energy storage SOLUTIONS

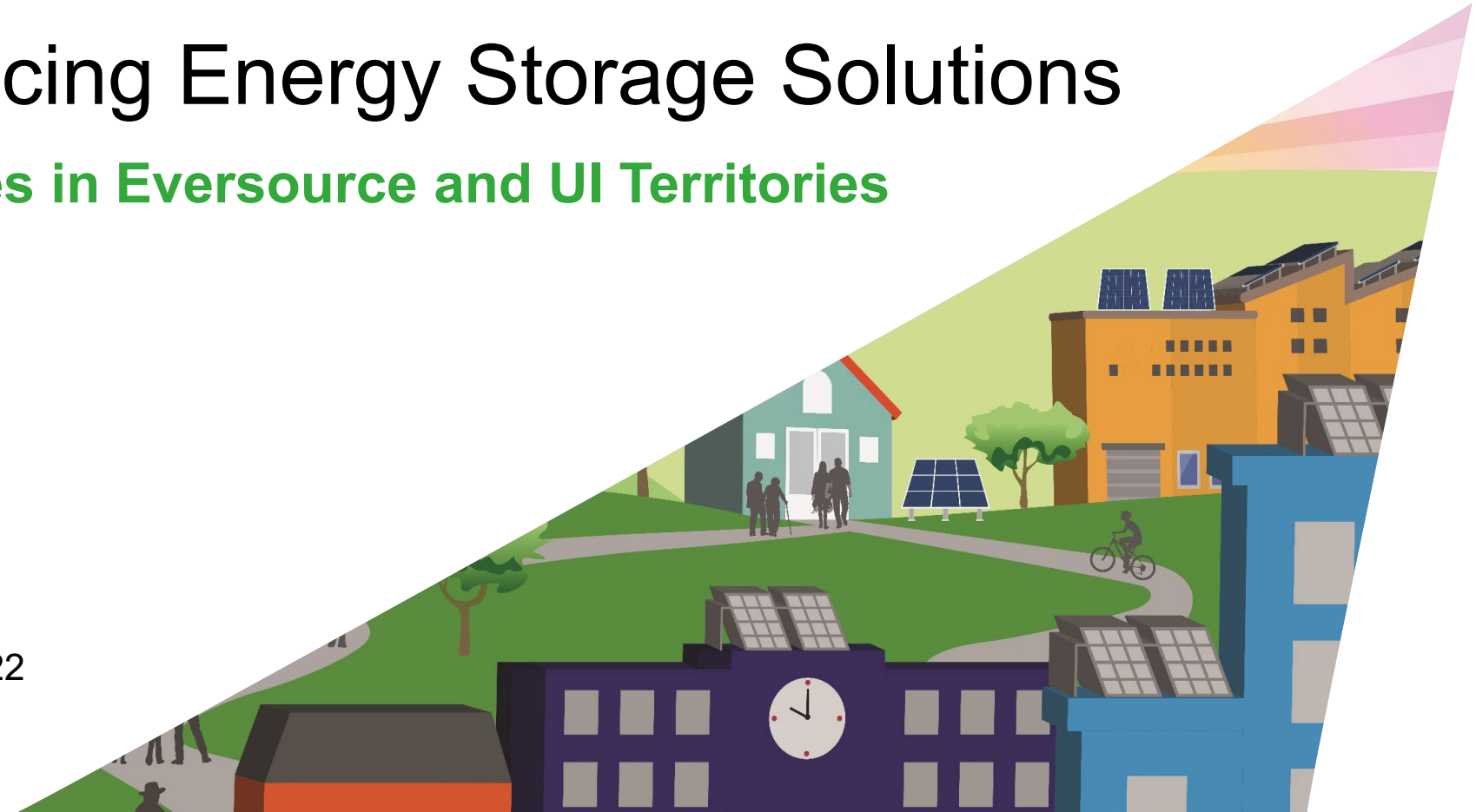
CONNECTICUT GREEN BANK

EVERSOURCE

UI
An AVANGRID Company

Introducing Energy Storage Solutions

For Homes in Eversource and UI Territories



February 24, 2022

Agenda

- Poll
- Energy Storage Overview
- Energy Storage Solutions
- Why Batteries?
- Benefits and Costs
- How to Get Started
- Questions

Poll

What brings you here today?

- Pairing my existing solar PV system with storage
- Adding a new solar system and storage
- Energy storage without solar
- Other reason

Poll

In the event of an outage, what electrical devices are most important to you?

