the period between the beginning of the season and enrollment in the program will not be assessed as “non-compliance” in the first year.

Passive Dispatch Clawback Examples

Example – a system participates in **30%** of Passive events and was approved for a $10,000 upfront incentive:

(1 - (**0.3** / 0.9)) * ($10,000 * 0.1) = (1 - (0.333)) * ($1,000) = 0.667 * $1,000 = $667

Example – a system participates in **75%** of Passive events and was approved for a $10,000 upfront incentive:

(1 - (**0.75** / 0.9)) * ($10,000 * 0.1) = (1 - (0.833)) * ($1,000) = 0.167 * $1,000 = $167

Outage Protection Software

Outage Protection Software

24-08-05 Final Decision language:

Furthermore, approved aggregators or OEMs participating in passive dispatch must report all passive dispatch event hours during which their batteries were unable to perform due to an OEM-triggered severe storm event occurring within an uncanceled passive dispatch period. Such reports shall be submitted to the Program Administrators after the end of the Program's passive dispatch season by October 15 of each year. As supporting evidence, aggregators or OEMs must provide clear rationale and relevant data (e.g., National Weather Service alerts for the specific dates when the battery did not perform) to justify the cancellation of the passive dispatch hour. The Program Administrators shall also make such reports available to participating customers and contractors upon request. The Program Administrators will evaluate whether the event was canceled for a valid reason and may reject the exclusion of such hours from the clawback provision if the data provided is insufficient to substantiate the cancellation due to weather-related reasons.

Passive Dispatch System Programing

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Questions?

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February 12 – 13, 2025

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