



# Public Stakeholder Meeting

Docket No. QO26030099 – Virtual Power  
Plant Program

July 30, 2026

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# WELCOME

## MEETING FACILITATOR

JOSH RYOR,  
REGULATORY  
ASSISTANCE PROJECT

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# OPENING REMARKS

PRESIDENT  
HERTZ-SHARGEL



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# Stakeholder Meeting Objectives

- **Better understand** New Jersey's existing, related program offerings.
- **Learn** about virtual power plant and demand response programs and best practices from across the country.
- **Inform** participants about the virtual power plant program straw proposal and answer clarifying questions.
- **Solicit input** from stakeholders on the straw proposal and ideal virtual power plant program design.



# Agenda

| Time     | Title                                | Lead / Speakers                                                                |
|----------|--------------------------------------|--------------------------------------------------------------------------------|
| 8:30 am  | Arrival & Registration               |                                                                                |
| 9:00 am  | Welcome & Opening Remarks            | Josh Ryor, RAP<br>NJBPU President Ben Hertz-Shargel                            |
| 9:15 am  | Existing New Jersey Utility Programs | NJBPU, PSEG, RECO, ACE, and JCPL                                               |
| 10:45 am | Break                                |                                                                                |
| 11:00 am | VPP Programs Across the US           | RAP, RMI, Xcel (CO), National Grid (MA), and Department of Public Service (NY) |
| 12:30 pm | Lunch                                |                                                                                |
| 1:30 pm  | Welcome Back & Afternoon Remarks     | Josh Ryor, RAP<br>Elizabeth Noll, Office of Governor Mikie Sherrill            |
| 1:40 pm  | Straw Proposal Overview              | NJBPU                                                                          |
| 2:15 pm  | Facilitated Discussion               | RAP                                                                            |
| 3:15 pm  | Public Comment                       |                                                                                |
| 3:55 pm  | Next Steps & Closing                 | NJBPU                                                                          |
| 4:00 pm  | Adjourn                              |                                                                                |



# Panel 1: Existing New Jersey Utility Programs

Presentations and moderated discussion with the state's investor-owned utilities on existing, related programs

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# Existing New Jersey Utility Programs

## MODERATOR



**Cathleen Lewis**  
Clean Transportation  
Programs Manager, NJBPU



**Tim Fagan**  
Senior Manager,  
Planning and Evaluation,  
PSEG



**Melanie Mangone**  
Section Manager, Customer  
Energy Services, RECO



**Andrew Bayne**  
Manager, Demand  
Response, ACE



**Eren Demiray**  
Manager Customer  
Programs & Solutions, JCPL





# Demand Response and Virtual Power Plant program at PSE&G

July 30, 2026

# PSE&G experience with Demand Response (DR) and VPP

| Current Programs                                                                                                                                                       |                                                                                                                                                                                                                                  |                                                                                                             |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----|
| Program                                                                                                                                                                | Description/Technologies                                                                                                                                                                                                         | Enrollments                                                                                                 | MW  |
| Flex Power                                                                                                                                                             | Voluntary demand response program for residential/small commercial customers utilizing connected devices (smart thermostats, electric vehicles/EV chargers, heat pump water heaters) to shift or reduce load during peak periods | 46,000 smart thermostats<br>2,900 EV charges<br>45 heat pump heaters                                        | 29  |
| Smart Flex                                                                                                                                                             | Voluntary demand response program for residential customers to manually reduce energy use during events to earn rewards                                                                                                          | 3,500                                                                                                       | <1  |
| VPP pilot                                                                                                                                                              | Voluntary VPP program for residential customers which provides a fixed incentive to install home batteries to shift or reduce load during peak periods                                                                           | August launch                                                                                               | TBD |
| Opportunities for fast growth                                                                                                                                          |                                                                                                                                                                                                                                  |                                                                                                             |     |
| Potential near term expansion                                                                                                                                          |                                                                                                                                                                                                                                  | Evolve over time to assess and value other benefits, add to the value stack                                 |     |
| Enroll existing residential battery owners into VPP<br>Enter C&I market with performance-based incentives<br>Expand opportunities with residential thermostat provider |                                                                                                                                                                                                                                  | More distribution level services (e.g. renewable hosting capacity, voltage support)<br>Locational targeting |     |
| PSEG-LI Programs                                                                                                                                                       |                                                                                                                                                                                                                                  |                                                                                                             |     |
| DLM tariff, including DLC for Tstats, BYOB, Background VPP and TOD Tstat                                                                                               |                                                                                                                                                                                                                                  |                                                                                                             |     |



## Lessons learned from others

- **VPPs today are mainly focused on lowering peak demand and not distribution grid level benefits**
  - Distribution grid benefits could provide value stacking to VPPs - such as voltage stability and renewable hosting capacity improvements - but are not yet economically quantified, limiting the ability to perform a comprehensive cost-benefit analysis.
- **Utility ownership of storage is becoming more common across the industry**
  - MA, NY, HI, CA, VA, MN all allow utility owned storage while MD is also allowing them to participate in wholesale markets
- **Electric utilities are central to VPPs growth and performance**
  - Integration of edge DERMS with utility level DERMS and other utility IT/OT platforms is essential to take full advantage of VPP potential
- **Performance-based compensation protects customers by paying for delivered grid value**
  - Many states are already utilizing performance-based incentives for VPP programs (MA, RI, AZ, CA) and others are actively moving towards performance-based incentives (HI, CT)
- **Customer-owned DER adoption is uneven; Utilities can fill in the gap**
  - State programs such as HI's Battery Bonus and MA's ConnectedSolutions did not meet enrollment targets in desired geographic regions and customer segments – Utility owned storage can target areas where customer adoption is low

**Lessons from other states make it clear that utility-coordinated VPPs with a strong regulatory framework could deliver grid benefits beyond peak reduction and ensure broad, equitable participation**



**Rockland Electric Company**

# **RECO & BPU Virtual Power Plant Stakeholder Meeting**

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**July 30, 2026**

# **Rockland Electric Company**

## **New Jersey Programs**

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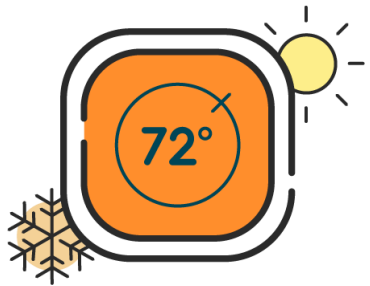
# Triennium 2 RECO Demand Response Programs

## Residential

- Bring Your Own Thermostat (BYOT)

- RECO makes brief, limited adjustments during peak electric demand.
- Currently **2,659** customers enrolled with 4,500 devices

- \$85 initial rebate and \$25 annually after second summer
- PY6 – July 2026, three events, **~4.6MW** shed with 26% avg. opt-out



- Shortened events to 3 hours resulting in less opt-out. One event in July 2026 was one hour with 9% opt-out

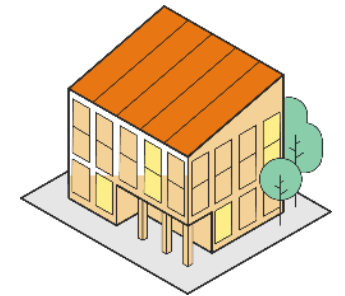
## Commercial (Anticipated Start 2027)

- Commercial System Relief Program (CSRP)

- Up to 21 hours advanced notice by email to reduce energy usage
- Events typically occur on weekdays and support overall system demand

- Aggregators and participants pledge a minimum of 50kW reduction during peak events

- Participants receive a monthly payment based on event performance
- Incentive amount is TBD



# **Orange & Rockland New York Programs**

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# O&R NY Demand Response Programs

| Demand Response Programs                                                                                                                                                         | 2025 Enrollment | 2025 Achieved | 2026 Anticipated |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|------------------|
| Commercial System Relief Program (CSRP) <ul style="list-style-type: none"> <li><i>Businesses reduce energy use on “Peak Days” with 21-hrs. notice</i></li> </ul>                 | 7.9 MW          | 5.2MW         | 7.6MW            |
| Distribution Load Relief Program (DLRP) <ul style="list-style-type: none"> <li><i>Businesses reduce energy usage during local grid emergencies with 2-hrs. notice</i></li> </ul> | 15.5 MW         | 12.2MW        | 10.4MW           |
| Bring Your Own Thermostat (“BYOT”/Smart Savers) <ul style="list-style-type: none"> <li><i>O&amp;R slightly adjusts smart thermostats during peak summer hours</i></li> </ul>     | 6.8 MW          | 5.2 MW        | 6.8 MW           |
| Bring Your Own Battery (“BYOB”) <ul style="list-style-type: none"> <li><i>New program - Residential battery systems discharge to the grid during peak</i></li> </ul>             | N/A             | N/A           | 1.3 MW           |



# O&R Storage Projects Snapshot

**Long-Duration Storage:** 100 kW (10 hours) / 1MWh

**Targeted In-service:** 2027

**Market Participation:** N/A

**ISBM:** Aggregation of 345 res. solar + storage across NY territory (~1.5 MW / 3 MWh)

**Commissioned:** Q1 2025

**Operational Use:** >1100 MW + contingency

**Market Participation:** TBD

**West Warwick NWA:** 12 MW / 56.7 MWh

**Commissioned:** WW1 (Jul 2024), WW2 and WW3 (Jan 2025)

**Operational Use:** >1100 MW + contingency

**Market Participation:** Revenue share in retail market (i.e., VDER tariff)

**Pomona NWA:** 3 MW / 12 MWh

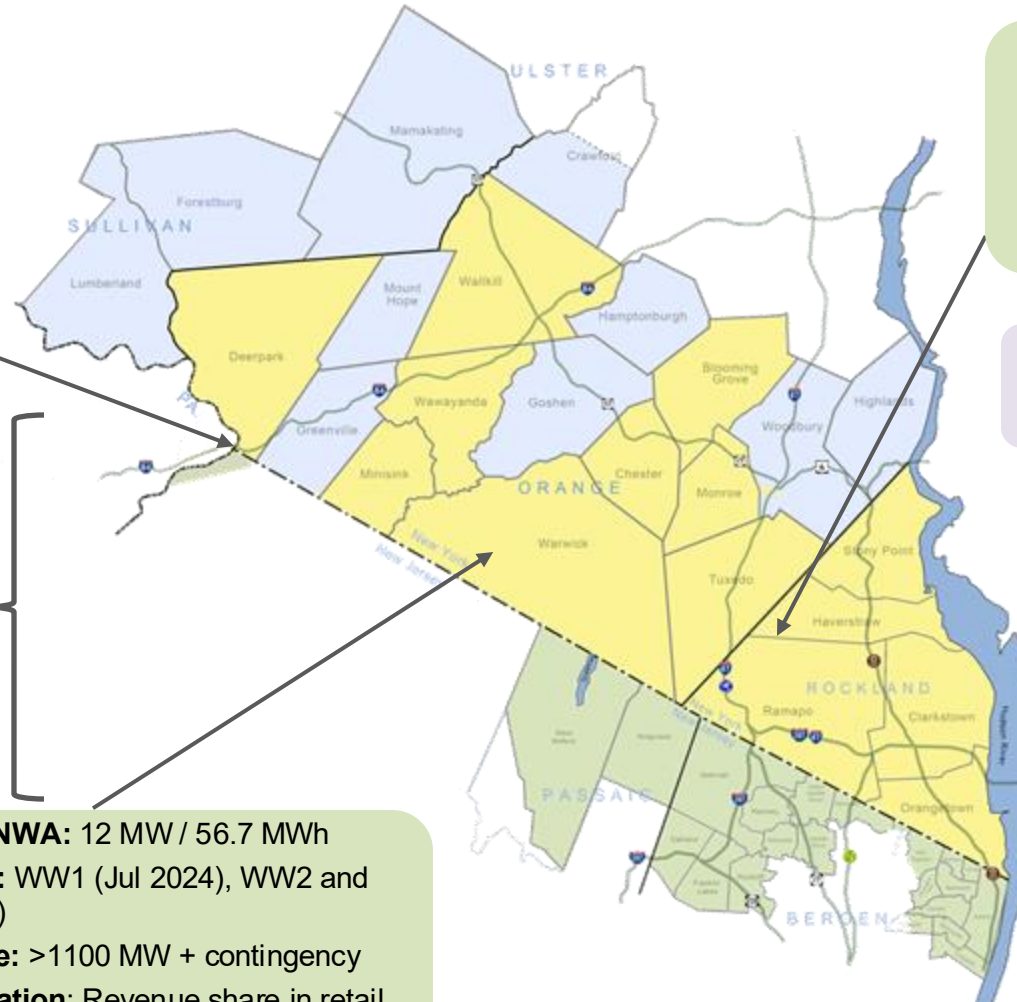
**Commissioned:** Dec 2020

**Operational Use:** >1300 MW + contingency

**Market Participation:** Energy (Aug 2023), Ancillary (Feb 2024), Capacity (May 2025)

**Pomona Expansion:** 12 MWh → 18 MWh

**Target In-service:** 2027



## Key:

Commissioned

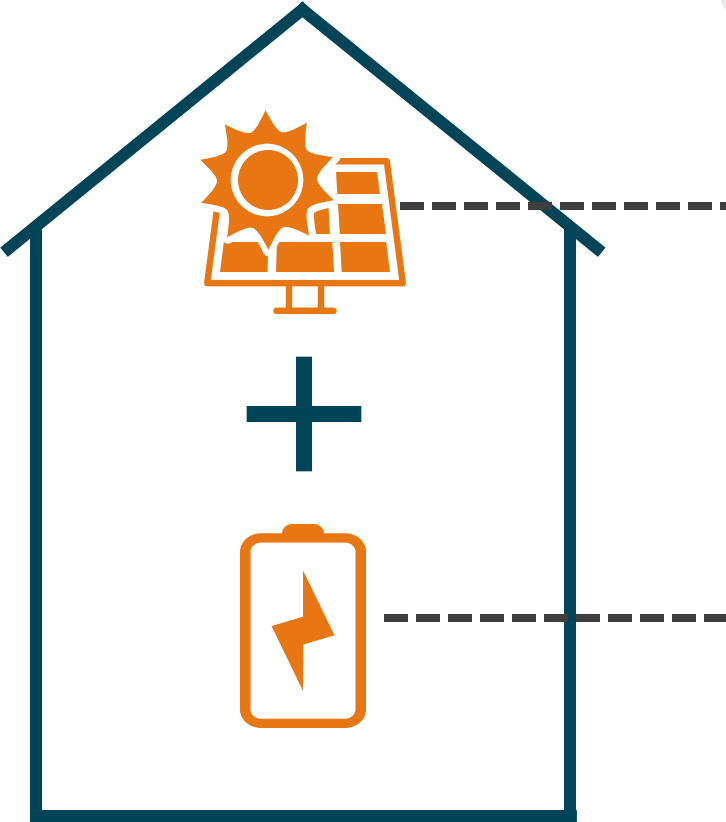
In Progress

Rate Case  
Approved

# Innovative Storage Business Model (ISBM) Background

ISBM is a utility-led demonstration project that successfully piloted New York's first residential VPP

## Typical ISBM System (Entire System Owned by Sunrun)



ISBM is a demonstration project funded through New York's Reforming the Energy Vision (REV) initiative to evaluate customer adoption of distributed resources and demonstrate how flexible resources can address grid constraints.

- ### Solar Array
- Sized at up to 110% of annual usage
  - ~8.4kW average
  - Customers lease solar panels from Sunrun

- ### Home Battery
- LG Chem (209 systems) at 9.8kWh or Tesla Powerwall (136 systems) at 13.5kWh
  - Customer-owned; Sunrun installed in customer homes (incentivized by O&R)
    - Incentives were higher for customers in a Disadvantaged Community or on a priority circuit (CAIDI / SAIFI)

### ISBM Program:

|                                  |                               |
|----------------------------------|-------------------------------|
| <b>3 MWh</b><br>System Capacity  | <b>1.5 MW</b><br>Max Output   |
| <b>345</b><br>Customers Enrolled | <b>\$4M</b><br>Project Budget |

# New York Residential Managed Charging

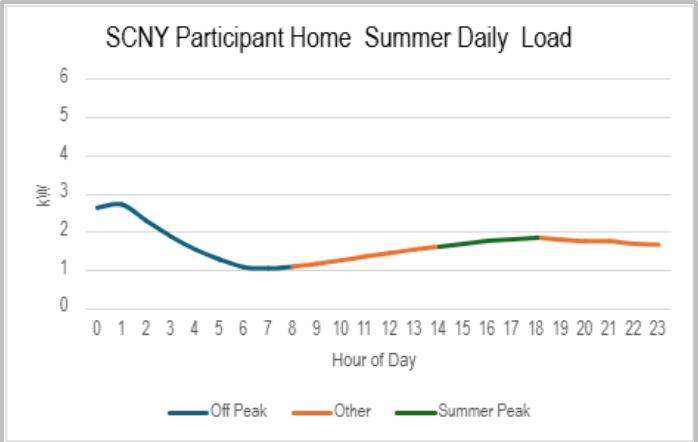
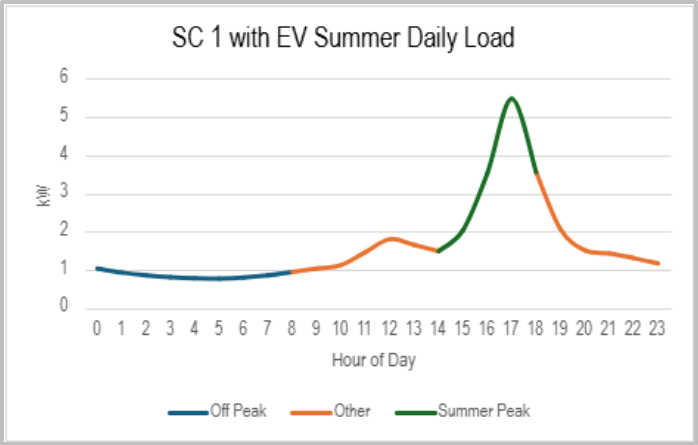
Passive residential managed charging effectively shifts load off peak and enhances customer affordability through direct incentive payments.

## SmartCharge New York (SCNY)

|                |                        |
|----------------|------------------------|
| Launch Year    | April 2023             |
| Program Type   | Passive Residential    |
| Incentive Type | Off-bill, paid monthly |

|                                                                                        |                                                                                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Off-Peak</b><br><i>(Year-round, everyday between 12 a.m. – 8 a.m.)</i>              | <ul style="list-style-type: none"><li>• <b>\$0.07/kWh</b> for <b>system</b> off-peak charging</li></ul>                                                  |
| <b>Avoided Summer Peak</b><br><i>(Jun – Sep, all weekdays between 2 p.m. – 6 p.m.)</i> | <ul style="list-style-type: none"><li>• <b>\$35</b> per month for avoided summer peak charging</li></ul>                                                 |
| <b>Additional</b><br><i>(referral, 3-month bonus)</i>                                  | <ul style="list-style-type: none"><li>• <b>\$25</b> each for referee and referrer</li><li>• <b>\$25</b> one-time bonus after 3 months charging</li></ul> |

## Load Profiles



## Enrollments

| Program                     | Enrollment* |
|-----------------------------|-------------|
| SmartCharge New York (SCNY) | 8,501       |
| NY Time of Use (TOU)        | 605         |
| NJ Time of Day (TOD)        | 1,032       |

\*as of June 30, 2026

**Thank You**

July 30, 2026

# Demand Response

Atlantic City Electric – Clean Energy Strategy / Smart Grid

# Demand Response Overview

| Jurisdiction | Customer Segments | Device Participation | Available Programs           | Customer Pathways |
|--------------|-------------------|----------------------|------------------------------|-------------------|
| DC           | Res               | 26,700               | EWR                          | LCS               |
| DE           | Res               | 52,335               | EWR                          | LCS               |
| DPL MD       | Res, Small Bus.   | 43,513               | EWR, FLM, Locational, Winter | BYOD, LCS         |
| Pepco MD     | Res, Small Bus.   | 251,006              | EWR, FLM, Locational, Winter | BYOD, LCS         |
| NJ           | Res, Small Bus.   | 8,400                | EWR, FLM                     | BYOD              |

## Forward Thinking

- Key policy and legislation is supporting the long-term vision for demand response as a function of DER aggregation
- Demand Response at scale is a resource adequacy tool
- As more customers & devices are enrolled; additional revenue streams are developed for customers

**1,000 MW** of load curtailed **Summer 2025**

**24 MW** of load shed through locational events in **2025**

**\$5.8M** in capacity payments

**97.2 MW** cleared capacity in PJM

# Demand Response Operations

## Energy Wise Rewards:

### Direct Load Control Program:

- ~290k enrolled devices equating to ~ 300MW of peak shaving potential across PHI

### BYOD Thermostat Program:

- ~42k enrolled devices; continued EM&V of peak shaving potential across PHI
  - ACE BYOD program stood up in June 2025; ~ 8,400 devices enrolled to date

## Operational Highlights

- Executed 22 **DR Events** across **PHI EWR**:
  - **14 Economic** Events
  - **6 PJM Emergency** Events
    - **ACE DSO** dispatching EDGE Derms
  - **2 Locational DR** Events

| EWR Economic Dispatch |         |         |         |
|-----------------------|---------|---------|---------|
| Criteria              | ACE     | DPL     | Pepco   |
| Temperature           | > 75°F  | > 75°F  | > 75°F  |
| Day Ahead LMP         | \$71    | \$120   | \$134   |
| Zonal Load            | 2200 MW | 3500 MW | 5000 MW |

| EWR Emergency Dispatch        |                           |
|-------------------------------|---------------------------|
| Criteria                      | PHI                       |
| PJM DR Hub Notification       | 30 minute response time   |
| Distribution System Condition | OCC dispatches EDGE Derms |