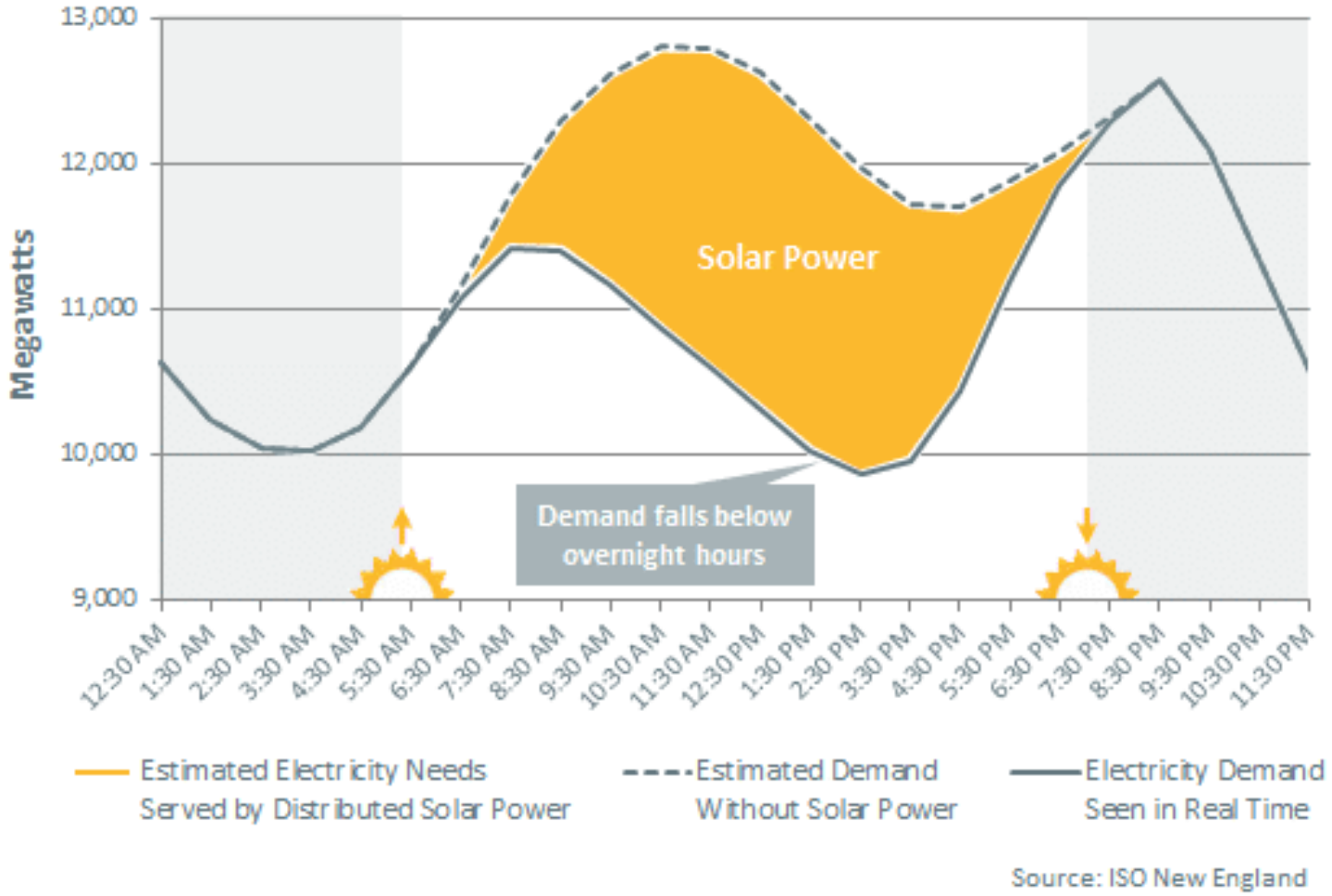
- Refrigerator/freezer
- Heating/Cooling
- Medical devices
- Lighting
- Entertainment (TV, video games, computer)

What is Energy Storage?

Energy Storage comes in many forms

Purpose: to generate energy now and use it later

Why was Energy Storage Solutions Created?



Source: ISO New England

What is Battery Energy Storage?

What is Battery Energy Storage?

Ineligible Technologies

Why Energy Storage for You?

1. **Resiliency**
2. **Produce and consume your own energy with solar PV**
3. **Reduce on-peak electricity charges***
4. **Get reimbursed for your capacity when you're not using it**

*If you are on a time-of-use rate

What Can Battery Storage Power?

Essentials

Low Demand

High Demand

*Assuming 1-2 battery units

Nice to Have

What Can Battery Storage Power?

