EnergyHub

ConnectedSolutions:

A framework to scale flexibility programs through a unified program design

Introduction

Too often utility flexibility programs are developed in silos — separated by utility territories or DER types — leading to fragmented oversight, branding, enrollment processes, incentive structures, and settlement methodologies. The result: **regulatory hurdles, high operational overhead, customer confusion, and ultimately higher program costs.**

This challenge is especially acute in New England, where multiple utilities share overlapping service territories in close proximity. When customers move across town, they may end up with a new utility — but they still have the same connected devices and interest in participating in flexibility programs.

ConnectedSolutions has proven there is a better way. By unifying flexibility programs under a single brand with consistent design, simple enrollment, and compelling incentives aligned with grid value, **ConnectedSolutions has grown 18% faster than standalone efforts.** Today, it is one of the most successful virtual power plants (VPPs) in the U.S.

Customers with one DER are **far more likely** to own another: **72% of EV owners also have a smart thermostat, a battery, or both – compared to 44% of households without an EV.** This overlap creates a powerful opportunity for utilities to build cross-DER VPPs that can deliver more grid value than single-DER programs. For example, National Grid is **advancing its program** by co-dispatching thermostats and batteries during the same four-hour event, successfully flattening the load curve throughout the peak period.

Participating utilities and energy efficiency service providers

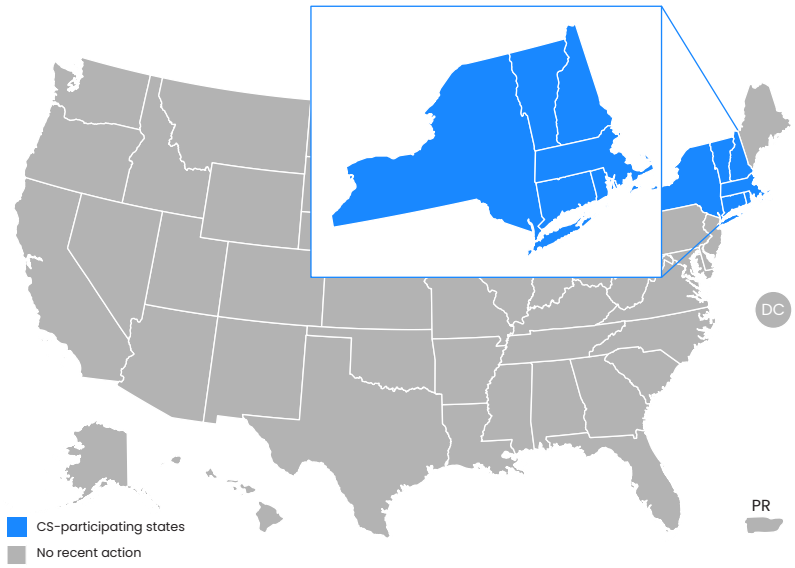
Cape Light Compact

EVERSOURCE

nationalgrid

Rhode Island Energy

Unitil



ConnectedSolutions by the numbers:

- **280,000 DERs** enrolled across 5 states
- **800+ MW of flexible capacity in participating utilities' service territory** delivered via 450 MW of ConnectedSolutions capacity across MA and NY, as well as 350 MW of C&I capacity from National Grid in NY.
- **24+ OEM and aggregator partners** across thermostats, batteries, commercial & industrial (C&I) customers, and a small number of vehicle-to-home EV applications in Eversource and National Grid territory.
- **Operational in 10% of the time** it takes to **build a new power plant.**
- **96% customer retention,** with most participants planning to stay enrolled long-term.

Program history

2016: Thermostat program launch

National Grid, Eversource, and energy efficiency service provider Cape Light Compact launch ConnectedSolutions in Massachusetts as a program focused on using thermostats to reduce peak load. National Grid also launched in New York in 2016 and Rhode Island in 2018.

2019: Full Cross-DER program launch and regional expansion

The pilot becomes a full program and expands to include thermostats, batteries, and EVs, becoming one of the first cross-DER programs in the U.S. The program also expands geographically, adding utility partners New York, Connecticut, and New Hampshire.

2019–2023: Scaling impact and geography

The program sets a goal to address 5% of peak-hour demand using customer-owned DERs over the next three years. Unitil joins the Massachusetts program in 2019 and New Hampshire program in 2020. Rhode Island Energy joins in 2023.