DR is System  
Planning Tool

ACE Pioneering OCC  
Collaboration

Established  
Operational Triggers  
for DR



# July Demand Response Event Information

## July 2<sup>nd</sup> & 3<sup>rd</sup> PJM Emergency Events

- **PJM dispatched** a Load Management Event for **Quick 30 lead time** capacity assets across all PHI zones (**ACE, DPL, Pepco**)
  - **7/2** event occurred from **4:15pm – 9:30pm** (5 hrs)
    - **All EWR** assets deployed in **all PHI zones** - DLC and BYOD
  - **7/3** event occurred from **1:30pm – 9:00pm** (7.5 hrs)
    - **BYOD** deployed in **ACE**
    - **DLC only** deployed in **DPL** and **Pepco**
- On **July 1**, **PJM data miner** was forecasting **record high load across the RTO** for the coming weekend (**166,241 MW** – 678 MW above 2006 record high)

**DOE Issued two emergency orders on June 30**

## PHI Energy Wise Rewards & PJM

| Operating Company | MW Commitment to PJM | Customer Pathways | Devices Enrolled |
|-------------------|----------------------|-------------------|------------------|
| ACE               | 2.8MW                | BYOD              | 8,400            |
| DPL DE            | -                    | -                 | -                |
| DPL MD            | 9MW                  | BYOD              | 5,864            |
|                   |                      | DLC               | 37,649           |
| Pepco MD          | 76MW                 | BYOD              | 27,912           |
|                   |                      | DLC               | 223,094          |
| Pepco DC          | 9.4MW                | DLC               | 26,700           |

**7/2 MWh Prices tripled last years peak**

**163k MW demand on 7/2 was highest in over 2 decades**

# Leveraging Proven Locational DR Success

## DLC Investment Driving Locational Efficacy

### Target Area:

Four Montgomery County substations  
(Kensington, Linden, Parklawn Drive, Rockville)

### Event Design:

6-hour dispatch window (3:00–9:00 PM), aligned with localized system conditions

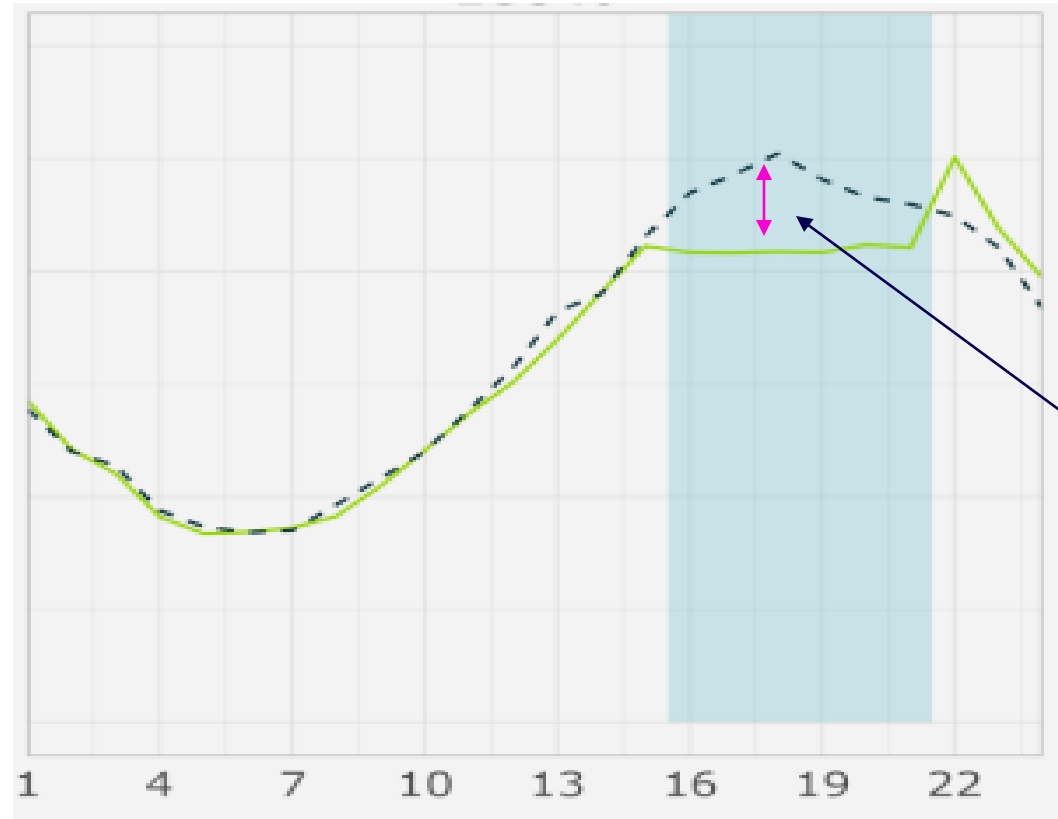
### Operational Execution:

Pepco Distribution Operations dispatched the event directly through the DLC Edge DERMS platform

### System Objective:

Mitigate radial-fed substation conditions using reliable, dispatchable demand response

Locational Demand Response Event Data, Pepco MD June 22, 2025



*LDR Load  
Shifting Impact*

# Bring Your Own Battery - Delaware

## Program Objectives

- **Aggregate dispatchable customer-owned storage resources** into a VPP
- **Deliver verified peak reductions** across summer and winter seasons (up to 80 events per year)
- **Support affordability** through predictable peak shaving events
- **Provide an understanding of** customers bill savings, system benefits, and insights into battery economics and operational performance
- **Utilize learnings to support** future BESS and VPP initiatives

## Customer Interaction

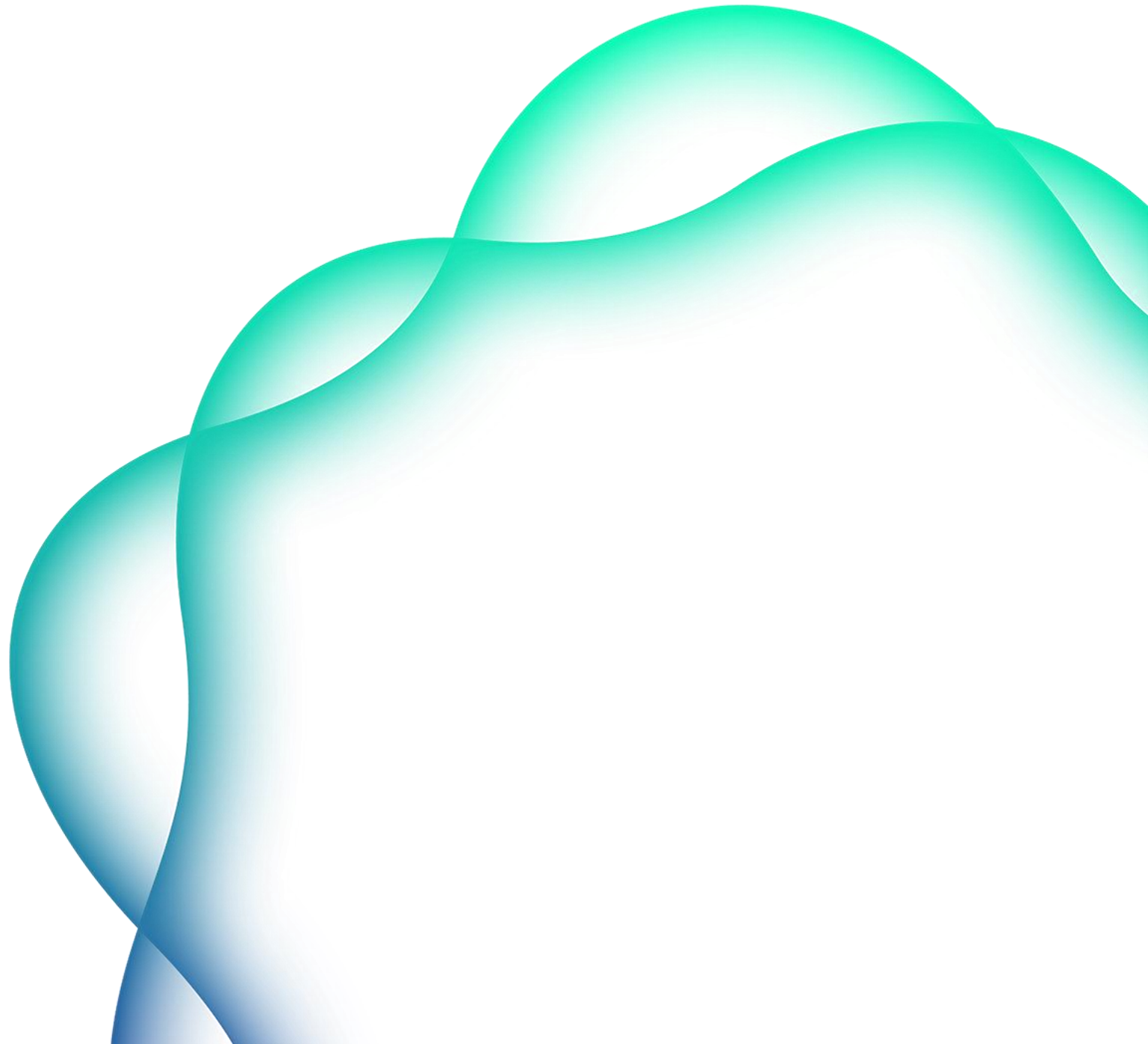
- **Develop a pay for performance** incentive structure to meet participation goals
- Estimated **\$1080/year** per battery (subject to dispatch performance)
- Incentives paid via **direct deposit through OEM app**
- Marketing conducted through the OEM, DPL and Energize Delaware channels
- Enrollment target: **100-300 devices**

## Dispatch Strategy

### Event Seasons:

- Summer: May 1 – Sept 30
- Winter: Nov 1 – Mar 30
- **Event Frequency:** Up to **80 events/year**
- **Event Duration:** Avg **2 hours**, max **4 hours**
- **Notification:** Day before scheduling with a notification prior to the event
- **Battery Operations:**
  - **20% adjustable backup reserve**
  - No export lock (honors customer site settings)
  - Grid charging allowed unless customer restricts
- **Verification:** AMI interval data + OEM DERMS event logs

# Appendix



July 2, 2026

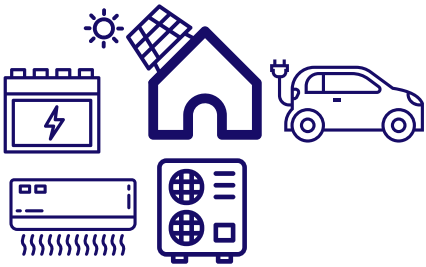
# Introduction to VPP Models

Atlantic City Electric – Clean Energy Strategy / Smart Grid

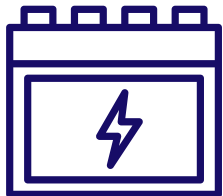
# Today: Limited Grid Services Functionality

**Distributed Energy Resources: Limited**  
visibility, control, and grid injection  
capabilities that limit distribution system  
benefit opportunities

## Customer / BTM



## Utility / FTM



### Grid Services

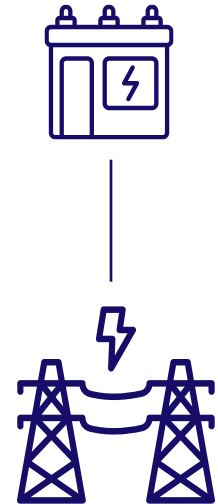
Demand Response programs  
that provide load shedding  
with limited customer device  
types

NEM for solar customers that  
provide controlled energy  
flow to the grid.

Limited Storage Pilots

**Utility Distribution System: Limited**  
bidirectional flow due to IT and security  
protocols to maintain security and reliability of  
system

Utility equipment operates on a  
closed network protected by  
layers of IT protocols



### External Factors

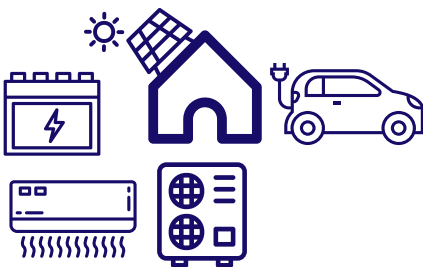


|                      |                  |                    |                |
|----------------------|------------------|--------------------|----------------|
| Customer<br>Adoption | Deployed<br>Load | Capacity<br>Prices | Reg.<br>Enviro |
|----------------------|------------------|--------------------|----------------|

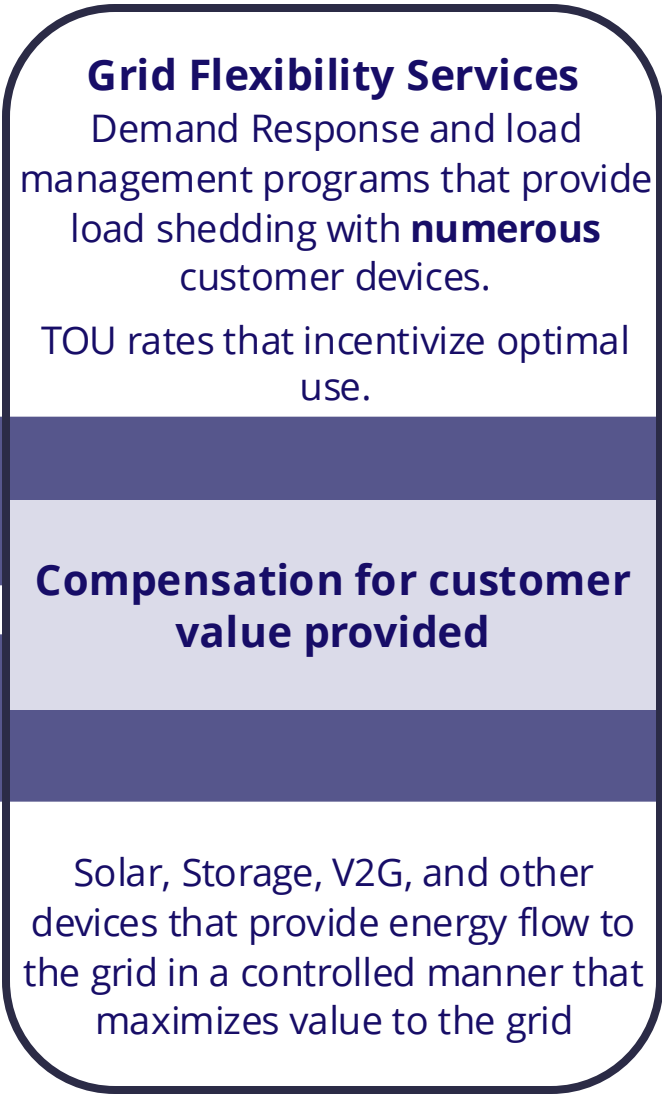
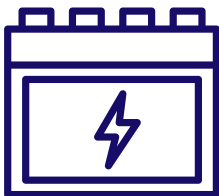
# Evolving to Grid Flexibility Services Functionality

**Distributed Energy Resources:**  
Capable of providing load flexibility and local generation to provide grid services via effective control systems and compensation mechanisms

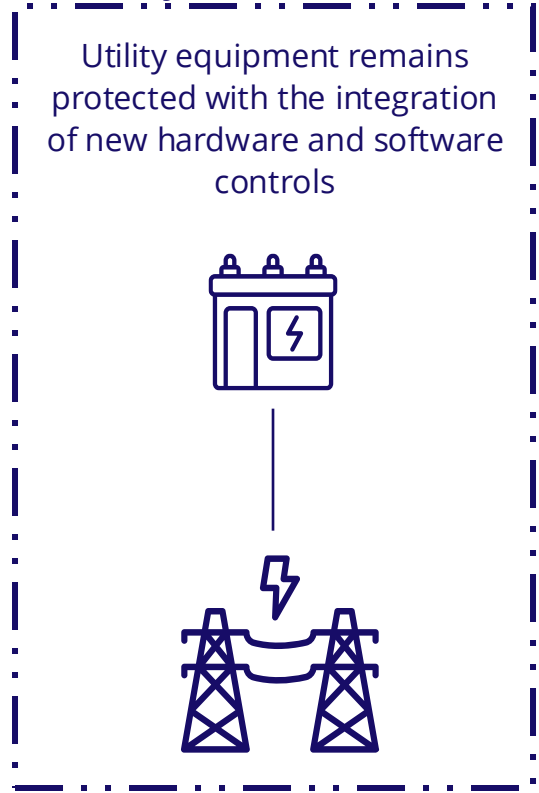
**Customer / BTM**



**Utility / FTM**



**Utility Distribution System: Controlled**  
bidirectional flow with IT and security protocols to maintain security and reliability of system



## VIRTUAL POWER PLANT (VPP) SERVICES

VPP services define how aggregated DERs are deployed to solve grid needs and create measurable system value

### RELIABILITY, PEAK & FLEXIBILITY SERVICES

DERs support reliability, manage peaks, and shift load to match grid needs

1

#### Peak Capacity & Cost Management

A planned peak-reduction service that lowers exposure to system peaks and associated capacity or transmission cost allocation. This includes outcomes such as reducing future peak obligations or cost drivers, but those monetization pathways should be treated as value streams, not separate services.

Current capability

2

#### Emergency Reliability Dispatch

A real-time, event-driven service that dispatches DERs to maintain grid reliability during system emergencies or contingencies. This includes rapid response to outages, capacity shortfalls, or grid instability to preserve system integrity and avoid load shedding, serving as a reliability backstop rather than a cost optimization mechanism.

Current capability

3

#### Managed Load Shaping & Renewable Integration

A service that shifts flexible load or DER dispatch across hours to better align demand with renewable output, system conditions, or expected ramps. This is distinct from emergency dispatch because it is scheduled or optimized rather than event-driven.

Current capability

### ISO/RTO MARKET PARTICIPATION

Aggregated DERs participate in wholesale energy, capacity, and ancillary markets

4

#### Utility-Aligned Market Participation

A service in which DER aggregations participate in ISO/RTO markets in a way that is intentionally coordinated with utility objectives, program design, or system needs. The utility may sponsor, enable, align to, or share in the value of the participation, even if a third party helps operate the aggregation.

Current capability

5

#### Third-Party Aggregator Market Participation

A service in which a third-party aggregator enrolls DERs within the utility service territory and bids them into ISO/RTO markets primarily for aggregator and/or customer benefit. The utility may have limited direct value capture, but still has planning, interconnection, operational, data, or policy considerations tied to the activity.

### DISTRIBUTION CAPACITY SERVICES

DERs relieve or defer localized distribution constraints

6

#### Firm Distribution Deferral (NWA)

A locational service in which DERs provide a firm, committed reduction in local loading to defer a specific planned distribution upgrade. This should be reserved for cases where the utility would otherwise make a defined capital investment.

7

#### Preventative / Local Constraint Relief

A lower-certainty local service that uses DERs to reduce emerging or forecasted feeder, transformer, or station loading before it becomes a firm capital project. Unlike firm NWA, this service is typically used to manage risk, preserve optionality, or support growth within existing limits.

### EMERGING / ADJACENT USE CASES

DER coordination can help expand use of existing grid capacity in select interconnection scenarios

8

#### Flexible Connection Enablement

An emerging, connection-oriented use case in which VPP-like coordination of DERs can help connect new DERs or large loads within existing grid constraints under defined operating limits. The value lies in the enabled connection outcome, while flexible interconnection and dynamic operating limits are the mechanisms used to achieve it.