Device	Load (W)	Service from Battery
Refrigerator	400	33 hours 45 minutes
Central air conditioning	3300	4 hours 5 minutes
Central heating/Gas furnace blower fan	600	22 hours 30 minutes
Clothes washer	700	19 hours 17 minutes
Desktop computer with monitor	200	67 hours 30 minutes
EV - Level 1 Charging	1400	9 hours 39 minutes
Fans	100	135 hours 0 minutes
Chest Freezer	500	27 hours 0 minutes
Electric water heater	4500	3 hours 0 minutes
Internet	10	1350 hours 0 minutes
Laptop	100	135 hours 0 minutes
Incandescent Light Bulb	100	135 hours 0 minutes
Standard LED Light	10	1350 hours 0 minutes
Microwave	1300	10 hours 23 minutes

*Assuming one 5 kW, 13.5 kWh battery system. Source: Guidehouse, 2021

What Can Battery Storage Power?

Device	Load (W)	Service from Battery
Window AC	1400	9 hours 39 minutes
Cell phone charger	10	1350 hours 0 minutes
Electric Oven	1800	7 hours 30 minutes
Electric Stove	1800	7 hours 30 minutes
Sump pump	700	19 hours 17 minutes
TV, LCD	100	135 hours 0 minutes
Cable box	100	135 hours 0 minutes
Video game console	100	135 hours 0 minutes
Water pump	700	19 hours 17 minutes
Clothes dryer	3600	3 hours 45 minutes
Ductless minisplit	600	22 hours 30 minutes
Ground source heat pump	2900	4 hours 39 minutes
Heat pump water heater	4500	3 hours 0 minutes
Well pump	700	19 hours 17 minutes

*Assuming one 5 kW, 13.5 kWh battery system. Source: Guidehouse, 2021

Battery Storage vs Generator - Benefits

Low upfront cost

Portable

Silent

No fuel or emissions

Store and use your solar PV energy

On standby

Incentives available

High output

Natural gas or propane

On standby

Battery Storage vs Generator - Drawbacks

Buying and transporting fuel

Loud

High emissions

Requires maintenance

Not on standby

Upfront cost

Professional installation

Interconnection and permitting

Not portable

Higher lifetime cost

Professional installation with fuel

Permitting

Requires maintenance

Not portable

Benefits Beyond Backup

Residential Upfront Incentive Levels

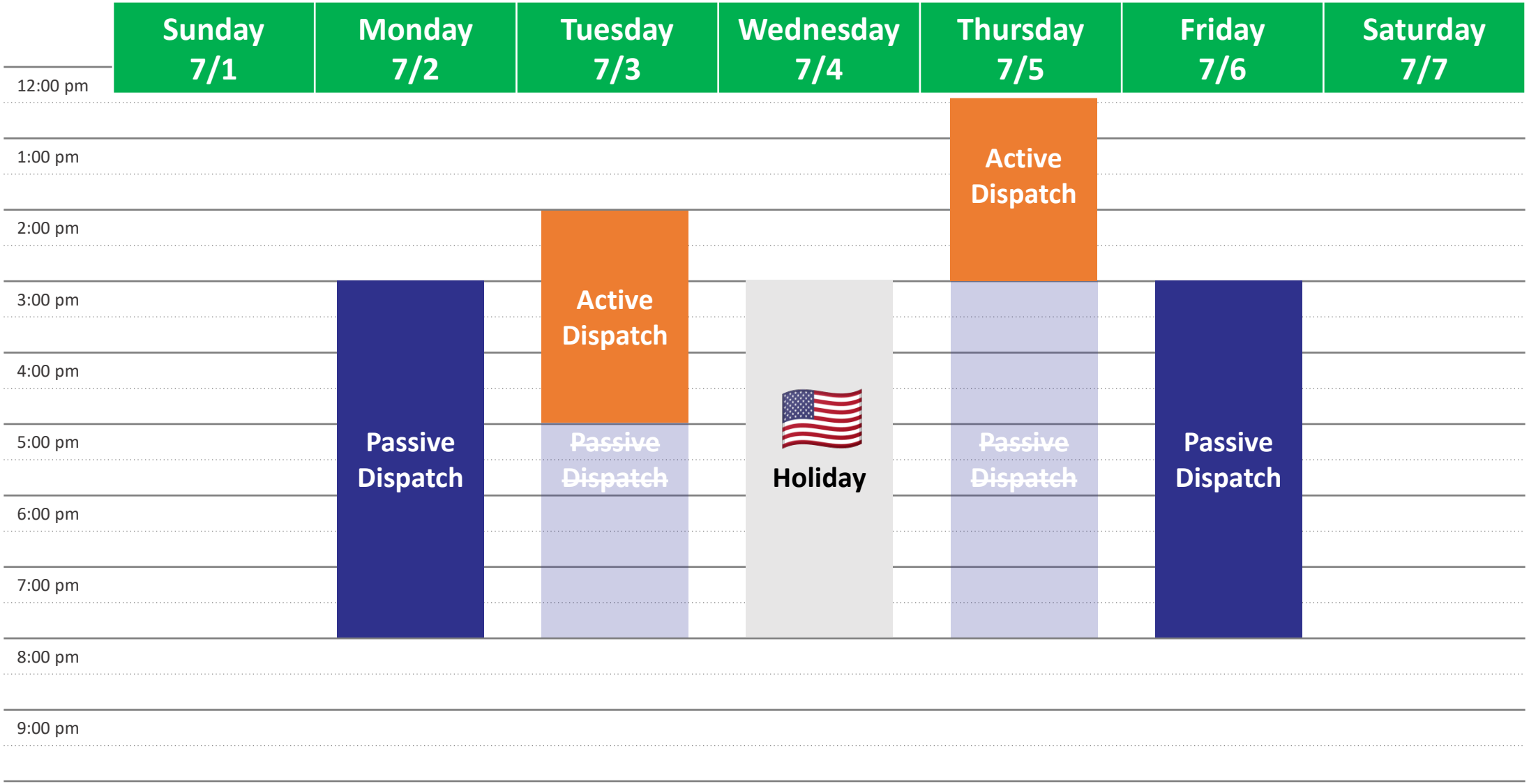
Upfront Incentive Levels (Installed 2022-2024)				
Capacity Block (MW)	**Standard**	**Underserved**	**Low-Income**	**Weighted Average**
Participation Level	*60%*	*30%*	*10%*	
10	$200/kWh	$300/kWh	$400/kWh	
15	$170/kWh	$255/kWh	$340/kWh	$196.55/kWh
25	$130/kWh	$195/kWh	$260/kWh	