Today: Expanding impact

Over 280,000 DERs are enrolled, enabling delivery of more than 800 MW of flexible capacity in participating utilities' service territory – demonstrating that a shared program model can scale faster and deliver meaningful grid benefits.

2026: New use cases

ConnectedSolutions+, an initiative by National Grid, is designed to help defer or bridge the need for capital infrastructure investments. By offering a 40% increase in customer incentives, location-specific dispatch capabilities, and seamless integration with existing DERs, the programs will deliver targeted flexibility where it's needed most.

ConnectedSolutions is a key part of our strategy to deliver a more reliable and affordable grid. By tapping into the flexibility of customer-owned devices, we're not only reducing peak demand—we're empowering our customers to actively participate in the clean energy transition."

— David Roman Ubeda, Senior Program Manager, National Grid

Why ConnectedSolutions works

ConnectedSolutions succeeds because it was built around three core principles that align utility operations and simplify customer participation:

1. **Unified program design and view**

ConnectedSolutions brings multiple DER classes capable of delivering versatile grid services into one program. This unified view provides participating utilities with the visibility into – and management of – DER behavior that is crucial for the modern grid. Streamlined internal management supports advanced VPP capabilities such as cross-DER optimization and distribution level optimization. This model program also provides a repeatable framework for launching VPPs, as it has been duplicated with five utilities across five states.

2. **Simplified customer experience**

Fragmented programs often confuse customers – especially those with multiple devices. Each device type can come with its own enrollment process, incentive structure, and communications. ConnectedSolutions removes that friction by offering one brand, one enrollment page, and one set of expectations across all devices. Whether a customer has a smart thermostat and a battery, or an EV and a battery, they can expect a consistent process regardless of enrollment channel. The clarity encourages multi-device participation and makes it easier for utilities to scale.

3. **Clear, predictable incentives**

Customers know exactly how they'll be rewarded for participating. Incentives are aligned with the grid value each DER provides, ensuring fairness and predictability. In some cases, income-eligible customers receive higher incentives, further supporting equitable access and participation.

Together, these pillars have allowed ConnectedSolutions to **grow 18% faster than siloed programs.**

Regulatory alignment: Streamlining approval

ConnectedSolutions was designed with regulatory proceedings in mind. By consolidating multiple DER types under a single program framework, utilities can simplify filings, reduce administrative overhead, and accelerate time-to-approval.

Key advantages:

- **Regulatory Efficiency**: A consistent program design across DERs and territories enables utilities to submit streamlined regulatory proposals, reducing complexity and duplication.
- **DER grid value**: Incentive levels for each device class are set based on the grid value they can deliver, aligning with regulatory goals around cost-effectiveness and reliability.
- **Support for state energy goals**: ConnectedSolutions helps utilities meet peak demand reduction targets, carbon reduction mandates, and equity objectives, all of which are increasingly central to regulatory proceedings.

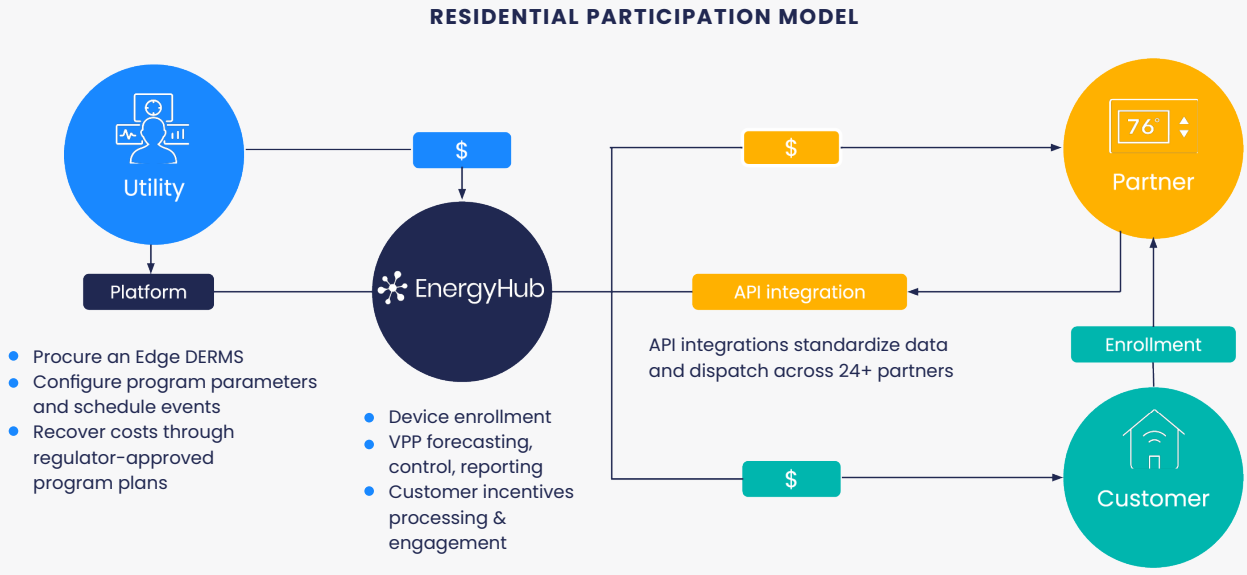
By proactively addressing regulatory concerns from equity to cost recovery ConnectedSolutions provides a replicable model that regulators can support with confidence.