# Operating Model Responsibilities

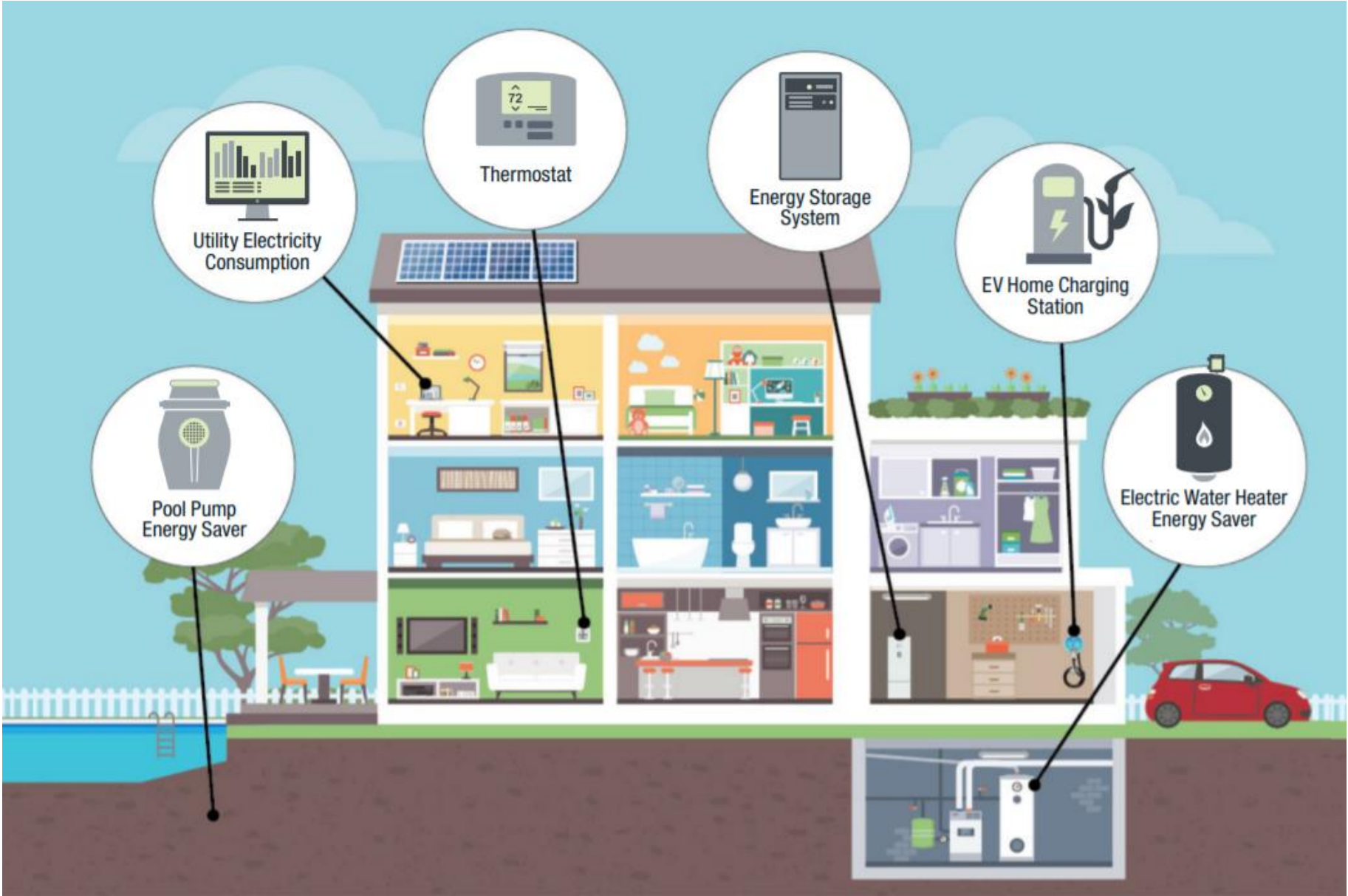
Understanding who owns what across VPP operating models

|                                                                                                                              |                                                                                                                                                          | <div> <div>A</div> <div>B</div> <div>C</div> </div>                                                                          |                                                                                                                                                   |                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| VPP Functional Role                                                                                                          | Responsible Key Activities                                                                                                                               | <b>THIRD-PARTY TURNKEY VPP</b><br>End to end managed by a 3 <sup>rd</sup> party                                              | <b>UTILITY MANAGED, PARTNER OPERATED VPP</b><br>Utility owns strategy, 3 <sup>rd</sup> party executes                                             | <b>UTILITY ORCHESTRATED VPP</b><br>Utility-led orchestration with partner ecosystem                                                        |
|  <b>VPP Strategy &amp; Resource Offtaker</b> | <ul style="list-style-type: none"> <li>Define needs</li> <li>Set incentives</li> <li>Validate delivery</li> <li>Compensate VPP</li> </ul>                |  <b>Utility</b>                           |  <b>Utility</b>                                                |  <b>Utility</b>                                         |
|  <b>VPP Operator (L1)</b>                    | <ul style="list-style-type: none"> <li>Forecast capacity</li> <li>Optimize dispatch</li> <li>Coordinate programs</li> <li>Manage performance</li> </ul>  |  <b>3<sup>rd</sup> Party Aggregator</b>   |  <b>Utility / Partner</b>                                      |  <b>Utility</b>                                         |
|  <b>DER Aggregator (L2)</b>                  | <ul style="list-style-type: none"> <li>Run programs</li> <li>Control devices</li> <li>Maintain connectivity</li> <li>Execute dispatch</li> </ul>         |  <b>3<sup>rd</sup> Party Aggregator</b>   |  <b>3<sup>rd</sup> Party Aggregator / Program Implementers</b> |  <b>Utility (with OEM / software vendors)</b>           |
|  <b>Customer Enrollment</b>                | <ul style="list-style-type: none"> <li>Acquire customers</li> <li>Enroll &amp; onboard</li> <li>Install devices</li> <li>Support participants</li> </ul> |  <b>3<sup>rd</sup> Party Aggregator</b> |  <b>Mixed (aggregators, implementers, utility)</b>           |  <b>Utility (may leverage partners for execution)</b> |
|  <b>Participant Payment</b>                | <ul style="list-style-type: none"> <li>Measure performance</li> <li>Calculate incentives</li> <li>Pay customers</li> </ul>                               |  <b>3<sup>rd</sup> Party Aggregator</b> |  <b>Mixed (3<sup>rd</sup> Party aggregator or utility)</b>   |  <b>Utility</b>                                       |

# Proposed Approach to Operationalizing VPPs

|                      | Current State                             | Short Term<br><i>Pilot, Learn, Iterate</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Long Term<br><i>Fully integrated DER infrastructure</i>                                                                                                                                                                                                                                     |
|----------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology Available | Demand Response Edge DERMS; No Grid DERMS | Multi-DER Edge DERMS; No Grid DERMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Fully integrated Edge DERMS & Grid DERMS                                                                                                                                                                                                                                                    |
| VPP Operating Model  | Utility Managed, Partner Operated         | Utility Managed, Partner Operated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Utility Orchestrated                                                                                                                                                                                                                                                                        |
| Proposed Approach    |                                           | <ul style="list-style-type: none"> <li>➤ Partnering with Edge DERMS to manage and coordinate DERs and DER Aggregations while we continue to build out our internal IT infrastructure</li> <li>➤ Develop smaller pilots to learn and further hone economic and grid value of VPPs</li> <li>➤ Develop parameters for our operators to inform how &amp; when a VPP would be best and most effectively used</li> <li>➤ Change management to enable and allow grid export from DERs in a safe and impactful way</li> </ul> | <ul style="list-style-type: none"> <li>➤ Integrate Edge DERMS providers into Grid DERMS to allow operators to control DERs and the system through a single pane of glass</li> <li>➤ Develop permanent programs, incentivizing ongoing customer participation based on grid value</li> </ul> |
| Challenges           |                                           | Utilities can rely on Edge DERMS for initial use cases, but limitations in OEM telemetry and data sharing are limited                                                                                                                                                                                                                                                                                                                                                                                                 | Need to balance market participation and retail VPP events while allowing customers to stack incentives for maximum value                                                                                                                                                                   |
| Estimated Timeline   |                                           | RFP to edge DERMS providers once we have a BPU order with 6 month estimated ramp up period                                                                                                                                                                                                                                                                                                                                                                                                                            | Grid DERMS estimated to be available 2028+                                                                                                                                                                                                                                                  |

# Scaling Programs with New Customer Pathways





# Jersey Central<sup>®</sup> Power & Light

*A FirstEnergy Company*

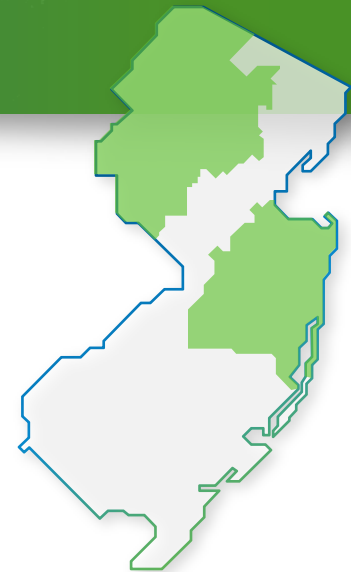
## Focused on Our Future

### NJ VPP Stakeholder Meeting

Eren Demiray

Manager, Customer Programs & Solutions

July 30, 2026



# Triennium 2 (“T2”) Load Optimization & Peak Demand Reduction (“PDR”)

**Program Duration:** (1/1/25 – 6/30/26)

**Budget:** \$9.8M

**Objective:** Reduce electricity demand during peak summer periods to support grid reliability, system efficiency, and peak load reduction

- Pathways for participation include both smart thermostats & electric vehicles



## Load Flexibility

- Supports grid reliability
- Reduces peak demand
- Automated load reductions



## Customer Choice

- Voluntary program
- Participants maintain the ability to opt-out participation in any load event



## Administration

- Administered by EnergyHub
- Device integration
- Event dispatch
- Customer engagement

# T2 Load Optimization & PDR – Smart Thermostats



Residential customers with eligible connected smart thermostats



Load control events are called when PJM day-ahead forecast indicates potential peak loads during the summer months



2 – 4 hour events, not more than 2 consecutive days



Incentives for both enrollment and participation



## How it works



### Sign up

If you own a smart thermostat, you may be eligible to participate! If you don't own one, you can get one with an instant rebate.



### Earn up to \$100

JCP&L will pay you to use less energy by making small, temporary adjustments to your thermostat during the hottest days of the year.



### Stay in control

You can opt out of thermostat adjustments at any time from your mobile device, web browser, or thermostat.

## Enroll

Customer enrolls eligible thermostat



## Peak Alert

PJM forecast indicates high demand



## Auto Response

Peak event dispatched



## Impact

Load reduced during peak



## Value

Customer rewards & grid reliability

# T2 Load Optimization & PDR – Electric Vehicles



Residential & Commercial and Industrial (“C&I”) customers



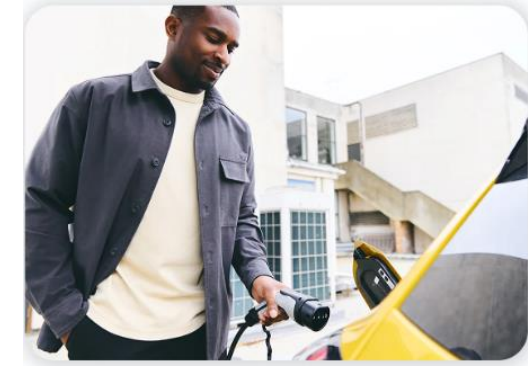
Daily adjustments to charging schedules and charging speed during periods of high electric demand



EV charging schedules adjusted daily during high-demand periods



Incentives for both enrollment and participation



## How it works



### Sign up

By enrolling in the JCP&L Energy Savings Rewards program, you can get ongoing savings with your qualified Level 2 Smart charger or EV.



### Get up to \$195

By participating, you'll be rewarded for helping us manage the grid impact of EV charging.



### Stay in control

You can change your charging schedule at any time from your charger's app or EV mobile app.

## Enroll

Customer enrolls eligible EV / battery

## Peak Alert

PJM forecast indicates high demand

## Time-of-Use (“TOU”) Rate

Varying costs based on time and demand

## Auto Response

Peak event dispatched / TOU

## Impact

Load reduced during peak

## Value

Rewards & grid reliability

# Maryland – Potomac Edison’s Demand Response Program

**Objective:** Reduce electricity demand during peak summer periods to support grid reliability, system efficiency, and peak load reduction

## Similar in design to NJ T2 Program:

-  Residential customers with eligible connected smart thermostats
-  Load control events are called when PJM day-ahead forecast indicates potential peak loads
-  Up to 4-hour events, no more than 10 curtailment events per season
-  Incentives for both enrollment and participation



## Notable Difference:



### Peak Events

- Both summer and winter peak load
- Varying customer incentives based upon participation

### How it works



#### Sign up

If you own a smart thermostat you may be eligible to participate! If you don't own one yet, you can receive an instant discount on an eligible model purchased through and installed by a participating HVAC contractor through Potomac Edison's Residential Energy Efficiency HVAC program.



#### Earn up to \$75

Your electric company will reward you for using less energy during times of peak electric demand by allowing small, temporary adjustments to your thermostat.



#### Stay in control

You can opt out of thermostat adjustments at any time from your mobile device, web browser or thermostat.



# FirstEnergy Potomac Edison's Electric Distribution System Support Services ("EDSSS") Pilot Program Summary

## Goals

- Demonstrate the ability to achieve distribution system peak load reduction through the successful aggregation of distributed energy resource ("DER") technologies
- Investigate the applicability of other grid services that may provide value, with a detailed focus on locational load reduction of targeted feeders and/or substations
- Advance Potomac Edison's internal capabilities with regard to bidirectional power flow, DER aggregation, and the ability to evaluate non-peak grid services at multiple levels to examine long-term customer affordability impacts



### Pilot Scale & Scope

- Establishes a scalable framework with achievable annual targets and potential capacity of up to 2%
- Combines directly enrolled DERs with pathways for aggregated resources



### Aggregator Role

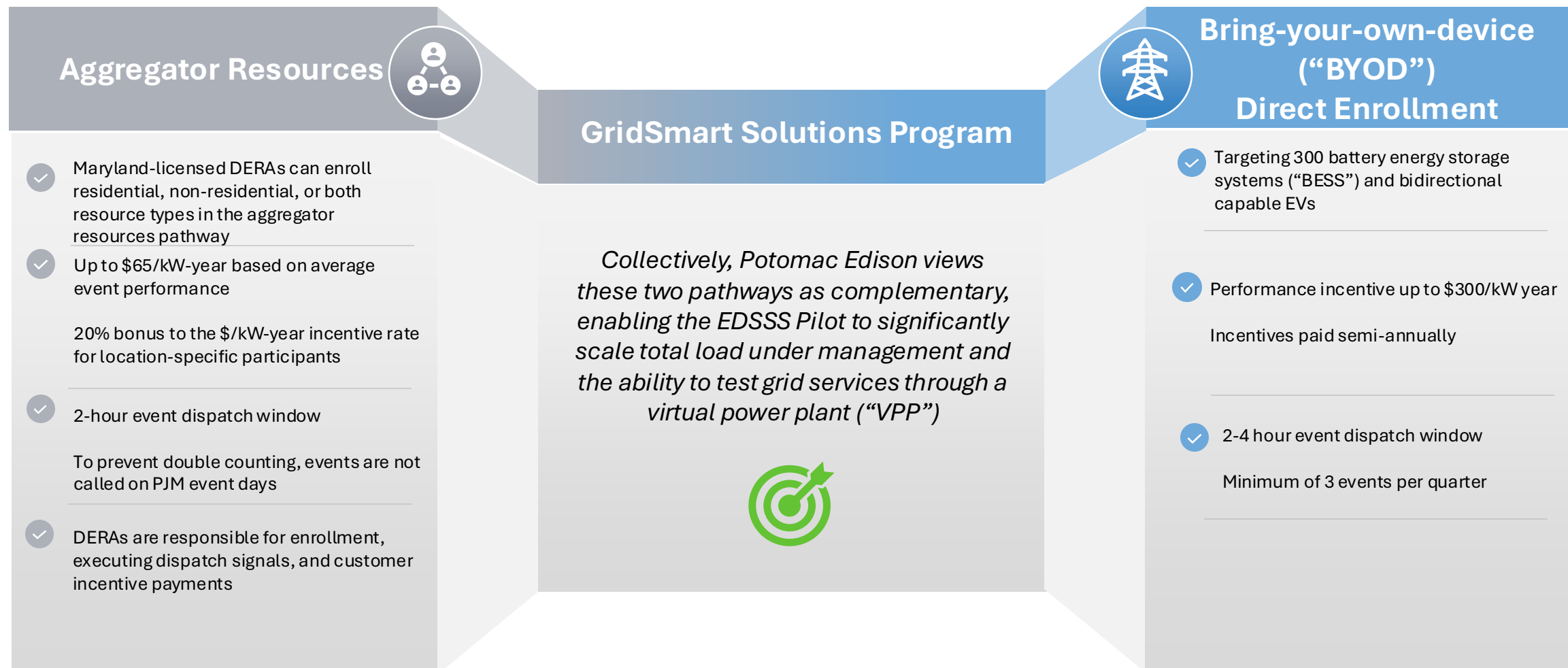
- Opens licensed Distributed Energy Resource Aggregators ("DERAs") pathway alongside third-party implementer; DERAs handle event dispatch/customer payment



### Locational Value

- Supports more effective locational deployment by prioritizing heavily loaded feeders and or substations, evaluating both summer and winter impacts

# Potomac Edison Maryland – EDSSS Pilot Program Pathways



**Note:**  
-Resources may not participate in both pathways simultaneously.  
-All incentives may be prorated for enrollment less than 12 months of a connected year.

**Focused** on Our Future

Thank You





**BREAK**  
**RETURN @ 11am**

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# Panel 2: Straw Proposal Overview

Presentation from NJBPU staff on the VPP program straw proposal with an opportunity for clarifying questions

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## VPP Goals

EO 2 requires the BPU to establish a VPP program that reduces peak demand.

Reducing peak demand is not only about reduced energy use it is a key driver in capturing long term savings for all ratepayers by reducing capacity needs at auction, providing grid services that avoid the need for traditional wires solutions and reducing the need to build or utilize peaker plants.

The Straw aims to establish a framework for a new grid infrastructure that is more flexible, and best utilizes all its resources. This future will require continued coordination between workstreams.

## Two Phased Approach

- Short Term
  - An EDC run program that utilizes existing Demand Response and VPP Pilot Programs as a backbone to achieve peak demand reduction goals outlined in the Straw
- Long Term
  - A compensation tariff that will support a robust open market.

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- **Existing assets –**
- Smart thermostats, EV chargers, smart water, heaters, battery storage that are not receiving compensation for curtailment or injection already
- Similar to a BYOD set up, but assumes that many of these will be hardware that received EE or EV incentives during install.







# Short term solution – Interim VPP Program

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## Interim VPP Program

### Minimum Filing Requirements

- June 1, 2027 – September 30, 2029
  - July 1, 2027 for any Triennium Demand Response, VPP Pilots
- Technology Neutral
  - 10kW per event, per aggregation
- Up to 35 dispatch events a year
  - 20 per summer to include 5 CPs
  - 10 per winter
- Peak Demand Reduction Goal – 3% for life of program

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## Interim VPP Program

### Minimum Filing Requirements include:

- Program description
  - Eligibility and enrollment descriptions, event dispatch protocols, timelines, narratives explaining how the program meets the objectives of the straw, implementation timeline
- Forecast table
- Budget worksheets and cost-effectiveness measures
- Enabling Infrastructure details
  - Communication protocols, estimates on the number of devices, etc
- Planning and Operations Integration
  - How will the EDCs incorporate VPP provided services into distribution planning and operations during the program
- Performance Measurement and EM&V Plan
  - Baseline methodology, proposed metrics

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## Interim VPP Program

### Minimum Filing Requirements cont.

- Peak Demand Reduction Target
- Cost Savings Target
- Aggregator Solicitation Plan
  - Evaluation criteria, fees, anticipated number of aggregators by resource type or customer segment, how Triennium contractors will transition
- EDC Aggregator Contract Disclosures
  - EDCs must disclose total contracted value consistent with requirements including customer pass through
- Transition Strategy
  - A plan to migrate customers in the Interim plan to migrate to the long term tariff without re-enrollment
- Reporting
  - Quarterly, Annual, post season and event level

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# Interim VPP Program

## Budgets & Program Administration

| EDC   | Budget        |
|-------|---------------|
| PSE&G | ~\$30 million |
| JCP&L | ~\$16 million |
| ACE   | ~\$20 million |
| RECO  | ~\$2 million  |

\*Includes admin, incentives, EM&V

The Straw also provides details on coordination with 3<sup>rd</sup> party aggregators including providing customer choice, encouraging performance-based contracts and providing details about the contracts to better understand costs vs customer savings/revenue.

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## Interim VPP Program

### Timeline

Board Order for filings – October 2026

Filings due to the Board – December 31, 2026

Programs begin – June 1, 2027, July 1, 2027 for those currently administered through Triennium order

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# **Long term solution – VPP Tariff and other coordinated workstreams**

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## Long-term VPP

The long-term VPP will focus on creating a compensation-based tariff that is resource neutral:

- Support an open market that provides performance-based compensation
- Has appropriate DERM architecture to support robust system
  - Grid DERMs
  - Edge DERMs
- Allows for revenue stacking (i.e. distribution-level services, PJM wholesale) but prevents double payment for identical grid service

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## EDC Ownership & Administration

The Straw contemplates a role for EDC ownership and/or administration of storage for specific use cases.

The Straw also notes that there are open questions on the impact EDECA may have on EDC ownership for transmission scale storage.

The Straw suggests the clearest use case for EDC ownership and/or administration would be constrained circuits, which would be identified in the PSUP.

The Straw prioritizes customer/ aggregator ownerships over EDC ownership.

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## Long-term VPP-related workstreams

### Grid Mod

- Started in 2021 the Board's Grid Modernization work is foundational to the creation of a successful long-term VPP construct, including:
  - Proactive System Upgrade Plan (PSUP)
  - DER Registry
  - Flexible Interconnection
  - Grid Flexibility Services
    - The work being done by this work group will include the proposal for Grid Flex Tariff, which is also the VPP Tariff

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## Long-term VPP-related workstreams

## Grid Mod - Proactive System Upgrade Plan (PSUP)

A 3- and 10-year plan to identify non-traditional solutions that expand integration capacity, **reduce cost to serve**, **enable DER participation**, and increase system **operational flexibility**.