Performance Incentive Levels (Installed 2022-2024)			
Summer, Years 1-5	**Winter, Years 1-5**	**Summer, Years 6-10**	**Winter, Years 6-10**
$200/kW	$25/kW	$115/kW	$15/kW

Passive Dispatch

	Sunday 7/1	Monday 7/2	Tuesday 7/3	Wednesday 7/4	Thursday 7/5	Friday 7/6	Saturday 7/7
12:00 pm							
1:00 pm							
2:00 pm							
3:00 pm		Passive Dispatch	Passive Dispatch	 Holiday	Passive Dispatch	Passive Dispatch	
4:00 pm							
5:00 pm							
6:00 pm							
7:00 pm							
8:00 pm							
9:00 pm							

Passive and Active Dispatch



Financial Example – Small Battery System

kW	kWh	Cost
5	13.5	$ 13,500

Small Residential Battery System – 5 kW / 13.5 kWh			
	Standard Rate	**Underserved**	**Low-Income**
Total Installed Cost	$ 13,500	$ 13,500	$ 13,500
Upfront Incentive	$ (2,700)	$ (4,050)	$ (5,400)
Net Out of Pocket Cost	**$ 10,800**	**$ 9,450**	**$ 8,100**
10 Years of PBI (MAX)	$ (9,125)	$ (9,125)	$ (9,125)

*Estimate is for a **standalone** battery system purchase (not paired with PV). Federal ITC does not apply to standalone systems

Financial Example – Medium Battery System

kW	kWh	Cost
10	27	$ 25,000

Medium Residential Battery System – 10 kW / 27 kWh			
	Standard Rate	**Underserved**	**Low-Income**
Total Installed Cost	$ 25,000	$ 25,000	$ 25,000
Upfront Incentive	$ (5,400)	$ (7,500)	$ (7,500)
Net Out of Pocket Cost	$ 19,600	$ 17,500	$ 17,500
10 Years of PBI (MAX)	$ (18,250)	$ (18,250)	$ (18,250)

*Estimate is for a **standalone** battery system purchase (not paired with PV). Federal ITC does not apply to standalone systems

Financial Example – Large Battery System

kW	kWh	Cost
20	54	$ 45,000

Large Residential Battery System – 20 kW / 54 kWh			
	Standard Rate	**Underserved**	**Low-Income**
Total Installed Cost	$ 45,000	$ 45,000	$ 45,000
Upfront Incentive	$ (7,500)	$ (7,500)	$ (7,500)
Net Out of Pocket Cost	$ 37,500	$ 37,500	$ 37,500
10 Years of PBI (MAX)	$ (36,500)	$ (36,500)	$ (36,500)

*Estimate is for a **standalone** battery system purchase (not paired with PV). Federal ITC does not apply to standalone systems

Get Started

How to Participate

- www.energystorageCT.com – Updates coming soon
- Find a Contractor or talk to your solar contractor
- Do your research – think about essential devices.
- Get a HES Audit