How it works

Participating utilities use the EnergyHub DERMS (Distributed Energy Resource Management System) to configure, dispatch, and manage DER participation. EnergyHub's platform integrates with more than two dozen OEMs and aggregators, normalizing telemetry and control signals across devices to enable smooth, scalable virtual power plant (VPP) operations. When high demand is forecasted to drive a system peak, the utility triggers a dispatch to participating devices and aggregators via the Edge DERMS, shedding load in near real-time.

Through ConnectedSolutions, utilities are expanding use cases and using EnergyHub's platform to deliver customized load shapes, optimize dispatch for both customer and grid needs, and solve for both bulk and distribution level constraints.

At its core, ConnectedSolutions makes participation simple and rewarding for customers, while delivering reliable, predictable capacity for the grid. The program succeeds because it balances both sides of this equation, building trust with customers while providing utilities with the reliable flexibility and operational performance they need.

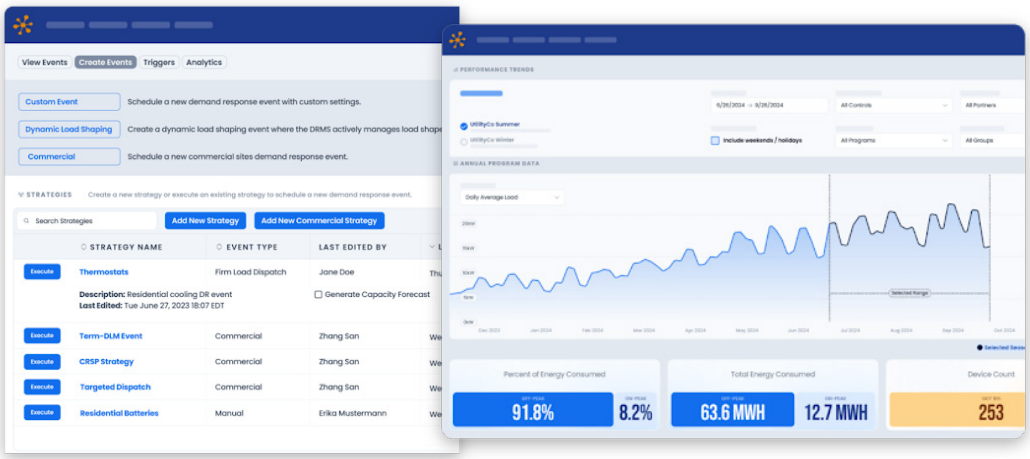


Program operations

ConnectedSolutions is powered by EnergyHub Edge DERMS platform, which enables utilities to configure, dispatch, and manage DERs at scale. Here's how the program operates from enrollment to dispatch and settlement:

1 Enrollment & verification	• Customers enroll through a unified portal, selecting eligible devices and providing necessary permissions. • Devices are verified for compatibility and connectivity via integrations with 24+ OEMs and aggregators.
2 Forecasting & dispatch	• Utilities use EnergyHub's Edge DERMS to forecast peak demand events and configure dispatch parameters. • When a peak event is predicted, the utility uses the Edge DERMS to send control signals to enrolled devices, initiating load reduction in near-real-time.
3 Measurement & settlement	• Device performance is measured using normalized telemetry data. • Grid value delivered (e.g., kW reduced during events) is calculated and used to determine customer incentives.
4 Reporting & optimization	• Utilities access real-time dashboards and post-event analytics to assess performance. • Insights inform future dispatch strategies, enabling continuous improvement and cross-DER optimization.