### Requirements

- Baseline Distribution Assessment  
Grid utilization metrics; Worst-performing circuits; DER deployment
- Load + DER Forecasting  
Medium & High Scenario Analyses
- Identification of Grid Needs
- Proposed Cost-Effective solutions  
Optimize System; Increase Integration Capacity; Enable VPPs

### What's included

- Non-traditional Distribution Solutions (AKA Non-wires alternatives) Cost Effectiveness Assessment  
Volt/Var Optimization  
Virtual Power Plants (VPPs)  
Energy Storage  
Future Grid Flex Services
- DER Management System (DERMS) Evolution

### Key Purposes

- **Not** cost recovery mechanism
- **Not** IRP (Integrated Resource Plan)
- Qualitative distribution grid evolution
- High level view of the distribution grid and trends

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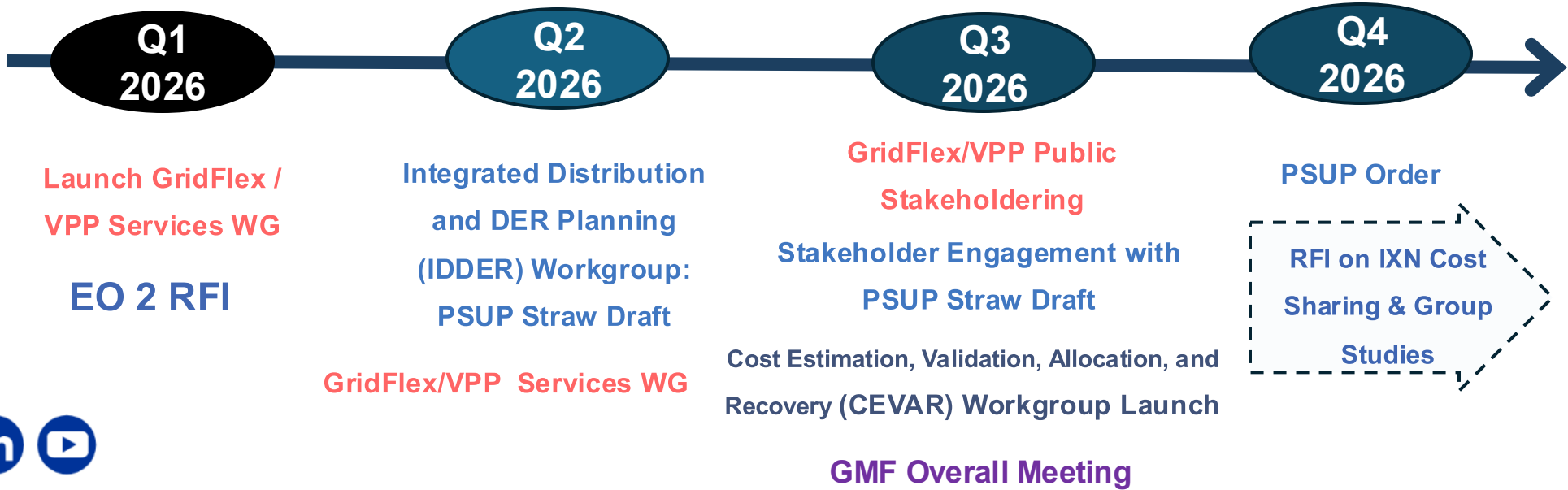




# Long-term VPP-related workstreams

## Grid Mod Timeline

To define a market-driven, flexible, services-based ecosystem which expands both the interconnection capacity for and service participation of grid-edge DER.





## Long-term VPP-related workstreams

### Storage

- Garden State Energy Storage Program Phase 1
  - Transmission level storage that will bid into the existing wholesale markets, two tranches have been initiated
- Garden State Energy Storage Program Phase 2
  - Support rapid adoption of smaller, decentralized energy storage resources that may participate in future VPP aggregations
  - Initial program rollout will complement VPP efforts to enable deployment of new BTM distributed storage resources and support nascent storage market while the long-term tariff is established
  - Straw expected mid-August

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## Long-term VPP-related workstreams

### Clean Transportation

- EV charger make-ready incentives have required networked chargers since inception to facilitate managed charging in the future.
- EDC and BPU programs have helped to install over 40,000 networked chargers which can be ready participants in the VPP Interim Program
- Future EV EDC programs can help shape additional active managed charging programs beyond event based VPPs
- Future iterations of EDC and BPU EV programs can still offer hardware and make-ready incentives, as markets develop those incentives could be dependent upon VPP participation.

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## Long-term VPP-related workstreams

### Energy Efficiency (EE)

- Triennium 2 Order included Demand Response Programs and VPP Pilot Programs
- Triennium Program Year 7 Order called for those programs to continue until a VPP Program was approved
  - Assumed that the next generation of these program would be proposed as part of the VPP Interim Program
- Triennium Programs have helped to install hundreds of thousands of smart devices that can be ready participants in the VPP Interim Program
- Future EE Programs (PY7, Tri 3 and beyond) may still offer hardware incentives, as markets develop those incentives could become dependent upon participation in VPPs.

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## Long-term VPP-related workstreams

### Solar

- Solar plus Storage is an untapped resource in many areas of New Jersey, particularly due to net metering rules.
- Future Solar proceedings will look to:
  - Relate compensation of solar to the value to the grid
  - Enhance economic viability of installing energy storage paired with residential and commercial solar systems

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# Support Structures

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# Cost Recovery

- The Board is in the process of reviewing the traditional utility business model and looking to modernize rate proceedings and recovery mechanisms. The Straw seeks comment on what would be appropriate:
  - › Performance-based recovery
  - › Administration and incentives recovered as expense
  - › Review what costs are more appropriate to be amortized over time
  - › Other recovery mechanisms



# Technical Requirements

- Information sharing requirements
- Program cost
- Performance
- Customer data protection
- DER Registry
- Cybersecurity
- DERMs standards

## DERA Licensing

The Straw proposes to establish a licensing process administered by the Board

- Application
- Code of Conduct
- Reporting
- Enforcement



# Marketing

- The Board will focus on education while the EDCs prepare filings
  - › VPP Fundamentals
  - › How VPPs benefit ratepayers
- Once programs are approved, EDCs will focus on customer education that encourages participation in the interim program
  - › Long-term program will shift focus to identify participating, licensed aggregators
- Long-term: Aggregators, OEMs and VPP vendors will market directly to customers

# Prospective Timeline

## Q4 2026

VPP Order/Filings Due  
Net metering Report  
Tri PY7 Filings  
Tri 3 Order  
PSUP Order



## Q2 2027

PSUP Filings Due  
VPP/Grid Flex Tariff Order  
Net Metering Reform  
Order



## Q1 2028

Interim VPP Program  
Review  
VPP/Grid Flex Tariff  
Filings



## Q3 2026

VPP Straw  
Released  
Tri PY 7 Order  
GSESP Phase  
2 Straw



## Q1 2027

Net metering reform  
straw  
VPP/Grid Flex Tariff  
Straw  
Tri 3 Filings Due  
MHD Filings



## Q3 2027

Interim VPP Program  
Begins  
Tri PY 7 Begins



## Q2 2028

VPP Interim Program  
Reports Submitted





# Public Input

The VPP Straw is designed to not just provide insight into the Interim Program but highlights the need to coordinate multiple work streams in the long term. Similarly, the stakeholdering will first focus on the Interim Program but will continue over the next 24 months to gather public input on the coordination and orchestration of each of the pieces. Stakeholdering, Technical Conference, Roundtables and Educational forums will be coordinated with each of the appropriate workstreams and the VPP team, including:

- VPP Tariff
  - Residential Storage
- Distributed Storage (BTM & FOM)
  - Clean Transportation
  - Energy Efficiency
- Proactive System Upgrades Planning
  - New Business Model
  - Net Metering Reform



# Stakeholder Timelines (topic not docket)

|         |                                                                                                                  |                                                                                                                                                                  |                               |
|---------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| June    | EDCs/ Rate Counsel<br>Best Practices, obstacles and learnings                                                    | Q3 2027                                                                                                                                                          | Solar                         |
| July    | Straw Proposal educational panels<br>Stakeholder Session for Straw                                               | Q1 2028                                                                                                                                                          | Review of Interim Program     |
| Q4 2026 | Education Panels of how VPPs, The PSUP, and future Storage programs will interact and inform each other          | Q3 2028                                                                                                                                                          | Future of EDC Demand Response |
| Q1 2027 | PJM & VPP Data collection/ communication                                                                         | <b>To be addressed in process</b><br>PJM reliability backstop – which supply resources are eligible<br>New business model<br>DRA licensing / DER Registry pieces |                               |
| Q2 2027 | Clean Transportation <ul style="list-style-type: none"><li>• MHD managed charging</li><li>• Light duty</li></ul> |                                                                                                                                                                  |                               |

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# Clarifying Questions?

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# THANK YOU

Cathleen Lewis – [Cathleen.lewis@bpu.nj.gov](mailto:Cathleen.lewis@bpu.nj.gov)

Nick Zhang, PhD (Grid Mod)

Natalie Stuart, PhD (Grid Mod)

Tim Randazzo (Fed & Reg Policy)

Phil Chao (EE)

Sawyer Morgan (Solar)

Kevin Dillon (Storage)

Alex Carey, Esq (Legal)

John Masiello (Engineering)

Chris Oprysk (Engineering)

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**LUNCH**  
**RETURN @ 1:30pm**

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# Revised Agenda

| Time     | Title                                          | Lead / Speakers                                                     |
|----------|------------------------------------------------|---------------------------------------------------------------------|
| 8:30 am  | Arrival & Registration                         |                                                                     |
| 9:00 am  | Welcome & Opening Remarks                      | Josh Ryor, RAP<br>NJBPU President Ben Hertz-Shargel                 |
| 9:15 am  | Existing New Jersey Utility Programs           | NJBPU, PSEG, RECO, ACE, and JCPL                                    |
| 10:45 am | Break                                          |                                                                     |
| 11:20 am | Straw Proposal Overview + Clarifying Questions | NJBPU                                                               |
| 12:30 pm | Lunch                                          |                                                                     |
| 1:30 pm  | Welcome Back & Afternoon Remarks               | Josh Ryor, RAP<br>Elizabeth Noll, Office of Governor Mikie Sherrill |
| 1:40 pm  | Overview of VPP Program Across the U.S.        | RAP                                                                 |
| 2:00 pm  | Facilitated Discussion                         |                                                                     |
| 3:15 pm  | Public Comment                                 |                                                                     |
| 3:55 pm  | Next Steps & Closing                           | NJBPU                                                               |
| 4:00 pm  | Adjourn                                        |                                                                     |

\*Agenda revisions highlighted in purple



# AFTERNOON REMARKS

ELIZABETH NOLL,  
OFFICE OF GOVERNOR  
MIKIE SHERRILL



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# Overview of VPP Programs Across the U.S.

Presentation providing additional context on VPPs and an overview of additional programs from across the nation

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## VPP Basics

1. What is a virtual power plant?
2. What technologies are involved in VPPs?
3. What are the types of VPPs?
4. How are VPPs supporting affordability?
5. How are VPPs supporting system reliability and customer resilience?

## Regional Examples

- Dominion VPP (VA)
- ConEdison Demand Response Portfolio (New York)
- ConnectedSolutions (multi-state)
- Xcel (CO + MN)

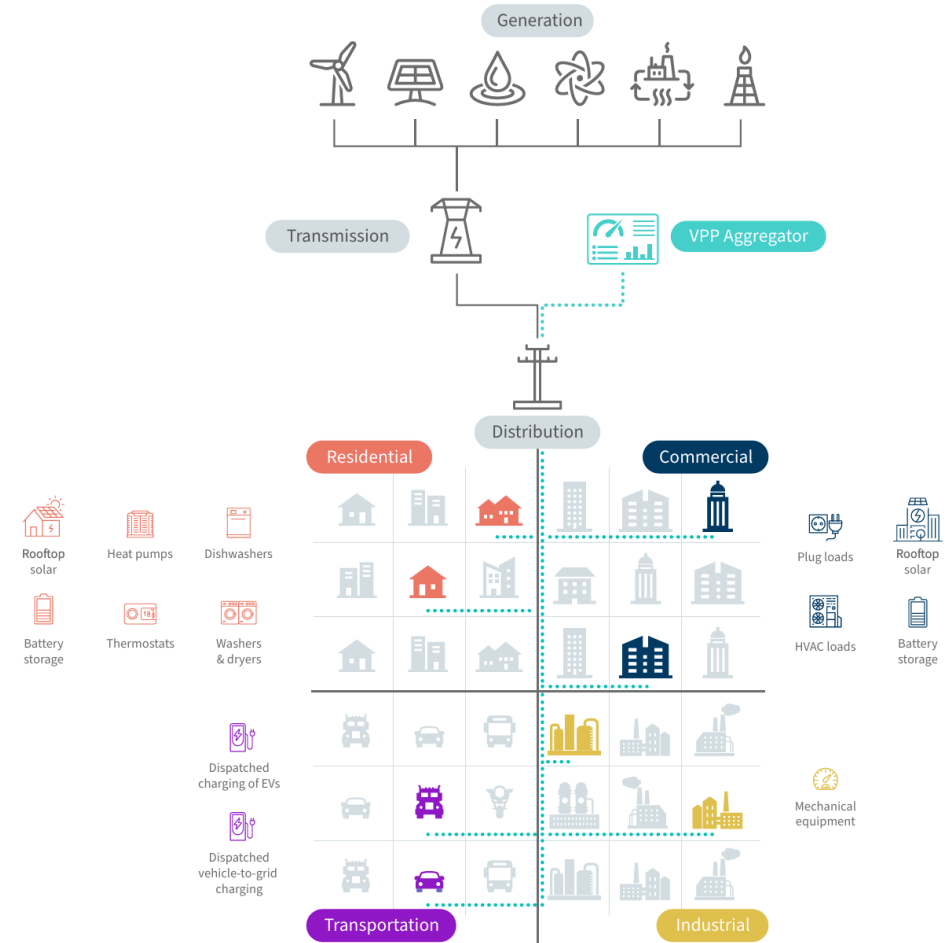
# What is a Virtual Power Plant?

**An aggregation of DERs and other load management technologies that can balance electrical loads to defer or avoid a transmission or distribution upgrades and provide utility-scale, utility-grade grid services analogous to those provided by traditional generation resources**

- NJ BPU Straw Proposal working definition in section 1 (derived from DOE Liftoff Report)

**An aggregation of distributed energy resources (DERs) that can be dispatched to support the grid in exchange for compensation**

- RMI Flipbook 2.0 (forthcoming, 2026)

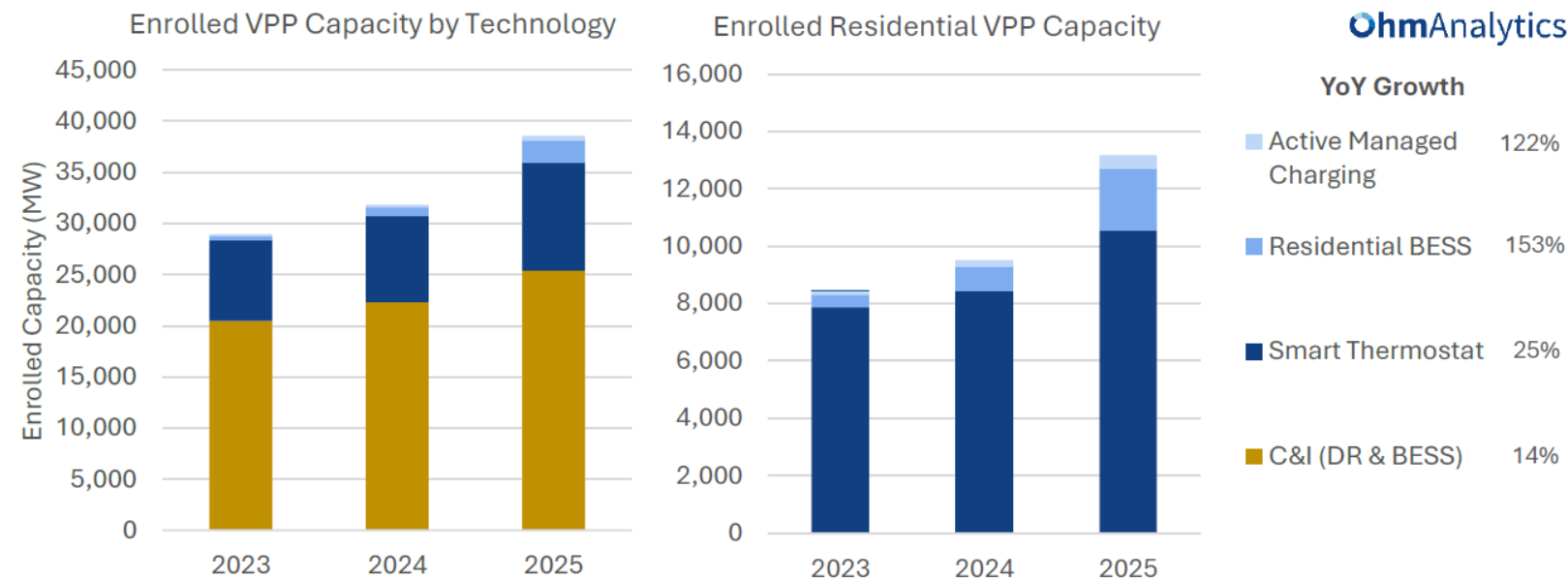


As VPPs mature and scale, there is a broader consensus around definitions.



# What technologies are involved in VPPs?

## Technologies involved in VPPs



### Additional DERs Included in VPPs:

- Behavioral demand response
- Appliances
- Plug loads
- Bidirectional charging
- Other DERs

# What are the types of VPPs?

*There's not broad consensus for how to talk about the types of VPPs. Here's the language we're currently using.*

## Utility VPP

Customer Program Utility VPP

Aggregator-access Utility VPP

## Market-Participant VPP

Market aggregations

Competitive Retail

## Bring Your Own Distributed Capacity\* VPPs

BYODC Utility VPP

BYODC Market-Participant VPP

## Other Ways Industry is Talking about Types of VPPs:

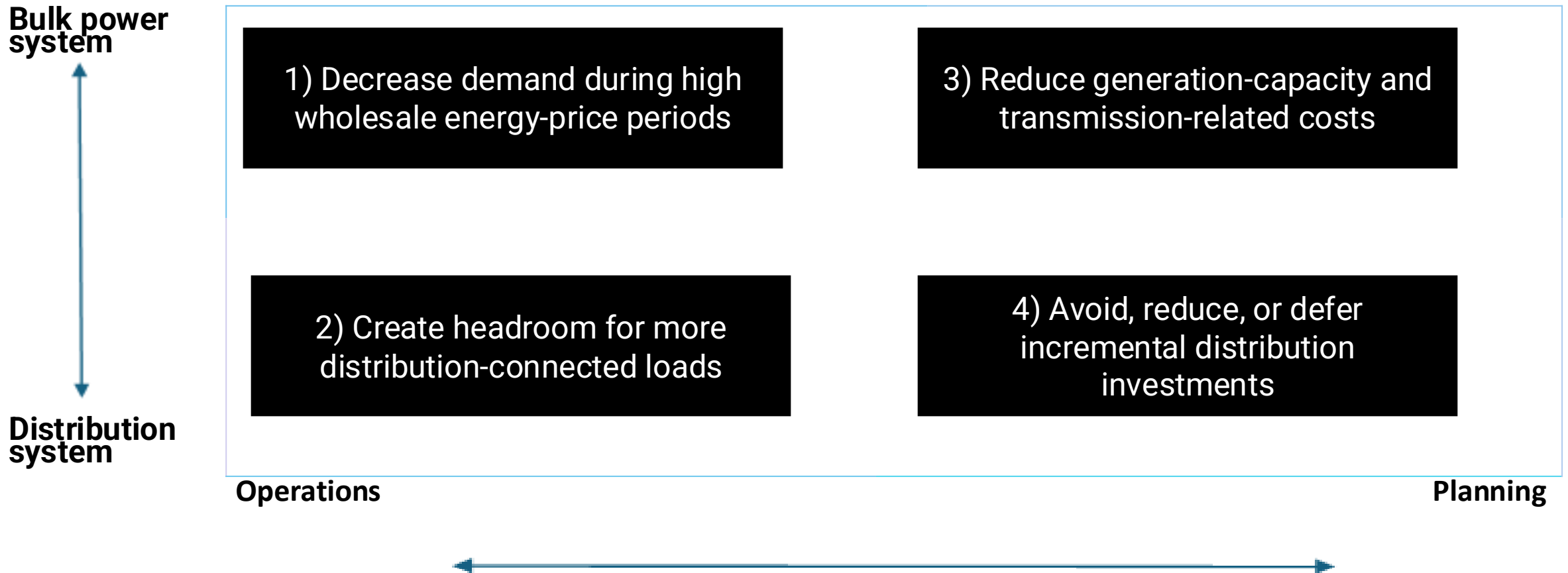
### CHARGED, Pathways to Greater Load Flexibility

- Implicit flexibility
  - Via price signals
- Explicit Flexibility
  - Contractual obligation

### NJ BPU Strawman:

- Interim Program: 2 Delivery Pathways
  - EDC-Administered
  - Third-party aggregator
- Long-term open-access VPP

# How are VPPs supporting affordability?



# How are VPPs supporting affordability?

## Examples of Proposed/ Operating VPPs Providing Affordability Benefits

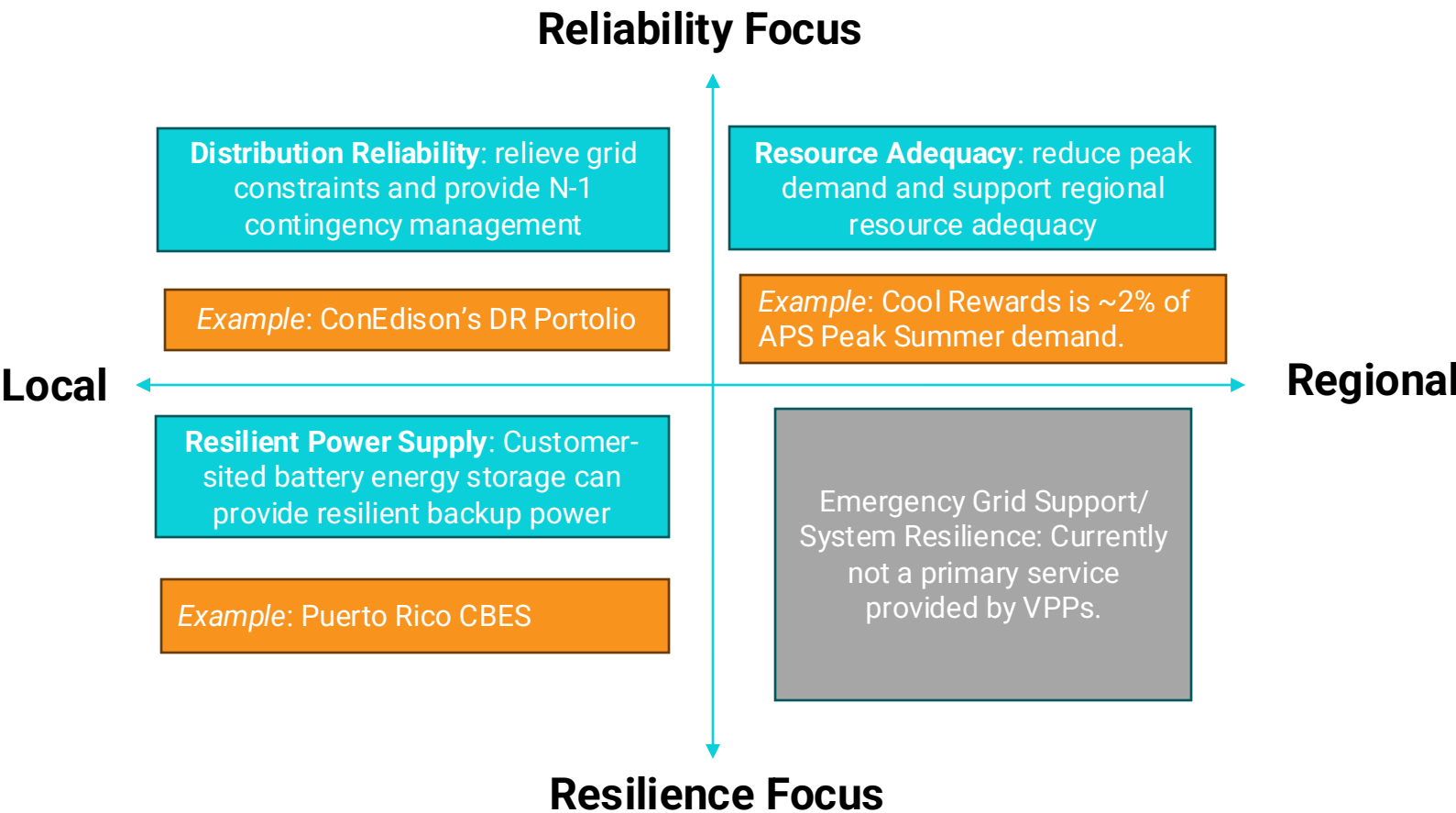
### Participant/ Aggregator Compensation

| VPP                     | Total compensation paid out to participants/aggregators*                                |
|-------------------------|-----------------------------------------------------------------------------------------|
| LUMA CBES (Puerto Rico) | \$8.8 MM annually in payment to aggregators; estimated \$7 MM is passed on to consumers |
| Xcel AVPP (Colorado)    | Projected to deliver \$24 MM/year in compensation by 2030                               |

### Net System Savings

| VPP                                | Example of net system savings                                                                                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| ConnectedSolutions (Massachusetts) | 2025: \$55 million in benefits against \$27 million total program cost .                                                |
| RMP Wattsmart                      | Wattsmart Battery commercial program is expected to deliver \$1.49 in system benefits for each \$1.00 in utility costs. |

# How are VPPs supporting system reliability and customer resilience?



**Reliability** is the ability of the electric grid to consistently deliver power when and where it is needed, including having enough resources to meet demand and maintaining stable grid operations.

**Resilience** is the ability of the electric system to withstand, respond to, and recover from disruptions, especially major or unusual events that may cause outages.

# Dominion VPP: Legislation-Enabled Large Scale Pilot

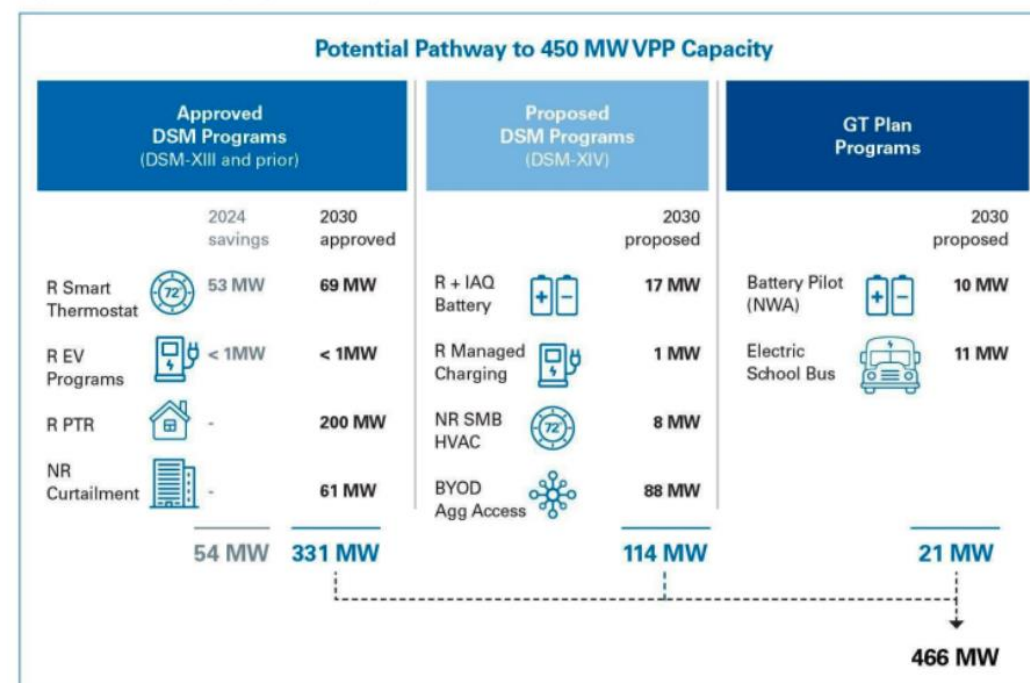
## Background

- May 2025 – VA Community Energy Act signed into law
- Summer 2026 – proposed plan pending approval
- 2027 – expand to provide distribution grid services
- 2030 – Target 450 MW VPP Capacity

## NJ Relevant Takeaways

- **Portfolio Approach:** multiple utility programs bundled within 450 MW VPP (see figure)
- **Aggregator- and Utility-Led Approach:** BYOD Aggregator Access is competitive third-party pathway
- **Performance-based incentives:** BYOD Aggregator Access involves performance-based payment

Figure 7. Tentative VPP Capacity Growth Projections<sup>17</sup>



# Con Edison Demand Response Portfolio: Locational VPP dispatch at scale

## Background

- 100,000 enrolled customers representing 1 GW + pledged capacity across 5 DR programs
- NYISO operates DR programs targeting bulk system reliability services; ConEd programs target distribution system reliability

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- **Value stacking across wholesale and distribution:** Clear dual participation rules and collaboration with aggregator network

## Con Edison Demand Response Programs:

- 1) Commercial system relief program (CSRP)
- 2) Distribution Load relief program (DLRP)
- 3) Term dynamic load management (Term-DLM)
- 4) Automated dynamic load management (Auto-DLM)
- 5) Bring your own thermostat (BYOT)

# The ConnectedSolutions program has been at the vanguard of “grid flexibility” for years.

The Company has **~55k customers** enrolled in its demand response program; enrolled resources total **~100 MW**, equivalent to **2% of peak demand** for MECO. We also have a managed charging program for EVs in place.

Industry-Leading Innovation – in 2024, EnergyHub and National Grid demonstrated **orchestration of DR resources** – managing smart thermostats and BTM batteries to deliver a consistent level of DR response for a multi-hour event.



**2019 BTM Innovation Award** – for being an early mover incorporating BTM storage in DR program

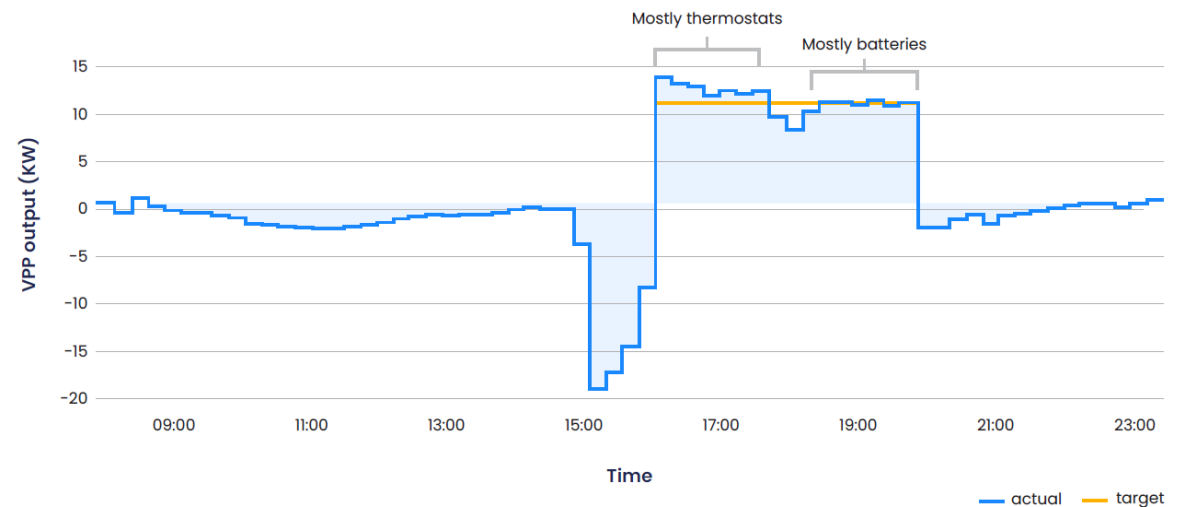


**2025 Energy Equity Power Player of the Year** – for open access, device-agnostic program



**2025 Nikola Tesla Award in Artificial Intelligence** – for Dynamic Load Shaping using AI

**National Grid**





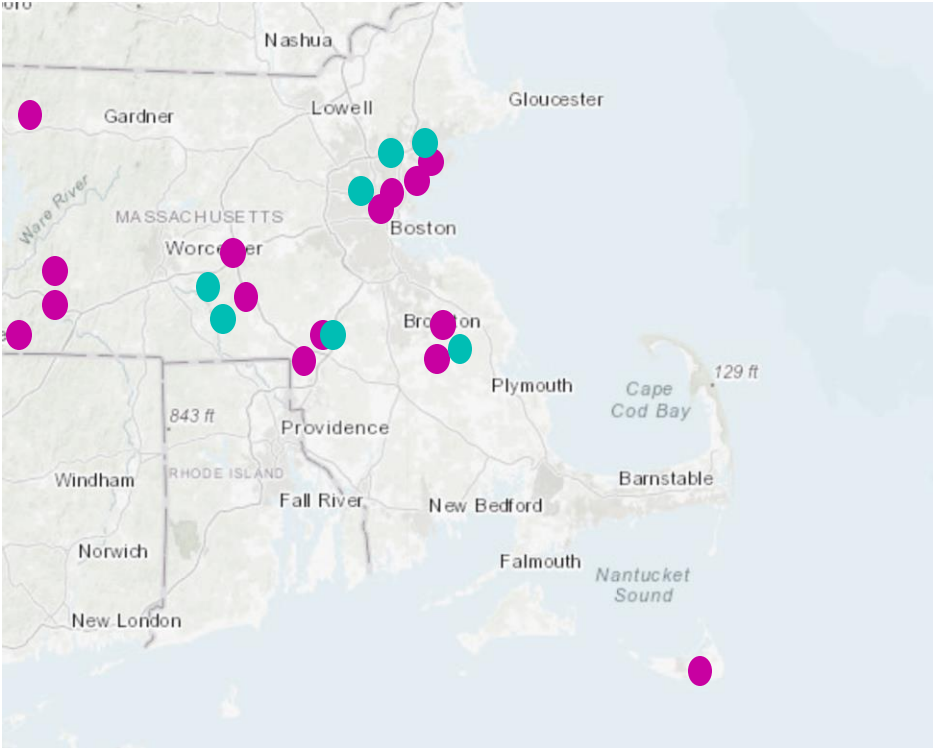
# Current Grid Services Offerings

In just one year of ESMP funding, National Grid has established 15 ConnectedSolutions+ locations and 7 Non-Wires Alternative (NWA) locations across MA.

## ConnectedSolutions+

| Estimated kW of Dispatchable Capacity as of May 2026** |                 |            |                 |
|--------------------------------------------------------|-----------------|------------|-----------------|
| Location                                               | Dispatchable kW | Location   | Dispatchable kW |
| Barre-Athol                                            | 53              | Nantucket  | 763             |
| Bridgewater                                            | 155             | Palmer     | 87              |
| East Longmeadow                                        | 62              | Plainville | 19              |
| Foxborough                                             | 1373            | Salem      | 235             |
| Lynn                                                   | 31              | Ware       | 142             |
| Malden                                                 | 17              | Whitman    | 298             |
| Medford                                                | 24              | Worcester  | 14              |
| Millbury                                               | 214             |            |                 |
| Total Dispatchable Capacity**                          |                 |            | ~3.6 MW         |

\*\*Includes existing capacity from ConnectedSolutions in identified areas and incremental capacity from ConnectedSolutions+



## Non-Wires RFPs

| kW of Awarded Capacity as of May 2026 |                 |                                 |
|---------------------------------------|-----------------|---------------------------------|
| Location                              | Dispatchable kW | Asset Type                      |
| North Oxford                          | 1,200           | Resi BTM Battery Aggregation    |
| Foxborough                            | 1,930           | FTM BESS                        |
| Millbury                              | 140             | Resi BTM Thermostat Aggregation |
| Mill St                               | 20              | Resi BTM Thermostat Aggregation |
| Plymouth                              | 60              | Resi BTM Thermostat Aggregation |
| Wellington                            | 160             | Resi BTM Thermostat Aggregation |
| Pine Banks (Melrose)                  | 180             | Resi BTM Thermostat Aggregation |
| Total Awarded Capacity                |                 | ~3.7 MW                         |

# ConnectedSolutions+

National Grid designed and launched **ConnectedSolutions+ in 2025**, offering customers increased financial incentives to meet local grid needs. ConnectedSolutions+ is now live in **15 Massachusetts locations** in National Grid’s service territory.

### Program Design:

- **Location Specific Focus:** Building off system-wide ConnectedSolutions, **ConnectedSolutions+ aligns DER flexibility** where grid constraints are emerging
- **Unlocking More DER Value:** Locational dispatch enables National Grid to test **how local dispatch can reduce stress on the grid** at peak times
- **Increased Incentives for Customers:** Customers in ConnectedSolutions+ areas earn more for their incremental participation on top of base ConnectedSolutions

| ConnectedSolutions+ 2025 Enrollment Metrics              |           |               |
|----------------------------------------------------------|-----------|---------------|
|                                                          | Nantucket | N. Foxborough |
| Total dispatchable grid flexibility for local needs (kW) | 690       | 1051          |
| Est. Net New Grid Flexibility (kW) in 2025               | 146       | 45            |

### Expansion of ConnectedSolutions+:

- In Summer 2026, National Grid scaled ConnectedSolutions+ to **15 total locations**
- National Grid implemented supplemental offerings to **further drive customer adoption**:
  - **Upfront Battery Rebate:** eligible customers **earn up to \$7,500** for residential battery installation
  - **Direct Thermostat Install:** eligible customers’ **co-pay is waived** when they receive a thermostat through MassSave Weatherization program

ConnectedSolutions+

Our ConnectedSolutions programs work with your connected devices and offer you rewards for managing energy use during periods of high energy demand.

Through our exclusive ConnectedSolutions+ programs, customers in select areas can earn extra rewards for helping manage energy demand on the hottest days. With options available for both residential and business customers, you can participate in a way that works for you and start earning rewards this summer.

Together, we can support a stronger, more resilient electric grid, and you'll earn extra incentives for your participation.

Click on your town below to learn more and enroll.



Barre-Athol



Bridgewater



East Longmeadow and Hampden



Foxborough

National Grid

88

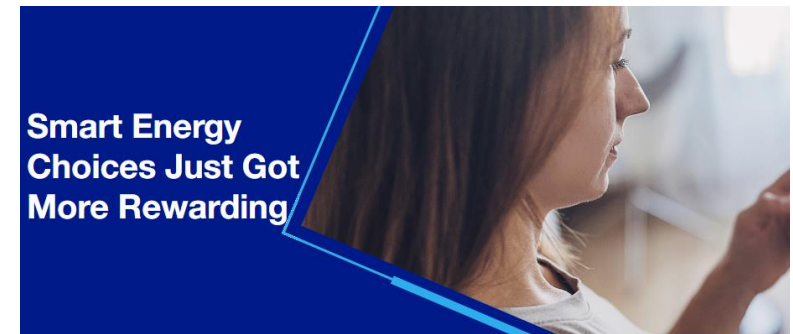
# ConnectedSolutions: A multistate, multi-technology VPP evolving toward providing targeted grid reliability services

## Background

- Multi-technology/ bring-your-own device VPP program operating across 5 northeast states
- Currently more than 450 MW of enrolled capacity across thermostats, residential batteries, and C&I DR

## NJ Relevant Takeaways

- **Regional/ replicable program:** enables faster deployment with lower operational burden
- **Crawl, walk, run:** expansion and iteration over time
- **ConnectedSolutions+:** evolution to providing locational grid reliability



An exclusive program for customers in select areas.

Connected**Solutions+**

Launched in 2026, ConnectedSolutions+ provides locational dispatch and additional incentives to provide distribution grid services

# Colorado Aggregated Virtual Power Plant Program

## Objective / Need

Better plan and meet grid needs through a durable VPP compensation framework that rewards distribution and transmission value.

VPP framework required of Xcel as part of [SB 218](#) passed in 2024.

## Design

- [Recently launched](#); provides performance-based incentives for 5 years
- Year-Round Incentives (per kW per year):
  - Generation Capacity: \$151.70
  - Transmission Capacity: \$21.67
  - Distribution Capacity: \$64.74 (available only on eligible feeders)
- Summer-Only Incentives also available
- 125 MW target proposed by Xcel based on scaling existing ~10 MW

## Questions to Raise / Takeaways

- Do administratively set compensation rates result in cost-effective outcomes? What is the administrative burden of the annual updates?
- Does additional distribution capacity compensation increase adoption?
- How quickly and effectively does this program scale / meet 125 MW?

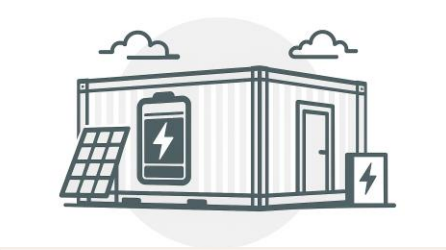


### AGGREGATOR VIRTUAL POWER PLANT PROGRAM

## Aggregator Virtual Power Plant Program

Take part in our Aggregator Virtual Power Plant (AVPP) program. Here's how to enroll and support grid reliability.

# OVERVIEW OF XCEL GRID SERVING DISTRIBUTED STORAGE/VPP PROGRAMS



|                            | Capacity*Connect<br>(DCP – MN)                                                           | Dispatchable Distributed<br>Generation (DDG – CO)                           | Aggregator Virtual Power<br>Plant (AVPP – CO)                             | Renewable Battery Connect<br>(CO)    |
|----------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------|
| Primary Use Case           | Bulk-System Capacity and Energy; Distribution Benefits for areas where dispatch overlaps | Distribution Load Relief                                                    | Bulk System Capacity: Distribution Benefits for areas where peaks overlap | Bulk System Capacity                 |
| Asset Types                | Front-of-the-Meter battery storage                                                       | Front-of-Meter renewable generation resource co-located with energy storage | Behind-the-Meter; Technology-neutral                                      | Behind-the-Meter BESS paired with PV |
| Asset Ownership            | Company-owned assets                                                                     | Third-party                                                                 | Third-party; Company                                                      | Third-party                          |
| Asset Size                 | Larger-scale (1-3 MW)                                                                    | Larger-scale (750 kW minimum injection capacity)                            | Minimum of 100 kW per aggregation                                         | Residential                          |
| Dispatch/Event Duration    | 4 Hours                                                                                  | 4 Hours                                                                     | 4 Hours                                                                   | 3 Hours                              |
| Dispatch/Event Limitations | As required by MISO                                                                      | As defined by schedules                                                     | 80 Events Per Year                                                        | 60 Events Per Year                   |





# FACILITATED DISCUSSION

Stakeholder discussion on key elements and questions related to New Jersey's future virtual power plant program

Follow NJBPU  
on social media:







# Facilitated Discussion

## Types of questions:

- Level setting (e.g., types of grid services and benefits of VPPs)
- Program design (e.g., RIM calculations, transition between programs, long-term objectives, coordination w/ other initiatives, etc.)
- Barriers to program success + potential changes

**Intended to complement questions in the Straw**



<https://www.menti.com/al25xzjm5qbv>



# Facilitated Discussion

## Discussion directions:

- After each question, participants may offer verbal explanation of their written response
- Participants may use the microphone in the audience once acknowledged by the facilitator
- Participants must provide name and affiliation
- Participants are encouraged to provide examples and constructive examples



<https://www.menti.com/al25xzjm5qbv>





# PUBLIC COMMENT

Please provide your name and affiliation

Follow NJBPU  
on social media:





## What's Next

We want to hear from you – in the next 24 months, the BPU is working to create more forums like this to talk about the issues, technologies, and solutions that will help shape New Jersey's VPP.