This operational flow ensures reliability, transparency, and scalability which are key requirements for both utility operations and regulatory oversight.



The benefits of each device type

As a cross-DER VPP, ConnectedSolutions enrolls multiple device types to unlock greater flexibility and grid value.

- **Thermostats**: Thermostats offer a fast, scalable way to reduce residential peak demand.
- **Residential batteries**: Batteries provide additional capacity and daily load shaping.
- **Commercial & Industrial (C&I) sites**: Contribute predictable bulk demand reduction through daily and as-needed demand response.
- **EVs**: Electric vehicles - while limited to a few vehicle-to-home applications today - have been used in the past to shift charging schedules to off-peak windows.

The combined resource now totals over 800 MW of flexible capacity built in less than six years — equivalent to multiple peaker plants, delivered cheaper, faster, and cleaner than traditional capacity.

C&I participation: scaling bulk demand reduction

C&I customers play a critical role in ConnectedSolutions, contributing predictable, high-impact load reductions that complement residential DERs. C&I participation enhances the overall flexibility of the VPP, delivering bulk system benefits while supporting customer sustainability goals.

How C&I sites participate:

- **Enrollment**: C&I customers enroll through a dedicated portal, often in partnership with aggregators or directly with utilities.
- **Dispatch**: Sites are dispatched during peak events or daily load shaping windows, based on pre-agreed parameters.
- **Measurement**: Load reductions are measured using interval meter data and verified against baselines.
- **Incentives**: Payments are based on actual demand reduction, with options for capacity-based or performance-based compensation.

The customer journey

ConnectedSolutions reduces friction at every stage of the customer journey:

- **Awareness**: Instead of separate names and messaging for each DER, utilities promote a single recognizable brand, making it easier for customers to engage and for utilities to scale participation.
- **Enrollment**: Customers arrive at the unified enrollment site with clear instructions, incentive details, and eligibility criteria. The process is fast, intuitive and consistent across device types.
- **Participation**: Customers receive event notifications through email and in-app messages, with the option to opt-out. Transparency builds trust and increases customer satisfaction.
- **Incentives**: At the end of each season, customers are paid based on the actual load reduction their devices deliver. This transparent, performance-based approach builds trust and reinforces future participation.
- **Retention**: Proactive outreach like connectivity alerts and move-in/move-out outreach keep customers engaged.

"We've seen higher enrollment rates in states where the enrollment process is simpler, even if the incentives are the same."

— Brandy Chambers,
Director, Customer Decarbonization, Eversource

Transparent, performance-based incentives

ConnectedSolutions delivers predictable, equitable compensation to customers based on the actual grid value their devices provide. This performance-based model builds trust and supports long-term engagement.

Incentive structure by DER type:

- **Smart Thermostats**: $50-$75 sign-up bonus + $20 per season
  - Cape Light Compact income-eligible customers can receive a $100 enrollment incentive.
  - Small business customers may also enroll in ConnectedSolutions and receive $50 to enroll and $200 annually.
- **Residential Batteries**: $225–$275/kW committed capacity (~$1,500/year)

Settlement process:

- After each season (summer or winter), EnergyHub calculates device performance
- Incentives are processed via utility billing systems or third-party payment platforms
- Income-eligible customers may receive enhanced incentives, supporting equitable access and participation
- This transparent approach ensures customers understand how they're rewarded and encourages continued participation

Recommendations for utilities

For utilities looking to expand their flexibility programs or stand up new ones, the ConnectedSolutions playbook offers a proven model that balances customer experience and operational efficiency:

1. **Adopt a consistent program design** to eliminate silos and streamline regulatory approval.

2. **Simplify the customer experience** with one brand and a consistent enrollment experience across all DERs.

3. **Provide clear, equitable incentives** that align customer rewards with grid value.

4. **Single platform to manage all residential DERs** to create a unified VPP – streamlining operations and unlocking greater grid value

With U.S. peak demand setting new records, a unified VPP model is the fastest, most affordable way to add dependable capacity. VPPs can deliver resource adequacy at **40–60% of the cost** of gas peakers or utility-scale batteries and save U.S. utilities **$15–$35B** in capacity investment **over the next decade**. The ConnectedSolutions program shows that this approach is not only scalable and customer-friendly, but can relieve grid pressure without the years of lead time or capital required for traditional resources.

Discover how the EnergyHub Edge DERMS platform powers ConnectedSolutions and how your utility can scale flexibility faster. **Schedule a demo at www.energyhub.com.**