- **Comments to the VPP Straw are due August 17, 2026**
- Be on the lookout for more on:
  - › Distributed Storage
  - › Proactive System Upgrade Plan (PSUP)
  - › VPP/Grid Flex Tariff
  - › Net Metering
  - › Regulatory Sandbox
  - › Potential Utility Business Model + Regulatory Reforms



# THANK YOU

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on social media:





# APPENDIX

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# Panel: VPP Programs Across the U.S.

**NOTE:** This panel was cut due to technical difficulties. However, the presentations and the experts who developed them are highlighted on the following slides.

Follow NJBPU  
on social media:





# VPP Programs Across the U.S.

## MODERATOR



**Josh Ryor**  
Principal, Regulatory  
Assistance Project



**Kevin Brehm**  
Manager, Carbon-Free  
Electricity Practice, RMI



**Zach Pollock**  
Director, Electric and Gas  
Planning, Xcel (CO)



**Nick Watson**  
Director, Grid  
Optimization & Flexibility,  
National Grid (MA)



**John Rhodes**  
Chief Program Officer, Department  
of Public Service (NY)



# Virtual Power Plant Basics and Regional Examples

*Kevin Brehm*

*RMI/VP3*

*[kbrehm@rmi.org](mailto:kbrehm@rmi.org)*



## VPP Basics

1. What is a virtual power plant?
2. What technologies are involved in VPPs?
3. What are the types of VPPs?
4. How are VPPs supporting affordability?
5. How are VPPs supporting system reliability and customer resilience?

## Regional Examples

- Dominion VPP (VA)
- ConEdison Demand Response Portfolio (New York)
- ConnectedSolutions (multi-state)



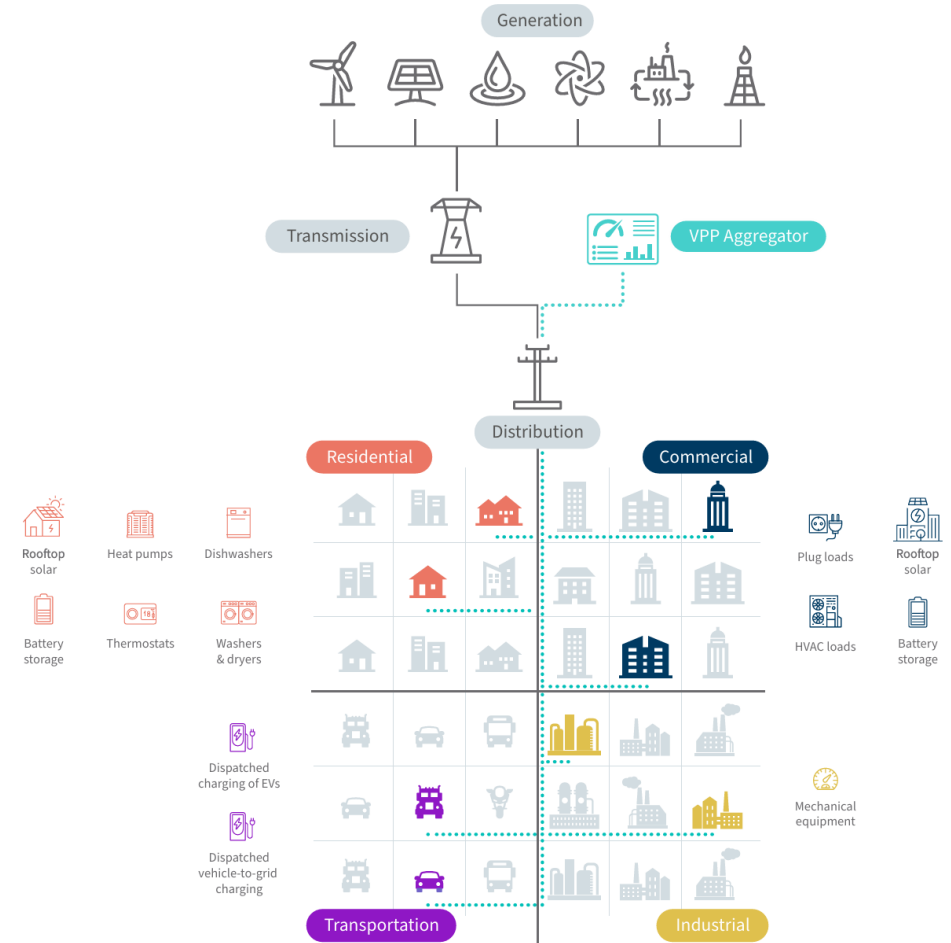
# What is a Virtual Power Plant?

**An aggregation of DERs and other load management technologies that can balance electrical loads to defer or avoid a transmission or distribution upgrades and provide utility-scale, utility-grade grid services analogous to those provided by traditional generation resources**

- NJ BPU Straw Proposal working definition in section 1 (derived from DOE Liftoff Report)

**An aggregation of distributed energy resources (DERs) that can be dispatched to support the grid in exchange for compensation**

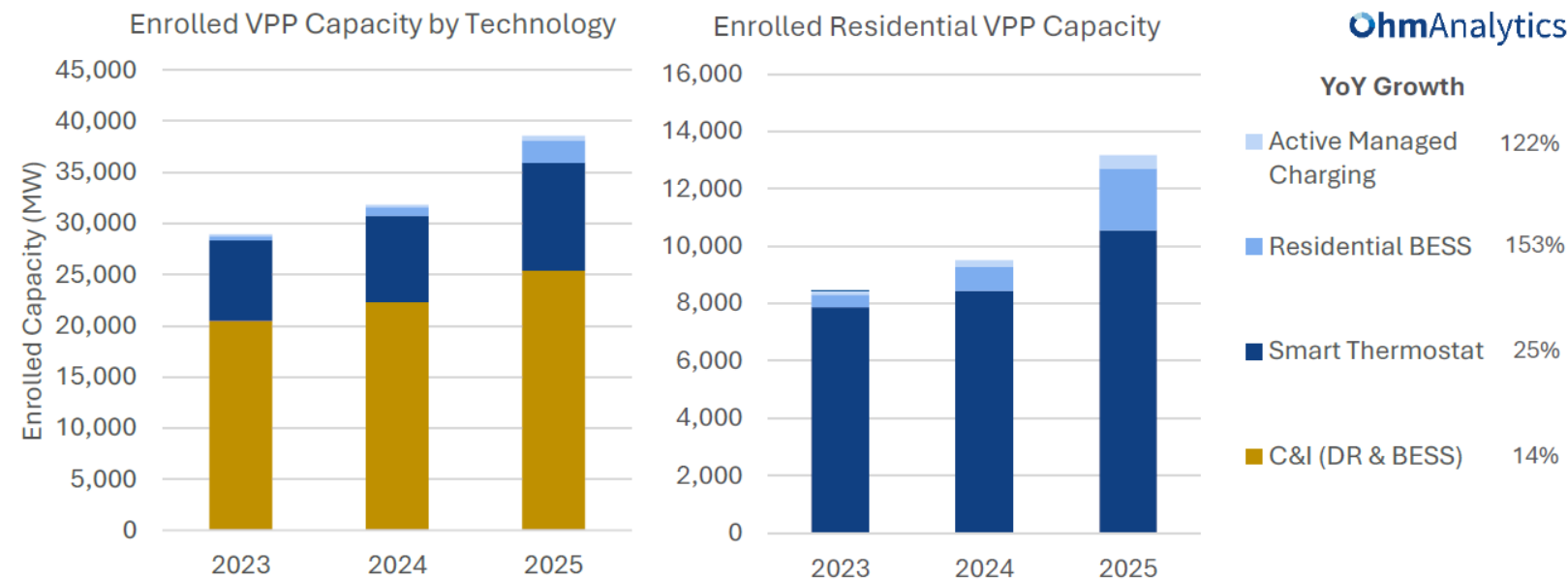
- RMI Flipbook 2.0 (forthcoming, 2026)



As VPPs mature and scale, there is a broader consensus around definitions.

# What technologies are involved in VPPs?

## Technologies involved in VPPs



### Additional DERs Included in VPPs:

- Behavioral demand response
- Appliances
- Plug loads
- Bidirectional charging
- Other DERs

# What are the types of VPPs?

*There's not broad consensus for how to talk about the types of VPPs. Here's the language we're currently using.*

## Utility VPP

Customer Program Utility VPP

Aggregator-access Utility VPP

## Market-Participant VPP

Market aggregations

Competitive Retail

## Bring Your Own Distributed Capacity\* VPPs

BYODC Utility VPP

BYODC Market-Participant VPP

### Other Ways Industry is Talking about Types of VPPs:

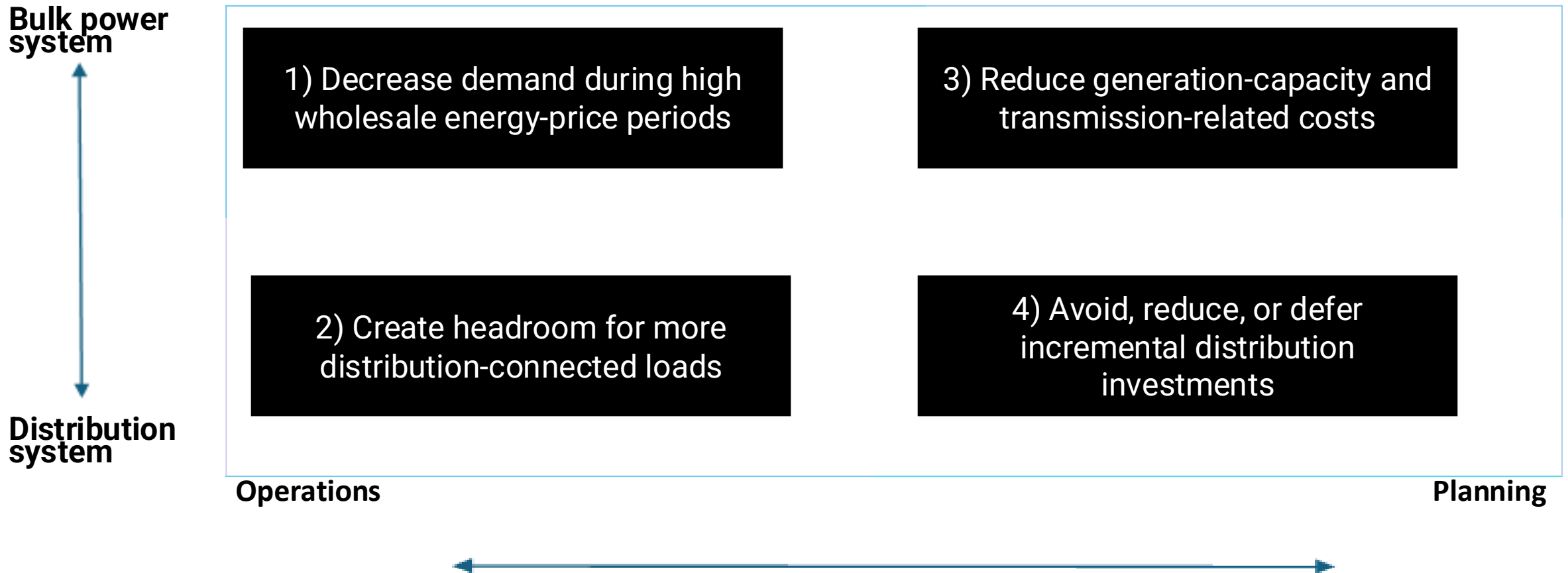
#### **CHARGED, Pathways to Greater Load Flexibility**

- Implicit flexibility
  - Via price signals
- Explicit Flexibility
  - Contractual obligation

#### **NJ BPU Strawman:**

- Interim Program: 2 Delivery Pathways
  - EDC-Administered
  - Third-party aggregator
- Long-term open-access VPP

# How are VPPs supporting affordability?



# How are VPPs supporting affordability?

## Examples of Proposed/ Operating VPPs Providing Affordability Benefits

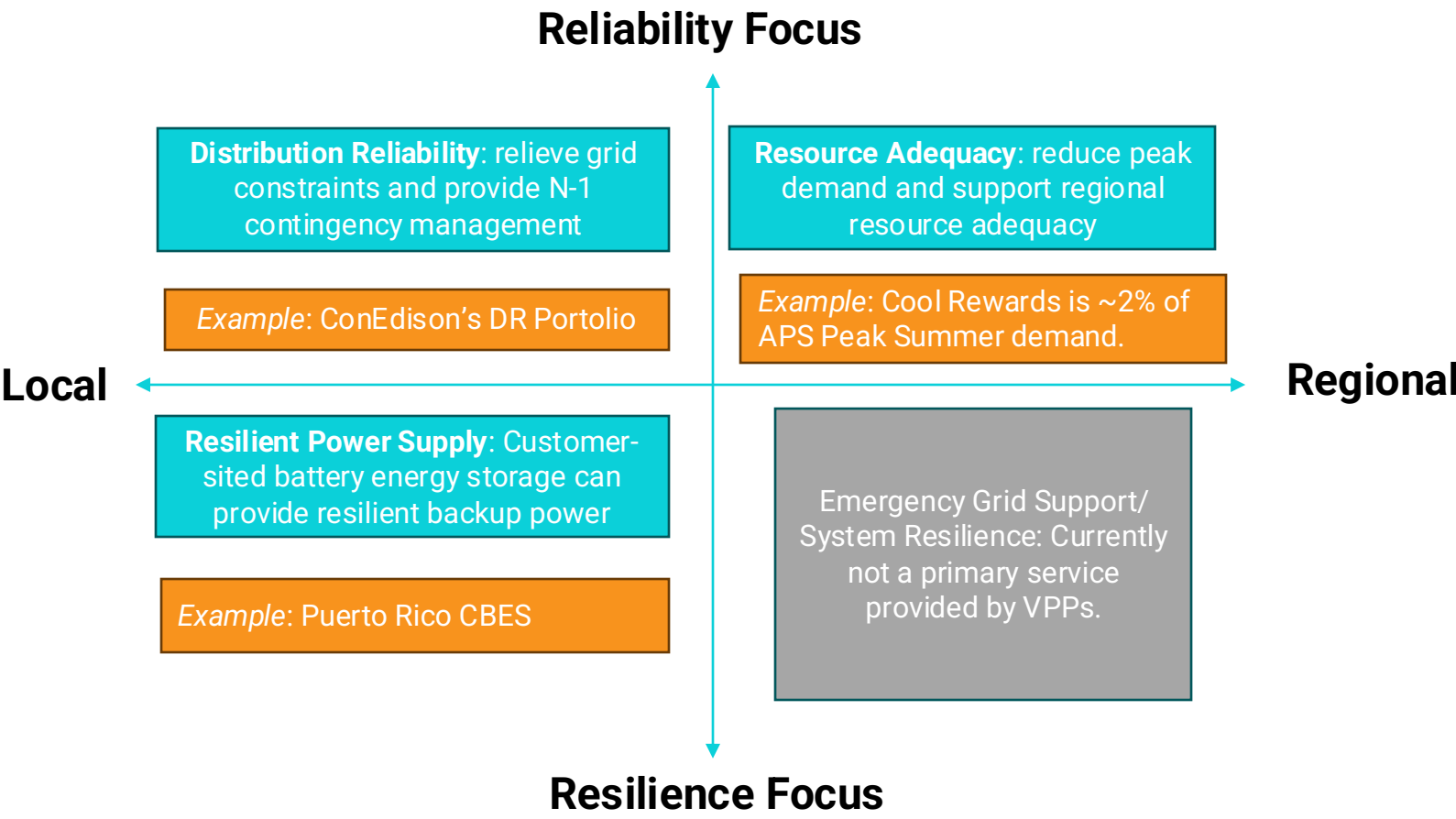
### Participant/ Aggregator Compensation

| VPP                     | Total compensation paid out to participants/aggregators*                                |
|-------------------------|-----------------------------------------------------------------------------------------|
| LUMA CBES (Puerto Rico) | \$8.8 MM annually in payment to aggregators; estimated \$7 MM is passed on to consumers |
| Xcel AVPP (Colorado)    | Projected to deliver \$24 MM/year in compensation by 2030                               |

### Net System Savings

| VPP                                | Example of net system savings                                                                                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| ConnectedSolutions (Massachusetts) | 2025: \$55 million in benefits against \$27 million total program cost .                                                |
| RMP Wattsmart                      | Wattsmart Battery commercial program is expected to deliver \$1.49 in system benefits for each \$1.00 in utility costs. |

# How are VPPs supporting system reliability and customer resilience?



**Reliability** is the ability of the electric grid to consistently deliver power when and where it is needed, including having enough resources to meet demand and maintaining stable grid operations.

**Resilience** is the ability of the electric system to withstand, respond to, and recover from disruptions, especially major or unusual events that may cause outages.

# Dominion VPP: Legislation-Enabled Large Scale Pilot

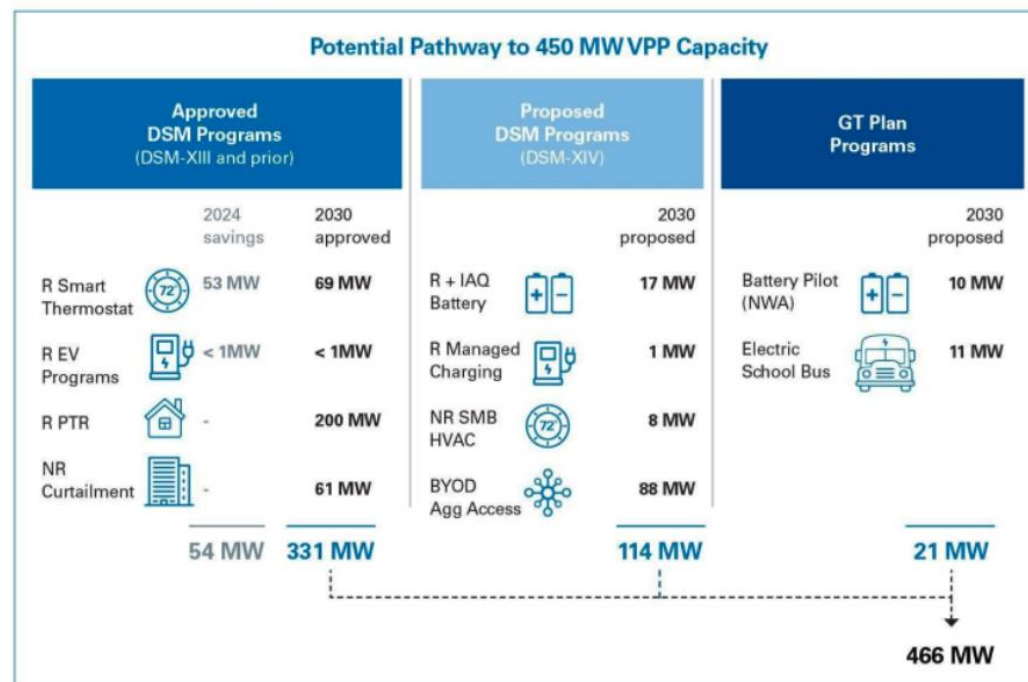
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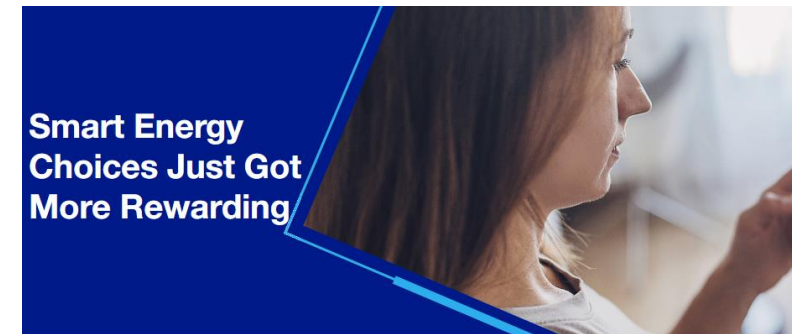
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An exclusive program for customers in select areas.

Connected**Solutions+**

Launched in 2026, ConnectedSolutions+ provides locational dispatch and additional incentives to provide distribution grid services

# How can utilities and policymakers approach VPP policy and program design?

## General considerations Based on Research on Leading VPPs in US and Puerto Rico

### 1) Increase access to VPP options

- 1a) Remove barriers to market-participant VPPs (e.g. 3<sup>rd</sup> party AMI data access)
- 1b) Establish utility VPPs where none are available
- 1c) Advance BYODC solutions

### 2) Maximize VPP value by stacking services

- 2a) Design VPPs to provide local as well as bulk system services
- 2b) Enable dual enrollment in wholesale market and utility VPPs

### 3) Ensure VPPs are leveraged to avoid system costs

- 3a) Integrate VPPs into planning
- 3b) Integrate VPPs into operations

### 4) Adopt a pragmatic and learning mindset

- 4a) Learn from leading practice
- 4b) Start with a workable policy or program and improve it over time

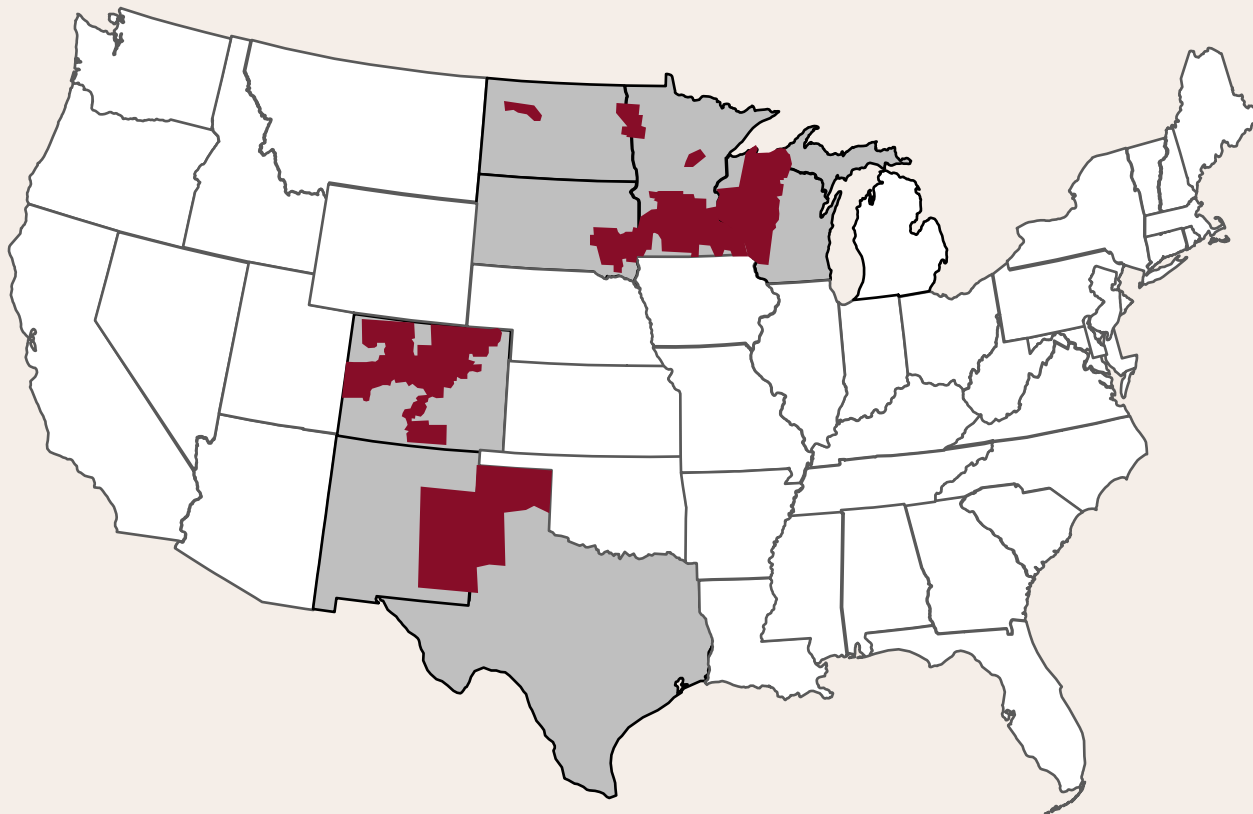
## NJ BPU – VPP BEST PRACTICES WORKSHOP

# OVERVIEW OF GRID SERVING DER/VPP PROGRAMS

July 30th, 2026  
Zach Pollock, Director, Integrated System Planning



# ABOUT XCEL ENERGY



## Serving eight states

**3.9** million electricity customers

**2.2** million natural gas customers

**2 GW** interconnected DER

**125,000** DER installations

## Nationally recognized leader

- Wind energy
- Energy efficiency
- Carbon emissions reductions
- Innovative technology
- Storm restoration



# OUR GOAL TO BE A NET-ZERO ENERGY PROVIDER BY

2050

**80%**  
lower electric  
carbon emissions

ELECTRIFICATION-  
FIRST  
customer options

NET-ZERO  
METHANE  
gas service

2030



2035

**1.5M**  
EVs enabled by  
charging infrastructure



**20%**  
of fleet converted  
to EVs



2050

ZERO-CARBON  
electric emissions



NET-ZERO  
gas service

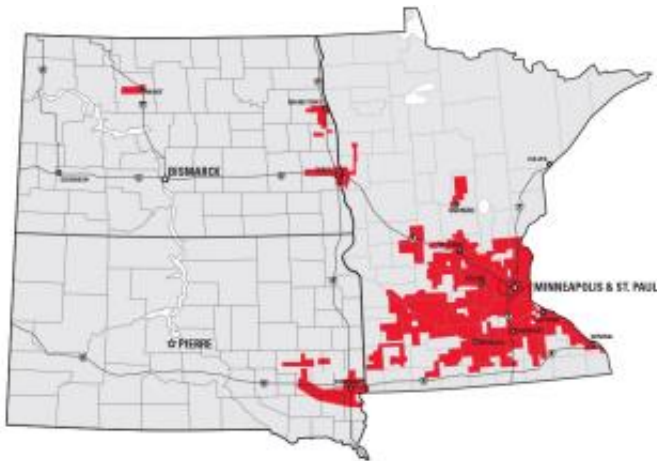


ZERO-CARBON  
fuel within 1 mile



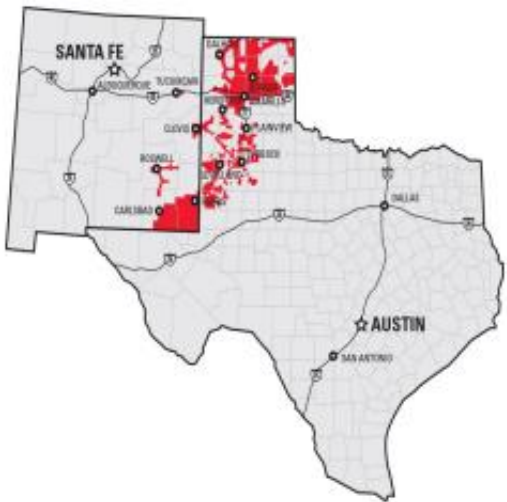
# OPERATING COMPANY MARKET FOOTPRINT AND DER PENETRATION

## Minnesota / Upper Midwest



- 1.5 million electric customers
- ~1 GW of DER – mostly Community Solar

## New Mexico and Texas

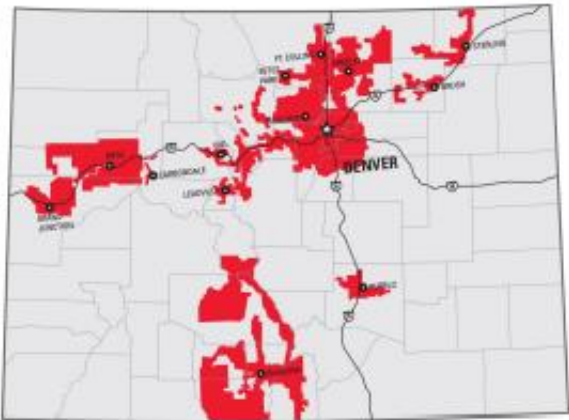


- 0.4 million electric customers
- Low DER penetration, increasing interest in private generation / microgrids

## Colorado

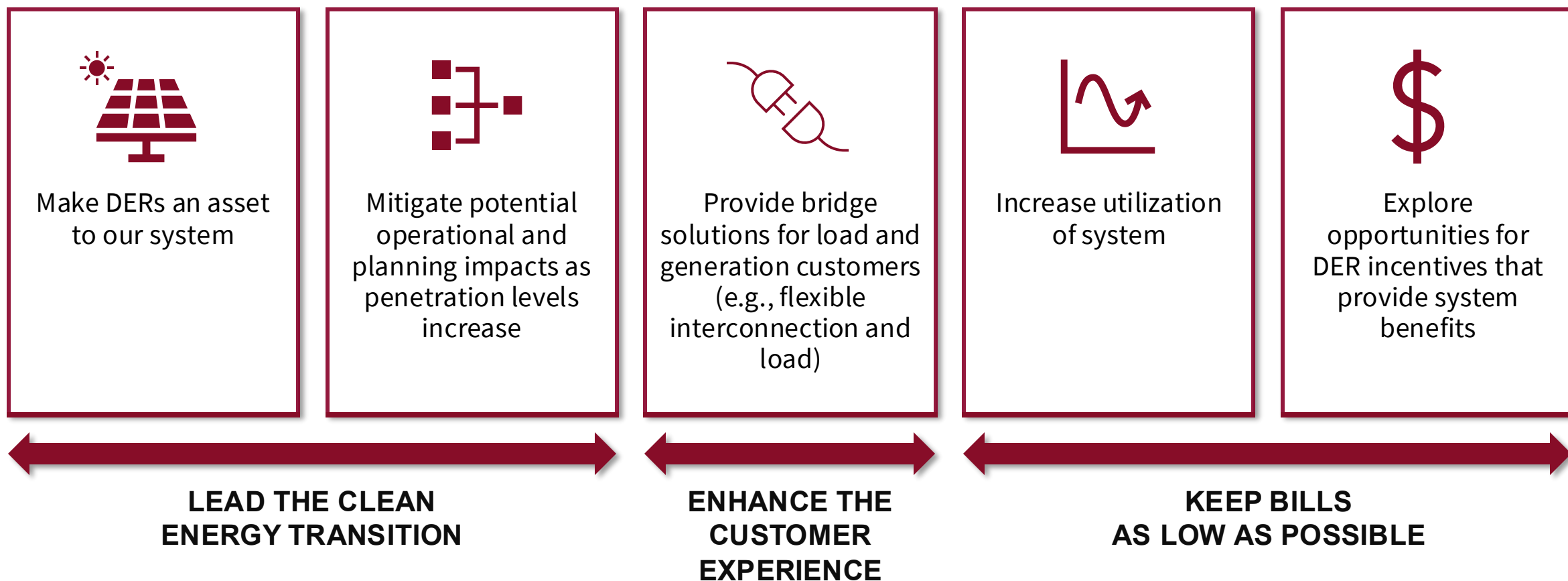


(Not a full market participant; EISM only)



- 1.6 million electric customers
- ~1 GW of DER – mostly rooftop solar

# ALIGNMENT OF DER STRATEGY TO OUR STRATEGIC OBJECTIVES



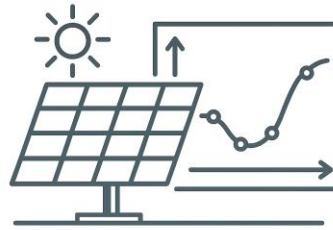


# THE OPPORTUNITY AND NEED FOR DERS TO PROVIDE SYSTEM VALUE



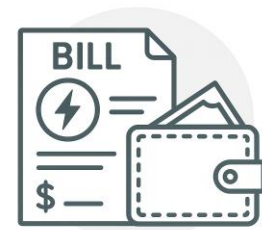
## Increasing Overall System Complexity

- Challenges of planning and operating a very highly renewable grid.
- Changing customer consumption and demand at the grid edge.
- Limited visibility into the distribution system.



## Declining System Value of Legacy DER Programs

- DER incentive programs were historically focused on system-wide energy (e.g. NEM) and renewable value (e.g. RECs).
- Declining impact of programs for a variety of reasons.
- Need to evolve programs to focus on value streams that match complexity.

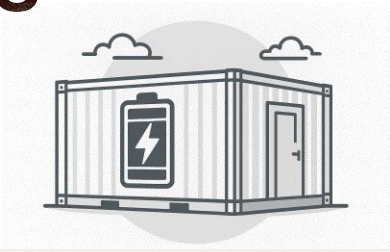


## Affordability and Capital Efficiency

- Growing complexity is requiring investment and change to serve our system and customers.
- Increasingly challenging to balance affordability with infrastructure needs.
- Capital must be disciplined by customer impact– building to the expectation of pending growth.



# OVERVIEW OF XCEL GRID SERVING DISTRIBUTED STORAGE/VPP PROGRAMS

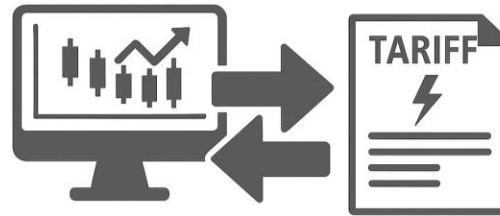


|                            | Capacity*Connect<br>(DCP – MN)                                                           | Dispatchable Distributed<br>Generation (DDG – CO)                           | Aggregator Virtual Power<br>Plant (AVPP – CO)                             | Renewable Battery Connect<br>(CO)    |
|----------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------|
| Primary Use Case           | Bulk-System Capacity and Energy; Distribution Benefits for areas where dispatch overlaps | Distribution Load Relief                                                    | Bulk System Capacity: Distribution Benefits for areas where peaks overlap | Bulk System Capacity                 |
| Asset Types                | Front-of-the-Meter battery storage                                                       | Front-of-Meter renewable generation resource co-located with energy storage | Behind-the-Meter; Technology-neutral                                      | Behind-the-Meter BESS paired with PV |
| Asset Ownership            | Company-owned assets                                                                     | Third-party                                                                 | Third-party; Company                                                      | Third-party                          |
| Asset Size                 | Larger-scale (1-3 MW)                                                                    | Larger-scale (750 kW minimum injection capacity)                            | Minimum of 100 kW per aggregation                                         | Residential                          |
| Dispatch/Event Duration    | 4 Hours                                                                                  | 4 Hours                                                                     | 4 Hours                                                                   | 3 Hours                              |
| Dispatch/Event Limitations | As required by MISO                                                                      | As defined by schedules                                                     | 80 Events Per Year                                                        | 60 Events Per Year                   |

# REMAINING QUESTIONS AND CHALLENGES



**Operational coordination** between the ISO/RTOs, bulk system, distribution system, aggregators and our customers.



**Price equilibrium** between wholesale market economics and retail tariffs. Do existing retail tariffs limit participation?



**Customer** acceptance



nationalgrid  
New England Electric

# Grid Services Development

July 30<sup>th</sup> 2026

# The ConnectedSolutions program has been at the vanguard of “grid flexibility” for years.

The Company has **~55k customers** enrolled in its demand response program; enrolled resources total **~100 MW**, equivalent to **2% of peak demand** for MECO. We also have a managed charging program for EVs in place.

Industry-Leading Innovation – in 2024, EnergyHub and National Grid demonstrated **orchestration of DR resources** – managing smart thermostats and BTM batteries to deliver a consistent level of DR response for a multi-hour event.



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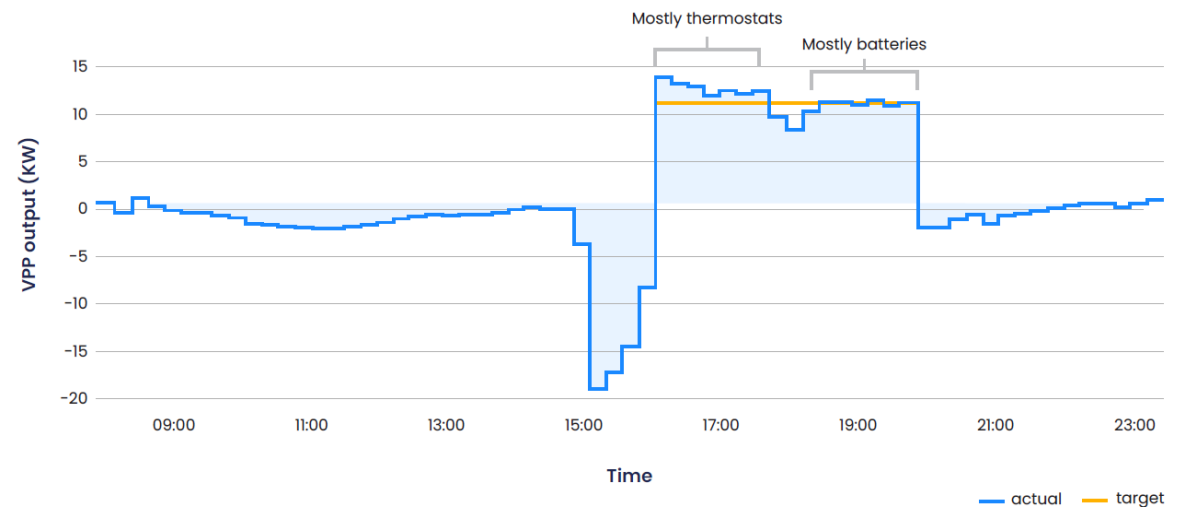


**2025 Energy Equity Power Player of the Year** – for open access, device-agnostic program

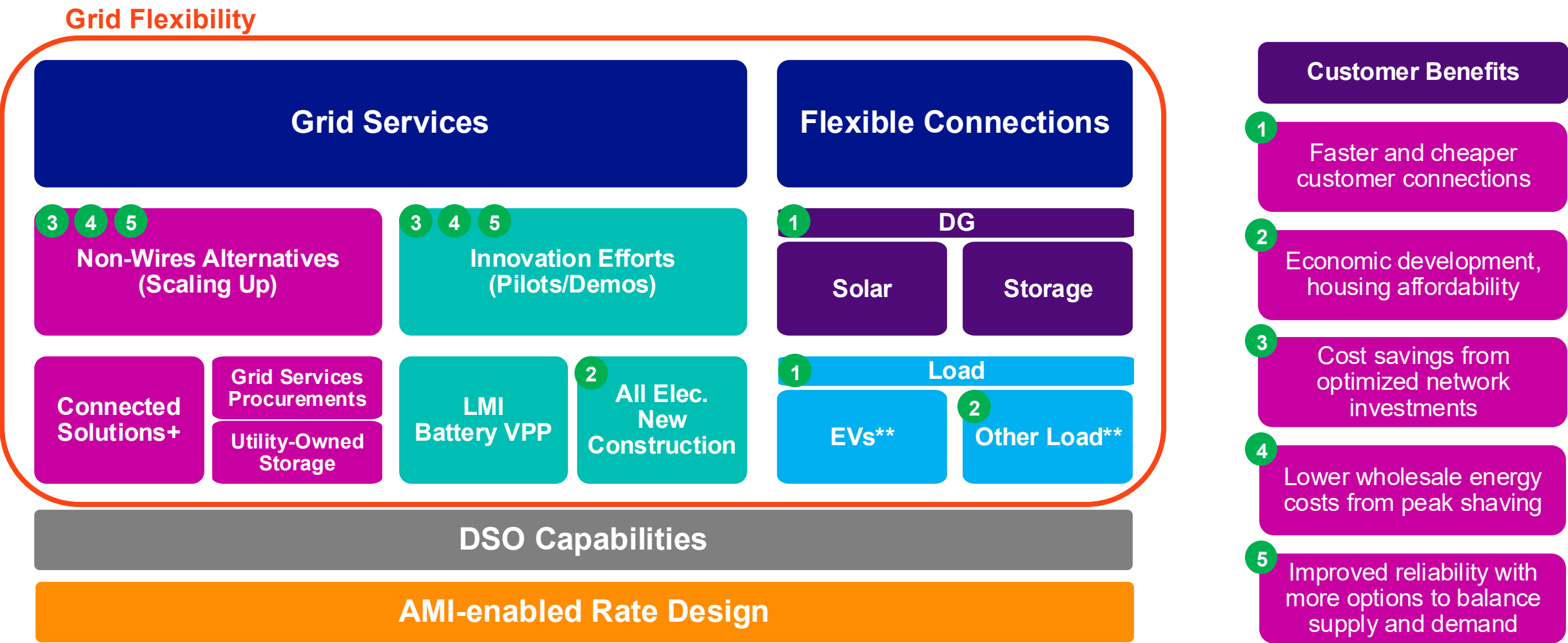


**2025 Nikola Tesla Award in Artificial Intelligence** – for Dynamic Load Shaping using AI

**National Grid**



# Expanding beyond ConnectedSolutions, National Grid has a portfolio of developing grid flexibility solutions.





# Massachusetts Non-Wires-Alternatives are facilitated by the Future Grid Plan

- All MA electric utilities were required to file an Electric Sector Modernization Plan (ESMP), to the MA DPU to **help meet the climate goals and net-zero greenhouse gas emissions targets by 2050**

## ESMP: Deliver an electric network to support the State’s Clean Energy and Climate Plan (\$2.5bn plan)

- ESMP  
pillars
1. Building the network for electrification and DER growth

2. Making it easier for all customers to participate in the clean energy transition

3. **Operationalizing flexibility and maximizing its value**



2025-2029: Use this ESMP to gain real-world learnings by testing and operationalize VPPs as non-wires solutions for high-needs use cases up to a pre-determined fixed budget.

2030-2034: Leverage learnings from ESMP 1 on what works best to cost-effectively scale flexibility into the way we operate and plan our network where technically feasible

# Grid Services at National Grid in Massachusetts

**National Grid has been testing two grid services approaches since July 2025** to address local network constraints via Non-Wires Alternatives (NWA). Over the first Massachusetts **ESMP** phase, National Grid will utilize the **Grid Services Compensation Fund (GSCF)** to establish and grow grid services based on real-world learnings.

## Grid Services Offerings Launched Since July 2025

### ConnectedSolutions+

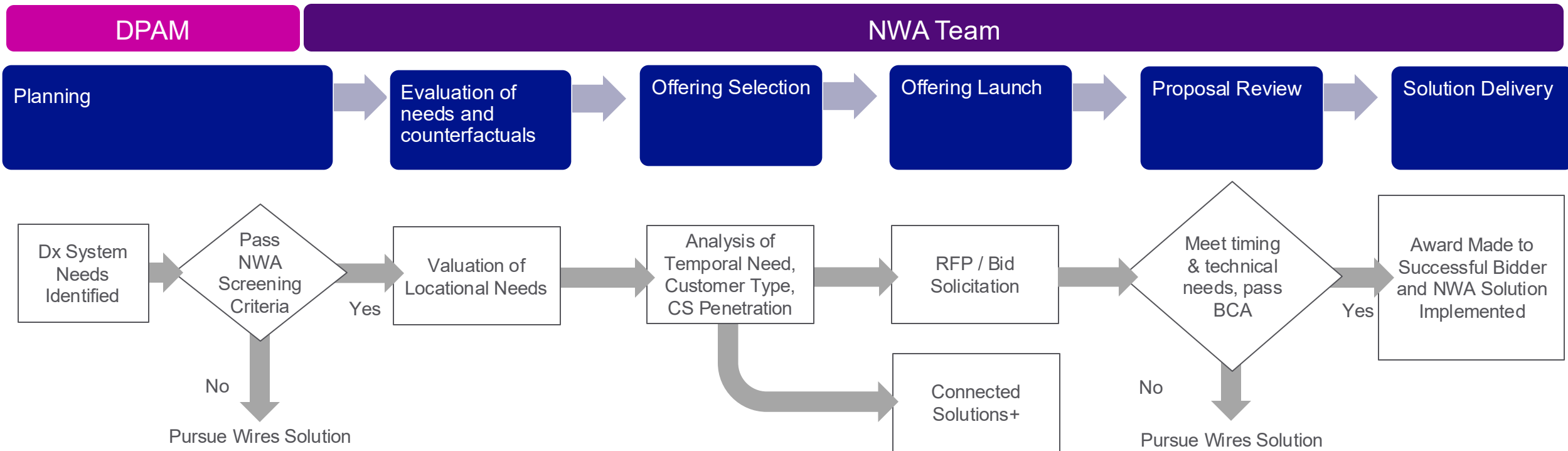
Incremental, localized incentives offering launched in **15 locations**

### Non-Wires RFPs

Market based offering; contracting bids in 7 locations, **totaling ~3.7 MW**

# Grid Services are being integrated with planning

We are building out the capabilities to identify potential NWA opportunities on the distribution network, value the needs appropriately and deploy offerings that can help us to manage the specific need.





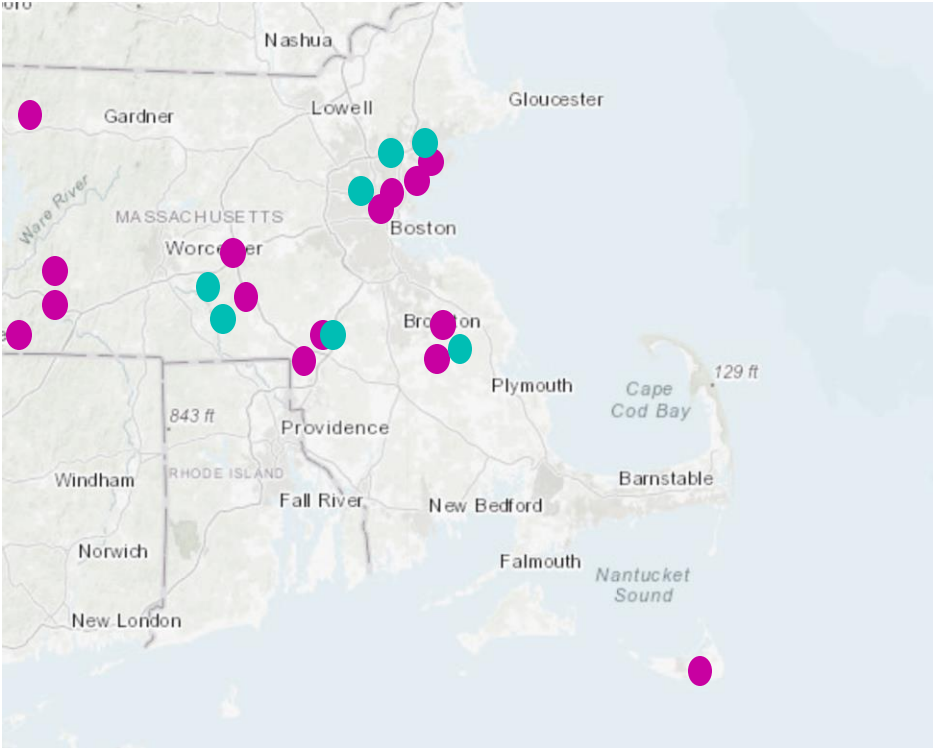
# Current Grid Services Offerings

In just one year of ESMP funding, National Grid has established 15 ConnectedSolutions+ locations and 7 Non-Wires Alternative (NWA) locations across MA.

## ConnectedSolutions+

| Estimated kW of Dispatchable Capacity as of May 2026** |                 |            |                 |
|--------------------------------------------------------|-----------------|------------|-----------------|
| Location                                               | Dispatchable kW | Location   | Dispatchable kW |
| Barre-Athol                                            | 53              | Nantucket  | 763             |
| Bridgewater                                            | 155             | Palmer     | 87              |
| East Longmeadow                                        | 62              | Plainville | 19              |
| Foxborough                                             | 1373            | Salem      | 235             |
| Lynn                                                   | 31              | Ware       | 142             |
| Malden                                                 | 17              | Whitman    | 298             |
| Medford                                                | 24              | Worcester  | 14              |
| Millbury                                               | 214             |            |                 |
| Total Dispatchable Capacity**                          |                 |            | ~3.6 MW         |

\*\*Includes existing capacity from ConnectedSolutions in identified areas and incremental capacity from ConnectedSolutions+



## Non-Wires RFPs

| kW of Awarded Capacity as of May 2026 |                 |                                 |
|---------------------------------------|-----------------|---------------------------------|
| Location                              | Dispatchable kW | Asset Type                      |
| North Oxford                          | 1,200           | Resi BTM Battery Aggregation    |
| Foxborough                            | 1,930           | FTM BESS                        |
| Millbury                              | 140             | Resi BTM Thermostat Aggregation |
| Mill St                               | 20              | Resi BTM Thermostat Aggregation |
| Plymouth                              | 60              | Resi BTM Thermostat Aggregation |
| Wellington                            | 160             | Resi BTM Thermostat Aggregation |
| Pine Banks (Melrose)                  | 180             | Resi BTM Thermostat Aggregation |
| Total Awarded Capacity                |                 | ~3.7 MW                         |

# ConnectedSolutions+

National Grid designed and launched **ConnectedSolutions+ in 2025**, offering customers increased financial incentives to meet local grid needs. ConnectedSolutions+ is now live in **15 Massachusetts locations** in National Grid’s service territory.

## Program Design:

- **Location Specific Focus:** Building off system-wide ConnectedSolutions, **ConnectedSolutions+ aligns DER flexibility** where grid constraints are emerging
- **Unlocking More DER Value:** Locational dispatch enables National Grid to test **how local dispatch can reduce stress on the grid** at peak times
- **Increased Incentives for Customers:** Customers in ConnectedSolutions+ areas earn more for their incremental participation on top of base ConnectedSolutions

| ConnectedSolutions+ 2025 Enrollment Metrics              |           |               |
|----------------------------------------------------------|-----------|---------------|
|                                                          | Nantucket | N. Foxborough |
| Total dispatchable grid flexibility for local needs (kW) | 690       | 1051          |
| Est. Net New Grid Flexibility (kW) in 2025               | 146       | 45            |

## Expansion of ConnectedSolutions+:

- In Summer 2026, National Grid scaled ConnectedSolutions+ to **15 total locations**
- National Grid implemented supplemental offerings to **further drive customer adoption**:
  - **Upfront Battery Rebate:** eligible customers **earn up to \$7,500** for residential battery installation
  - **Direct Thermostat Install:** eligible customers’ **co-pay is waived** when they receive a thermostat through MassSave Weatherization program

ConnectedSolutions+

Our ConnectedSolutions programs work with your connected devices and offer you rewards for managing energy use during periods of high energy demand.

Through our exclusive ConnectedSolutions+ programs, customers in select areas can earn extra rewards for helping manage energy demand on the hottest days. With options available for both residential and business customers, you can participate in a way that works for you and start earning rewards this summer.

Together, we can support a stronger, more resilient electric grid, and you'll earn extra incentives for your participation.

Click on your town below to learn more and enroll.



Barre-Athol



Bridgewater



East Longmeadow and Hampden



Foxborough

National Grid

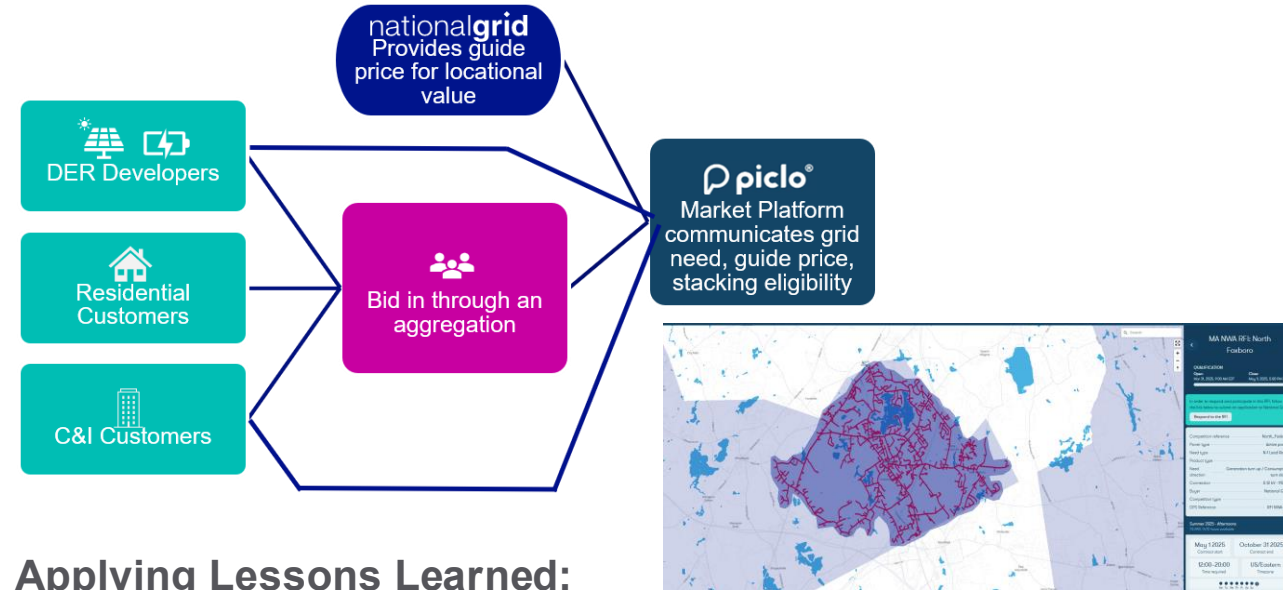
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# NWA RFPs

National Grid has released three RFPs via Piclo since the start of ESMP term to procure flexibility from FTM assets and BTM aggregations. The team continues to apply learnings and refines their RFP strategy based on participant feedback.

## RFP Outcomes to Date:

- In their latest RFPs (2026), National Grid received proposals from **8 vendors** (12 of 23 locations included in RFP)
- National Grid **awarded 7 bids across 3 vendors** and is working through contracting ahead of 2027+ dispatch



## Applying Lessons Learned:

- Developers indicate short term contracts (<5 years) are not financially viable, an **ongoing headwind for contracting new-build assets within ESMP term**
- National Grid aspires to do more **targeted outreach** to qualified vendors to leverage existing assets for grid services
- To improve efficiency of evaluating bids and contracting vendors, National Grid will implement a **rolling monthly evaluation** and has designs to create a more dynamic ecosystem

“Longer contract terms are better for large capital investment projects”

“At least 10 years, but more would be better.”

“The longer the better. Banks like long contracts. The longer the contracted revenue period, the longer tenor a bank is willing to provide for a loan.”

# We're connecting customers more quickly and cheaply with Flexible Connections.

## DG Customer Use Cases For Flex Interconnection

### Standard Flex Interconnection

*"I'm happy to be curtailed at times of grid need in exchange for a faster interconnection"*

5 Customers Enrolled

10+ customers in studies

### "Bridge to" Solution

*"I'll pay for the expensive upgrade, but use flex to connect me now while the upgrade is being built"*

### Local Power Controller (LPC)

*"I have new DG and new load that will offset my DG, and will never export to the grid"*

3 Customers Enrolled

20+ customers in study queue

## DG Customer Value Under Current Use

### Cases:



**Cost Reduction**



**Faster Interconnection & Customer Optionality**

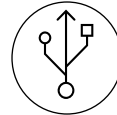


**Value Stacking**

## Next Frontier for Flexible Connections:



**Integrating with Market-based procurements**



**Scaling with DERMS Capabilities**

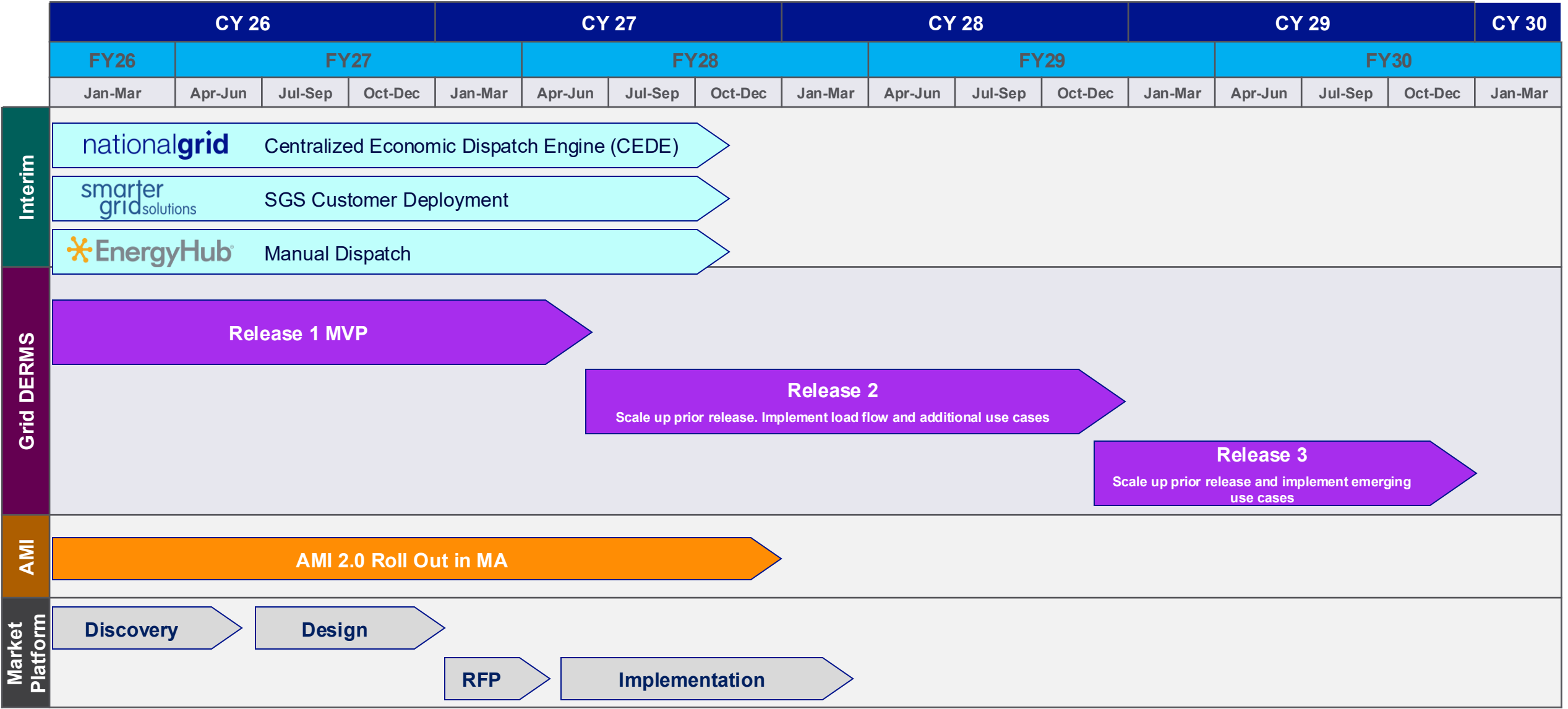


**Developing Flexible Load Strategy**



**Implementing EV Flexible Connections**

# Over the next few years, we are investing in and delivering a significant amount of DSO-enabling technology



# The Evolving Role of Flexibility

National Grid envisions a future in which third-party flexibility plays a larger role alongside traditional distribution infrastructure and utility-owned DERs, ensuring the most cost-effective mix of solutions is deployed to meet network needs.

**However, we believe there are key structural changes that we will need to put in place to achieve scale:**

- 1) Enabling longer-term price signals for investment in new assets to provide grid services
- 2) Enabling utility spend on flexibility to work alongside capital deployment, integrated into a utility's core activities
  - Optionality on spend
  - Earnings equalization
  - Incentivization to make shifts within utility practices
- 3) Improved bidirectional transparency between utility and potential participants
- 4) Coordination between ISO-NE, utilities, and MA DPU to promote a frictionless market environment



Department  
of Public Service

# VALUE OF DISTRIBUTED ENERGY RESOURCES IN NEW YORK

INTRODUCTION, IMPLEMENTATION, AND LEARNINGS

JULY 31, 2026

# VDER - Introduction

NYS PSC launched VDER in 2015 as an approach to providing compensation for DERs.

- Performance-based
- Certain enough to work financially for developers
- Value-based

Value-based means giving credit for costs that the grid or the utility avoids, using estimates but also with confidence that they are actually avoided.

This is intended both to achieve "fair compensation" and also to incentivize for the most valuable deployment eg, locational.

The monetary value of the compensation is developed in a Value Stack structure, with 5 components:

- Energy value
- Capacity value
- Environmental value
- Demand Reduction value
- Location System Relied value

The local utility calculates the monetary value of the electricity produced and applies it as bill credits, which subscribers use to pay to the developer via subscription agreements.

NOTE: This is **not** a program to provide "missing money". This needs to stick to the avoided cost principle



# VDER – The Components

| Value Name                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                | Eligible DERs                                                                                                                                                   |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Energy Value</b><br>(LBMP)                   | LBMP is the day-ahead wholesale energy price as determined by <a href="#">NYISO</a> . It changes hourly and is different according to geographic zone.                                                                                                                                                                                                                                                     | All technologies: PV, storage, CHP, digesters, wind, hydro, and fuel cells.                                                                                     |
| <b>Capacity Value</b><br>(ICAP)                 | ICAP is the value of how well a project reduces New York State's energy usage during the most energy-intensive days of the year. Developers can choose from three payout alternatives and most ICAP rates change monthly.*                                                                                                                                                                                 | All technologies receive ICAP. Dispatchable technologies (stand-alone storage, CHP, digesters, and fuel cells) will receive Alternative 3.                      |
| <b>Environmental Value</b><br>(E)               | E is the value of how much environmental benefit a clean kilowatt-hour brings to the grid and society. The E value is locked in for 25 years.**                                                                                                                                                                                                                                                            | PV, wind, hydro, and storage charged exclusively from PV or wind energy. Stand-alone storage is not eligible at this time.                                      |
| <b>Demand Reduction Value</b><br>(DRV)          | DRV is determined by how much a project reduces the utility's future needs to make grid upgrades. DRV is locked in for 10 years.**                                                                                                                                                                                                                                                                         | All technologies.                                                                                                                                               |
| <b>Locational System Relief Value</b><br>(LSRV) | LSRV is available in utility-designated locations where DERs can provide additional benefits to the grid. Each location has a limited number of MW of LSRV capacity available. The LSRV is locked in for 10 years.**                                                                                                                                                                                       | All technologies. Project must be on a utility-specified substation.                                                                                            |
| <b>Community Credit</b><br>(CC)                 | CC is available on a limited basis to encourage the development of Community Distributed Generation (CDG) projects. CC is the successor to the Market Transition Credit (MTC) and is similar in structure. The CC is locked in for 25 years.** PV projects in utility territories that have fully expended their CC may be eligible for the Community Adder – an upfront incentive administered by NY-Sun. | Available for CDG projects including PV and digesters. Wind, hydro, and fuel cells receive CC at a derated value. Not available for stand-alone storage or CHP. |

# VDER – Deployment Success

## Solar

- 8 GW of distributed solar in New York, mainly through VDER (July 26)
- Another 2.7 GW in development, lately also FOM BESS

## Battery Energy Storage

- 270 of front-of-meter distributed storage installed (March 26)
- Another 760MW in contracted/awarded

## VDER – Work to Implement

The key issues are the values and also interconnection of the projects (not strictly a VDER topic but inescapable in every discussion).

Developers are revenue-focused, understandable and essential to their willingness to invest, but not necessarily aligned with best value for customers.

Utilities on this topic tend to be reliability focused, on system effects of interconnecting DERs on their system, and on the cost effects – whether added or avoided.

Commission is focused on assuring best reliability and affordability for customers, and optimal achievement of the State's policy.

You can see that alignment won't “just happen”

## VDER – Roles

The New York State Department of Public Service (DPS) oversees VDER implementation and policy development, including running policy and technical working groups

The New York State Energy Research and Development Authority (NYSERDA) provides implementation support, including training materials and a "Value Stack Calculator for developers

## VDER – Learnings/Examples of Current Topics in New York

Is it helpful or unhelpful to have the same compensation values for solar and BESS, when the second is so much more dispatchable than the first?

The purpose of VDER is to provide smart deployment signals, geographically. Do the VDER compensation signals get developers to invest in locations that are most beneficial to the grid/system costs. And for dispatchable DERS – to operate at times/in modes that are most beneficial to the grid/system costs

How can we continue to strengthen the confidence that “avoided costs” are actually avoided, so that we pay only for outcomes truly achieved